COMMITTEE OF THE WHOLE

City of Davenport, Iowa

Wednesday, February 3, 2021; 5:30 PM

City Hall | 226 W 4th St | Council Chambers

A partially electronic meeting is being held because a fully “in-person” meeting is impractical due to concerns for the health and safety of Council members, staff, and the public presented by COVID-19, and to follow the Governor’s proclamation and the Mayor’s executive order directing social distancing and placing restrictions on gatherings. In-person attendance by the general public at any City of Davenport public meeting within its facilities shall be limited to 10 persons.

I. Moment of Silence

II. Pledge of Allegiance

III. Roll Call

IV. Meeting Protocol and Decorum

V. City Administrator Update

VI. Public Hearings

A. Community Development

1. Public Hearing for Case REZ20-08 being the request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables. [Ward 7]

2. Public Hearing on the proposed conveyance of the vacated public right-of-way know as a portion of the east-west alley lying south of the 1900 block of West 15th Street between Wilkes Avenue and Pacific Street (City of Davenport, petitioner). [Ward 4]

B. Public Works

1. Public Hearing on the plans, specifications, form of contract, and estimate of cost for the Harrison Street Reconstruction (Northbrook Drive to 5003 Harrison Street) project, CIP #35047. [Ward 7]

2. Public Hearing on the plans, specifications, form of contract, and estimate of cost for the West 43rd Street Reconstruction (Michigan Avenue to Elsie Avenue) project, CIP #35047. [Ward 2]

3. Public Hearing on the plans, specifications, form of contract, and estimate of cost for the Sheffield Drive Reconstruction project, CIP #35047. [Ward 2]

4. Public Hearing on the plans, specifications, form of contract, and estimate of

cost for the Heatherton Drive Reconstruction project, CIP #35047. [Ward 2]

5. Public Hearing on the plans, specifications, form of contract, and estimate of cost for the East 38th Street Reconstruction (Spring Street to Belle Avenue) project, CIP #35047. [Ward 6]

6. Public Hearing on the plans, specifications, form of contract, and estimate of cost for the West 53rd Street Patching project, CIP #35046. [Wards 7 & 8]

7. Public Hearing on the plans, specifications, form of contract, and estimate of cost for the Water Pollution Control Plant Gray Water Conversion project, CIP #39005. [All Wards]

C. Finance

1. Public Hearing on the FY 2022 Proposed Maximum Property Tax Levy. [All Wards]

VII. Petitions and Communications from Council Members and the Mayor

VIII. Action items for Discussion

COMMUNITY DEVELOPMENT

Kyle Gripp, Chair; Judith Lee, Vice Chair

I. COMMUNITY DEVELOPMENT

1. First Consideration: Ordinance for Case REZ20-08 being the request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables. [Ward 7]

2. Resolution authorizing the conveyance of the vacated public right-of-way known as an east-west alley lying south of the 1900 block of West 15th Street between Wilkes Avenue and Pacific Street (City of Davenport, petitioner). [Ward 4]

II. Motion recommending discussion or consent for Community Development items

PUBLIC SAFETY

Ray Ambrose, Chair; Ben Jobgen, Vice Chair

III. PUBLIC SAFETY

1. First Consideration: Ordinance amending Chapter 12.72 entitled “Conduct in Parks” to add a new Section 12.72.095 that prohibits the use of tobacco and nicotine products in the parks and park facilities. [All Wards]

2. First Consideration: Ordinance amending Schedule XI of Chapter 10.96 entitled “Resident Parking Only” by adding Sturdevant Street along the west side from the alley north of 12th Street to 13th Street. [Ward 4]

3. Motion approving beer and liquor license applications.

A. Annual license renewals (with outdoor area as noted):

Ward 1

Hy-Vee #1 (Hy-Vee, Inc) - 3019 Rockingham Rd - License Type: Class E Liquor - Carry Out

Sub Express & Gas (Keya Food Mart Inc) - 4307 W Locust St - License Type: Class E Liquor - Carry Out

Ward 2

California Pho (Binh Van Nguyen) - 3559 W Kimberly Rd, Ste 4, 5, & 6 - License Type: Beer/Wine - On Premise

Ward 3

Boozies Bar And Grill (BZE Holdings, Inc) - 114 1/2 W 3rd St - License Type: Class C Liquor - On Premise

Kcbrothers (Kc 2 Brothers, Inc) - 214 Myrtle St - License Type: Class E Liquor - Carry Out

Lopiez Pizza (Lopez Curse, Llc) - 429 E 3rd St, Ste 1 - License Type: Class C Liquor - On Premise

Sam's Food (Sam Food Llc) - 648 N Marquette St - License Type: Class E Liquor - Carry Out

Ward 5

Stadium Club (SIS Inc) - 2828 Brady St - License Type: Class C Liquor - On Premise

Ward 8

GD Xpress (Ram II LLC) - 4607 N Pine St - License Type: Class E Liquor - Carry Out

IV. Motion recommending discussion or consent for Public Safety items

PUBLIC WORKS

Rick Dunn, Chair; Matthew Dohrmann, Vice Chair

V. PUBLIC WORKS

1. Second Consideration: Ordinance amending Chapter 15.44 entitled "Flood Damage Prevention" of the Davenport Municipal Code to adopt the new Flood Insurance Study and flood maps, and to align the Ordinance with Iowa Department of Natural

Resources and FEMA standards and regulations. [All Wards]

2. Resolution approving the plans, specifications, form of contract, and estimate of cost for the Harrison Street Reconstruction (Northbrook Drive to 5003 Harrison Street) project, CIP #35047. [Ward 7]
3. Resolution approving the plans, specifications, form of contract, and estimate of cost for the West 43rd Street Reconstruction (Michigan Avenue to Elsie Avenue) project, CIP #35047. [Ward 2]
4. Resolution approving the plans, specifications, form of contract, and estimate of cost for the Sheffield Drive Reconstruction project, CIP #35047. [Ward 2]
5. Resolution approving the plans, specifications, form of contract, and estimate of cost for the Heatherton Drive Reconstruction project, CIP #35047. [Ward 2]
6. Resolution approving the plans, specifications, form of contract, and estimate of cost for the E 38th St Reconstruction (Spring Street to Belle Avenue) project, CIP #35047. [Ward 6]
7. Resolution approving the plans, specifications, form of contract, and estimate of cost for the West 53rd Street Patching project, CIP #35046. [Wards 7 & 8]
8. Resolution approving the plans, specifications, form of contract, and estimate of cost for the Water Pollution Control Plant Gray Water Conversion project, CIP #39005. [All Wards]
9. Resolution approving the purchase of a John Deere 744L endloader for the Compost Facility from Martin Equipment of Rock Island, Illinois in the amount of $361,160 using Sourcewell contract #032119-JDC. [All Wards]
10. Resolution adopting the Iowa Statewide Urban Design Standards for Public Improvements, Iowa Statewide Urban Standard Specifications for Public Improvement, and the City of Davenport Supplemental Specifications manuals. [All Wards]
11. Resolution assessing the cost of boarding up building at various lots and tracts of real estate. [All Wards]
12. Resolution assessing the cost of brush and debris removal at various lots and tracts of real estate. [All Wards]
13. Resolution assessing the cost of condemned property demolition at various lots and tracts of real estate. [All Wards]
14. Resolution assessing the cost of sidewalk repair at various lots and tracts of real estate. [All Wards]
15. Resolution assessing the cost of snow removal from sidewalks at various lots and tracts of real estate. [All Wards]
16. Resolution assessing the cost of tree removal at various lots and tracts of real estate. [All Wards]
17. Resolution assessing the cost of weed cutting at various lots and tracts of real estate. [All Wards]

VI. Motion recommending discussion or consent for Public Works items

FINANCE

JJ Condon, Chair; Patrick Peacock, Vice Chair

VII. FINANCE

1. First Consideration: Ordinance providing for the sale and issuance of not-to-exceed $10,500,000 General Obligation Refunding Bonds, Series 2021A, and for the levy of taxes to pay the same. [All Wards]

STAFF RECOMMENDS SUSPENSION OF THE RULES AND PASSAGE OF SECOND AND THIRD CONSIDERATIONS.

2. Resolution approving the FY 2022 Maximum Property Tax Dollars. [All Wards]
3. Resolution approving the purchase of a mobile precinct unit from LDV, Inc of Burlington, Wisconsin in the amount of $258,545, CIP #24025. [All Wards]
4. Resolution opposing Senate File 159 (SF159), the proposed omnibus education bill, which includes the creation of a private school voucher program and elimination of voluntary diversity plans in Iowa. [All Wards]

VIII. Motion recommending discussion or consent for Finance items

IX. PURCHASES OF $10,000 TO $50,000 (For Information Only)

1. Baker & Taylor Co - Library books - Amount: $10,505.33
2. Jerico Services Inc - calcium chloride - Amount: $11,192.24
3. Dubuque Hardwoods Inc - hauling services for derecho cleanup - Amount: $15,487.50
4. Schebler Co - HVAC at Credit Island Lodge - Amount: $40,800
5. Legacy Corporation of IL - hauling services for derecho cleanup - Amount: $45,637.50

X. Other Ordinances, Resolutions and Motions

XI. Public with Business

PLEASE NOTE: At this time individuals may address the City Council on any matters of City business not appearing on this agenda. This is not an opportunity to discuss issues with the Council members or get information. In accordance with Open Meetings law, the Council cannot take action on any complaint or suggestions tonight, and cannot respond to any allegations at this time.

Please state your Name and Ward for the record. There is a five (5) minute time limit. Please end your comments promptly.

XII. Reports of City Officials

XIII. Adjourn

City of Davenport

Department: Community Planning & Economic Development **Action / Date**
Contact Info: Laura Berkley | 563-888-3553 **2/3/2021**

Subject:
Public Hearing for Case REZ20-08 being the request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables. [Ward 7]

Recommendation:
Hold the Hearing.

Background:
The Plan and Zoning Commission considered Case REZ20-08 at its January 19, 2021 meeting and voted to forward the request to City Council with a recommendation for approval.

The Commission vote was 10 yes, 0 no, and 0 abstention.

Findings:

1. The proposed I-1 Light Industrial District is compatible with the zoning of nearby property.
2. The established neighborhood character is primarily industrial to the north and east of the subject property. To the south, there is an apartment complex and several smaller scale multi-family residential developments. The proposed low intensity use of the site will serve as a transition between industrial and residential properties.
3. Rezoning the property to I-1 Light Industrial District does not create any nonconformities.

Consideration:
The City Council is requested to pass a resolution amending the Future Land Use Designation from Residential General (RG) to Industry (I).

ATTACHMENTS:

	Type	Description
🗋	Ordinance	Ordinance
🗋	Backup Material	Zoning Analysis
🗋	Backup Material	Zoning Map
🗋	Backup Material	Land Use Map
🗋	Backup Material	Site Photos
🗋	Backup Material	Application
🗋	Backup Material	Concept Plan
🗋	Backup Material	Public Hearing Notice-Committee of the Whole
🗋	Backup Material	Quad City Times Public Hearing Notice
🗋	Backup Material	Public Hearing Notice-Plan and Zoning Commission

REVIEWERS:

Department	Reviewer	Action	Date

Community Planning & Economic Development	Admin, Default	Approved	1/28/2021 - 11:42 AM

ORDINANCE NO. 2021-

ORDINANCE for Case REZ20-08 being the request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables [Ward 7].

BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF DAVENPORT, IOWA:

Section 1. The following described unit of Scott County, Iowa real estate is hereby rezoned to "I-1, Light Industrial District".

Lot 5 of Lyngholm Park 8th Addition to the City of Davenport, Iowa.

Section 2. That the following findings and conditions are hereby imposed upon said rezoning:

Findings:

1. The proposed I-1 Light Industrial District is compatible with the zoning of nearby property.
2. The established neighborhood character is primarily industrial to the north and east of the subject property. To the south, there is an apartment complex and several smaller scale multi-family residential developments. The proposed low intensity use of the site will serve as a transition between industrial and residential properties.
3. Rezoning the property to I-1 Light Industrial District does not create any nonconformities.

Condition:
The City Council is requested to pass a resolution amending the Future Land Use Designation from Residential General (RG) to Industry (I).

Section 3. At its January 19, 2021 meeting, the Plan and Zoning Commission voted to forward the case to the City Council with a recommendation for approval.

SEVERABILITY CLAUSE. If any of the provisions of this ordinance are for any reason illegal or void, then the lawful provisions of this ordinance, which are separable from said unlawful provisions shall be and remain in full force and effect, the same as if the ordinance contained no illegal or void provisions.

REPEALER. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

EFFECTIVE DATE. This ordinance shall be in full force and effective after its final passage and publication as by law provided.

First Consideration _____

Second Consideration _____

Approved _____

_____
Mike Matson, Mayor

Attest: _____
Brian Krup, Deputy City Clerk

Published in the *Quad City Times* on _____

Zoning Analysis
Development and Neighborhood Services Department

Case REZ20-08: The request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables. [Ward 7]

Comprehensive Plan:

1. Within Existing Urban Service Area: Yes
2. Within Urban Service Area 2035: Yes

Future Land Use Designations:
The property is designated Residential General (RG) in the Davenport +2035 Land Use Plan. The Future Land Use Designation would need to be amended to Industry (I) through the adoption of a resolution by City Council.

1. **Residential General (RG)** – Designates neighborhoods that are mostly residential but include, or are within one-half mile (walking distance) of scattered neighborhood-compatible commercial services, as well as other neighborhood uses like schools, churches, corner stores, etc. generally oriented along Urban Corridors (UC). Neighborhoods are typically designated as a whole. Existing neighborhoods are anticipated to maintain their existing characteristics in terms of land use mix and density, with the exception along edges and transition areas, where higher intensity may be considered.
2. **Industry (I)** – Designates areas devoted to manufacturing, assembly/fabrication, warehousing and distribution, research and technological innovation centers, and associated commercial/office uses developed at a scale as to warrant access to good transportation networks and separation or buffering from residential uses.

Zoning:
The property is currently zoned R-MF Multi-Family Residential Zoning District. This district is intended to accommodate a high-density neighborhood environment characterized by a mixture of housing types including semi-detached dwellings, two-family dwellings, townhomes and multi-family dwellings. Limited non-residential uses that are compatible with the surrounding residential neighborhoods may be permitted in the R-MF District.

The applicant is requesting a rezoning of the property to I-1 Light Industrial Zoning District. This district is intended to provide for a variety of light manufacturing, fabricating, processing, distributing, and warehousing uses. Light industrial uses are enclosed, low-intensity uses with minimal, if any, outside impacts.

Technical Review:
City Departments have reviewed the proposed Zoning Map Amendment Application. The applicant is required to install stormwater detention and water quality treatment if impervious area is over 5,000 square feet.

Public Input:
Letters were sent to property owners within 200 feet of the proposed request notifying them of the January 5, 2021 Plan and Zoning Commission Public Hearing.

To date, staff has not received any responses from adjacent property owners. No individuals from the public spoke at the Plan and Zoning Commission public hearing on January 5, 2021.
Notices of Public Hearings were published in the Quad City Times for both the January 5th and February 2nd public hearings.

Discussion:
The petitioner is requesting a rezoning to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables. The 1.09 acre lot is currently vacant. The property is located between multi-family development to the south and light industrial/service development to the north and east.

City Council approved Ordinance No. 2019-102 on March 27, 2019 to rezone the property from I-1 Light Industrial District to R-MF Multi-Family Residential District for the purpose of constructing apartment units. Development has not occurred on the property. The proposed rezoning to I-1 will reverse the 2019 City Council decision.

Why is a Zoning Map Amendment Required?
The Zoning Ordinance does not permit a communications facility in the R-MF district. The I-1 Light Industrial District identifies a communications building as a permitted light industrial use.

Approval Standards for Map Amendments (Chapter 17.14.040)
The Plan and Zoning Commission recommendation and the City Council decision on any zoning text or map amendment is a matter of legislative discretion that is not controlled by any particular standard. However, in making their recommendation and decision, the Plan and Zoning Commission and the City Council must consider the following standards. The approval of amendments is based on a balancing of these standards.

a. **The consistency of the proposed amendment with the Comprehensive Plan and any adopted land use policies.**

   Staff Response: The property is designated Residential General (RG) in the Davenport +2035 Land Use Plan. The proposed communications building is incompatible with the future land use category description, which is intended for neighborhoods that are mostly residential. Instead, the proposed low intensity industrial development fits the criteria for Industry (I).

   It is staff's opinion that a condition shall be placed on the Zoning Map Amendment requesting City Council to adopt a resolution amending the Future Land Use Designation from Residential General (RG) to Industry (I).

b. **The compatibility with the zoning of nearby property.**

   Staff Response: The subject property is located on the boundary between R-MF Multi-Family Residential District and I-1 Light Industrial District. The abutting properties to the north, east, and west are zoned I-1 Light Industrial District. The rezoning petition will serve as a continuation

of industrial property that extends east to the railroad tracks, between 53rd Street and 46th Street.

It is staff's opinion that the proposed amendment is compatible with the zoning of nearby property.

c. The compatibility with established neighborhood character.

Staff Response: The established neighborhood character is primarily industrial to the north and east of the subject property. To the south, there is an apartment complex and smaller scale multi-family residential developments near the intersection of Grand Avenue and East 46th Street. The low intensity use of the site will serve as a transition between industrial and residential properties.

It is staff's opinion that the proposed amendment is compatible with the established neighborhood character.

d. The extent to which the proposed amendment promotes the public health, safety, and welfare of the City.

Staff Response: The proposed I-1 zoning is consistent with existing vicinity uses to the north, east, and west of the property. The proposed communications building will be a low intensity industrial development, which should not create any nuisances to the multi-family development directly south.

It is staff's opinion that the proposed zoning map amendment will develop in a manner that promotes the public health, safety, and welfare of the City.

e. The suitability of the property for the purposes for which it is presently zoned, i.e. the feasibility of developing the property in question for one or more of the uses permitted under the existing zoning classification.

Staff Response: Under the current Zoning Ordinance, the R-MF Multi-Family Residential Zoning District does not allow for a communications building that houses and operates electronics and fiber optic cables. The intended development of the property is considered an Industrial-Light use.

It is staff's opinion that the property is not suited for development of the proposed business under the existing R-MF Multi-Family Residential District.

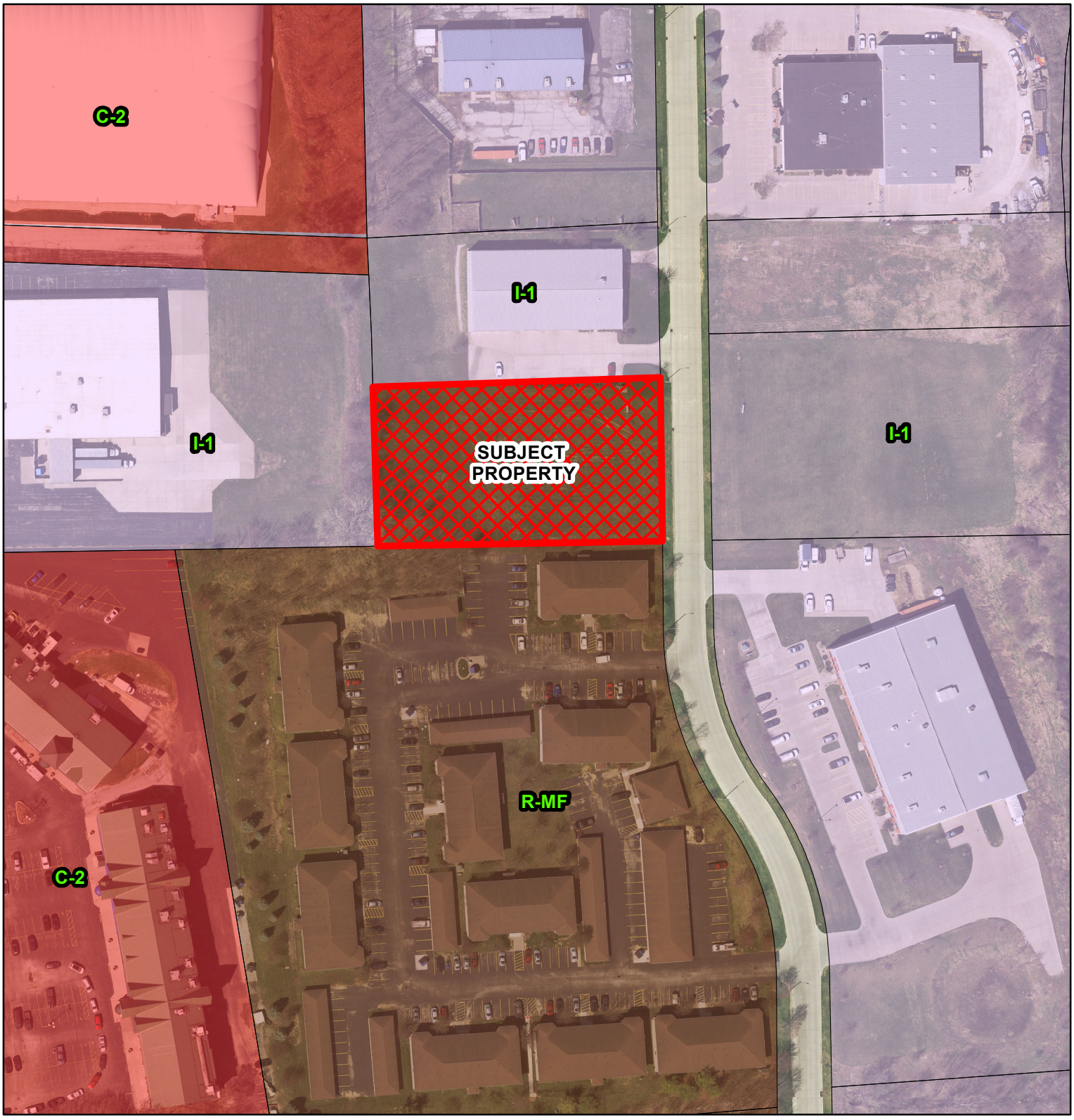
f. The extent to which the proposed amendment creates nonconformities.

Staff Response: The vacant 1.09 acre site satisfies the dimensional standards for the I-1 Light Industrial District.

It is staff's opinion that the proposed amendment will not create any nonconformities.

Zoning Map Amendment (Rezoning) Request

REZ20-08 5000 Grand Avenue



R-MF Multi-Family Residential District to I-1 Light Industrial District

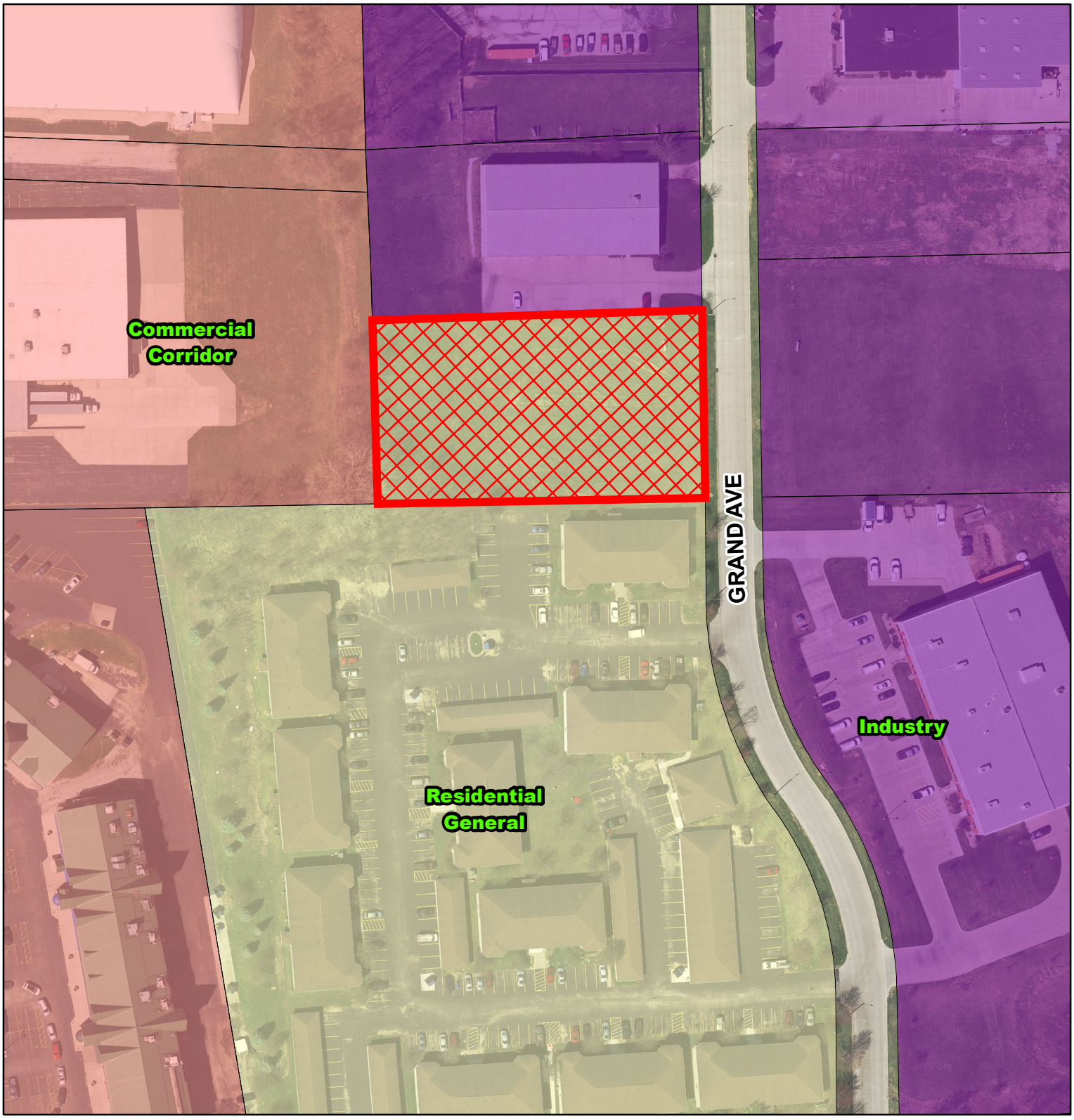
Private parties utilizing City GIS data do so at their own risk. The City of Davenport will not be responsible for any costs or liabilities incurred due to any differences between information provided and actual physical conditions.

0 50 100 200 300 400 Feet

N

Future Land Use Map (Davenport +2035)

REZ20-08 5000 Grand Avenue



General Residential to Industry

Private parties utilizing City GIS data do so at their own risk. The City of Davenport will not be responsible for any costs or liabilities incurred due to any differences between information provided and actual physical conditions.

0 50 100 200 Feet

N

Zoning Map Amendment (Rezoning) Request

REZ 20-08 5000 Grand Avenue

Complete application can be emailed to planning@ci.davenport.ia.us

Property Address* Lyngholm Park 8th addition Lot:005 Parcel #P1210-01F
***If no property address, please submit a legal description of the property.**

Applicant (Primary Contact)**

Name:	Dan Parchert
Company:	MCC Iowa LLC Mediacom
Address:	3900 26th Ave
City/State/Zip:	Moline, IL 61265
Phone:	309-743-4870
Email:	dparchert@mediacomcc.com

Owner (if different from Applicant)

Name:	Rocco B Commisso
Company:	MCC Iowa LLC Mediacom
Address:	1 Mediacom way
City/State/Zip	Mediacom Park, NY 10918
Phone:	845-443-2600
Email:	rcommisso@mediacomcc.com

Engineer (if applicable)

Name:	
Company:	
Address:	
City/State/Zip	
Phone:	
Email:	

Architect (if applicable)

Name:	
Company	
Address:	
City/State/Zip:	
Phone:	
Email:	

Attorney (if applicable)

Name:	Bruce J Gluckman
Company:	MCC Iowa LLC Mediacom
Address:	1 Mediacom Way
City/State/Zip:	Mediacom Park, NY 10918
Phone:	845-443-2600
Email:	bgluckman@mediacomcc.com

Application Form Type:

Plan and Zoning Commission
- Zoning Map Amendment (Rezoning) ☑
- Planned Unit Development ☐
- Zoning Ordinance Text Amendment ☐
- Right-of-way or Easement Vacation ☐
- Voluntary Annexation ☐

Zoning Board of Adjustment
- Zoning Appeal ☐
- Special Use ☐
- Hardship Variance ☐

Design Review Board
- Design Approval ☐
- Demolition Request in the Downtown ☐
- Demolition Request in the Village of East Davenport ☐

Historic Preservation Commission
- Certificate of Appropriateness ☐
- Landmark Nomination ☐
- Demolition Request ☐

Administrative
- Administrative Exception ☐
- Health Services and Congregate Living Permit ☐

****If the applicant is different from the property owner, please submit an authorization form or an accepted contract for purchase.**

Request:

Existing Zoning: R-MF

Proposed Zoning Map Amendment: Industrial

Purpose of the Request:

To allow for construction of a communications building to house and operate electronics and fiber optic cables

Total Land Area: 1.09 Acres

Does the Property Contain a Drainage Way or is it Located in a Floodplain Area: ☐ Yes ☑ No

Submittal Requirements:

- The completed application form.
- Recorded warranty deed or accepted contract for purchase.
- Authorization form, if applicable. If the property is owned by a business entity, please provide Articles of Incorporation.
- A legal description of the request if not easily described on the deed or contract for purchase.
- Required fee:
  Zoning Map Amendment is less than 1 acre - $400.
  Zoning Map Amendment is one acre but less than 10 acres - $750 plus $25/acre.
  Zoning Map Amendment is 10 acres or more - $1,000 plus $25/acre.
  $10.00 per sign; more than one sign may be required depending upon the area of the request.

Formal Procedure:

(1) Application:
- Prior to submission of the application, the applicant shall correspond with Planning staff to discuss the request, potential alternatives and the process.
- The submission of the application does not constitute official acceptance by the City of Davenport. Planning staff will review the application for completeness and notify the applicant that the application has been accepted or additional information is required. Inaccurate or incomplete applications may result in delay of required public hearings.

(2) Plan and Zoning Commission public hearing:
- The City shall post notification sign(s) in advance of the public hearing. A minimum of one sign shall be required to face each public street if the property has frontage on that street. It is Planning staff's discretion to require the posting of additional signs. The purpose of the notification sign(s) is to make the public aware of the request.
- The applicant shall make a presentation regarding the request at a neighborhood meeting. The purpose of meeting is to offer an opportunity for both applicant and neighboring residents/property owners to share ideas, offer suggestions, and air concerns in advance of the formal public hearing process. Planning staff will coordinate meeting date, time, and location and send notices to surrounding property owners.
- The Plan and Zoning Commission will hold a public hearing on the request. Planning staff will send notices to surrounding property owners.

(3) Plan and Zoning Commission's consideration of the request:
- Planning staff will perform a technical review of the request and present its findings and recommendation to the Plan and Zoning Commission.
- The Plan and Zoning Commission will vote to provide its recommendation to the City Council.
- If the Plan and Zoning Commission recommends denial, the request may only be approved by a favorable 3/4 vote of the City Council.

Formal Procedure (continued):

(4) City Council's consideration of the request:

- The Committee of the Whole (COW) will hold a public hearing on the request. Planning staff will send a public hearing notice to surrounding property owners.
- If property owners representing 20% or more of the area within 200 feet of the exterior boundaries of the request submit a written protest, the request may only be approved by a favorable 3/4 vote of the City Council. For the purpose of the 20% protest rate, formal protests will be accepted until the public hearing is closed.
- The City Council will vote on the request. For a zoning map amendment to be approved three readings of the Ordinance are required; one reading at each Council Meeting. In order for the Ordinance to be valid it must be published. This generally occurs prior to the next City Council meeting.

Applicant: Dan Parchert Date: 12/10/2020

By typing your name, you acknowledge and agree to the aforementioned submittal requirements and formal procedure and that you must be present at scheduled meetings.

Received by: _____ Date: _____

Planning staff

Date of the Public Hearing: _____

Meetings are held in City Hall Council Chambers located at 226 West 4th Street, Davenport, Iowa.

DocuSign Envelope ID: 3FA66333-D596-4529-83F1-CB7E6FB640D1

Mediacom

LETTER OF AUTHORIZATION

I, Bruce J. Gluckman, do hereby declare and state under penalty of perjury as follows:

1. I am the Deputy General Counsel for MCC Iowa LLC, formed in the state of Delaware, with its headquarters located at 1 Mediacom Way Mediacom Park, NY 10918 (hereinafter "Mediacom").

2. I authorize Daniel Parchert, a Director of Engineering, to represent Mediacom in any and all proceedings and to sign documents on behalf of Mediacom that are presented to the Davenport Community and Economic Development Department in Davenport, Iowa, regarding a parcel of land on Grand Avenue between East 46th Street and 53rd Street. This authorization to run for one year from the date stated below.

12/9/2020 | 8:26 AM PST

DocuSigned by:
Bruce Gluckman
75187141E93D46A...

Date

Bruce J. Gluckman

State of New York
County of Orange

Subscribed and Sworn before me by Bruce J. Gluckman, who is personally known to me, and who executed the foregoing instrument as his free act and deed this 8th day of December 2020.

Notary Public

Lauren Predmore
Qualified in Orange County
State of New York
No: 1PR6334472
Commission exp. December 21, 2023

WRITTEN CONSENT
OF
THE MANAGING MEMBER
OF
MCC IOWA LLC

The undersigned, being the managing member of MCC Iowa LLC, a Delaware limited liability company (the "Company"), does hereby consent to the adoption of the following specified resolution and approves and adopts such resolution.

RESOLVED, that the following persons be, and each of them hereby is, elected and confirmed to serve in the following designated offices of the Company, to hold such offices until their successors are elected and qualify, or as otherwise provided in the Operating Agreement of the Company:

Rocco B. Commisso	Chief Executive Officer
Mark E. Stephan	Executive Vice President, Chief Financial Officer and Treasurer
John G. Pascarelli	Executive Vice President, Operations
Italia Commisso Weinand	Executive Vice President, Programming and Human Resources
Brian M. Walsh	Senior Vice President and Corporate Controller
Joseph E. Young	Senior Vice President, General Counsel and Secretary
Bruce J. Gluckman	Group Vice President and Deputy General Counsel, Legal Affairs and Assistant Secretary

MEDIACOM BROADBAND LLC

By: MEDIACOM COMMUNICATIONS CORPORATION,
Managing Member

By: _____
Mark E. Stephan,
Executive Vice President and Chief Financial Officer

Dated: AUG 11 2015

MLS #:	QC4214929	**St:** Active	**Cat:** CIE		**LP:** $115,000
County:	Scott	**Type:**	Land & Farm		**Virtually Staged?:**
Addr:	0 GRAND		AV		**Unit #:**
City:	Davenport		IA	**Zip Code:**	52807
Legal:					

Tot Bldg SqFt:	0	**Sale:**	Yes	**Lease:**	No
Office SqFt:		**Lease $/Mo:**		**Lease Type:**	
Avail SqFt:	0	**Lease $/SqFt:**		**Lease Renewal**	
Warehse		**Stories:**		**Lease $/SqFt Ann**	
CAM $/SqFt:		**Parking Spcs:**		**Subsqt Sale to Tenant:**	

Handicap Mod:		**# of Bldgs:**	0	**Year Built:**	**Udgrd Strg Tank:**
Apx Lot SqFt:		**# of Units:**		**Apx Acres:**	1.09 **Zoning:** R-MF
Agent Owned:	No	**Agent Rltd to Seller:**	No	**NDA:**	**100 yr Flood Pl:**

Unbranded V Tour

Branded V Tour

Directions: 53rd Street south on Grand Avenue

Annual Taxes: $4,540.00 /	**Exemptions:**		**Tax Incentive:**	**Projected Exp (IV):**
Parcel ID: P1210-01F				**Projected Inc (IV):**
# Dock Drs (I):	**# Rail Drs (I):**	**# Seats (R):**	**Sprinkler:**	**Sec Sys:**

Development land, great location between E 46th Street and 53rd Street east of Brady Street. Great opportunity to build in North Central Davenport.

FEATURES

Industrial / Office/ Retail /Multi-Family / Restaurant / Investment

LOCATION Suburban
FRONTAGE/ACCESS Paved 2Lane, City Street
SEWER SOURCE None
OWNERSHIP L.L.C.
TAX INCENTIVE None
POSSIBLE FINANCING None
WATER SUPPLY None
TYPE Land & Farm

Land and Farm

Land with a House

PROPERTY TYPE/USE Other Property Type /Use
LAND DESCRIPTION Level, Other Land Description
EASEMENTS/RESTR Unknown
UTILITIES ONSITE None
OPTIONS Option For Sale

Original Price: $115,000	**Concessions $**	**Days On Market:** 84
Sold Price:	**Sold Conc Info**	**Cumulative DOM:** 84
Closing Date:	**How Sold:**	
Agent Owned: N	**Agent Related to Seller:** N	**Agent is Designated Managing Broker:** Yes

This information is deemed reliable, but not guaranteed. Copyright: 2019 RMLS Alliance

AGREEMENT FOR SALE OF COMMERCIAL REAL ESTATE

THIS IS A BINDING REAL ESTATE CONTRACT

MCC Iowa, LLC
Purchaser

Purchaser TODD CURTIS, Chief V.P.

MM Development, LLC
Seller

Seller

1. **THIS "AGREEMENT" IS DATED:** November 18, 2020

Purchaser agrees to purchase from the Seller and the Seller agrees to sell to Purchaser the real estate and any improvement thereon, commonly known as: 1.09 Acres on Grand Ave with a parcel # P1210-01F (see attached). and legally known as: _____(to be supplied by Seller's Attorney) situated in the County of Scott and the State of Iowa (the "Property"), for the sum of $ 100,000 (the "Purchase Price") to be paid as follows:

$2,000 EARNEST MONEY in the form of a check, which shall be deposited within 7 days after acceptance of this agreement and held in trust by Mel Foster Commercial Real Estate Trust and is part of the cash at closing. In the event any contingency is not met by the date contained in such contingency, including the completed subdivision of the lot into two parcels, one to be sold to Buyer and the other to be retained by Seller, -the Seller recognizes the earnest money will be returned to the Purchaser, upon agreement in writing by both parties, and this Agreement shall be void. Earnest money will not automatically be returned or paid to any party. In the event of any dispute as to the retention or return of the earnest money, the escrow agent shall only take such action with respect to the earnest money as agreed in writing by the parties, as ordered by a court of competent jurisdiction, or pursuant to Iowa Administrative Rule 193E – 13.1 or Illinois 225 ILCS 454/20-20. Seller and Purchaser agree to indemnify, defend and hold harmless Mel Foster Commercial Real Estate Services, L.L.C., or any other party acting as escrow agent, from and against any and all liabilities and claims arising out of duties as escrow agent hereunder.

$98,000 ADDITIONAL CASH PAYMENT, which shall be paid at time of closing.

$N/A BALANCE, to be obtained by Purchaser securing a _____loan commitment on the Property in the amount of not less than $_____. Purchaser agrees to apply immediately, to use all good faith diligence, and to fully cooperate in obtaining the loan. In the event, after using all good faith diligence, Purchaser is unable to obtain such a loan commitment upon terms and conditions satisfactory to Purchaser's sole satisfaction, within _____days from date hereof, the earnest money shall be refunded in full, and this Agreement shall be void.

INITIAL:

$N/A BALANCE, to be carried on (A.) _____ Contract for deed, or (B.) _____ A purchase-money mortgage, payable $_____, (_____% per annum), computed monthly, on the unpaid balance.

OTHER TERMS:_____

2. DUE DILIGENCE AND INSPECTIONS.

Unless otherwise stated in an addendum and/or rider attached hereto, and incorporated herein, this Agreement shall not be subject to the performance of due diligence and/or inspections by the Purchaser.

3. POSSESSION AND CLOSING (choose A or B)

X A. Possession on Closing:

(1) Seller shall deliver possession of the Property to Purchaser concurrently with the closing of this transaction, which shall be held on or before March 31, 2021.

_____B. Possession after closing:

(1) Closing shall be on or before _____ and Seller shall deliver possession of the property to Purchaser on or before _____ days after said closing.

(2) Per diem rent in the amount of $_____ shall be paid by Seller to Purchaser for each day the delivery of possession is beyond the date of closing, but under no circumstances shall the Seller be able to remain in possession more than _____days after closing.

C. Additional Provisions:

(1) Possession shall be deemed delivered when Seller has vacated the Property and delivered the keys to Purchaser or Purchaser's agent. In the case where the Seller does not physically occupy the Property and tenants are in place, possession shall be deemed delivered when the leases are assigned to Purchaser and any keys are delivered to Purchaser or Purchaser's agent.

(2) Necessary timely legal notices to tenants, if any, shall be given by Seller unless otherwise agreed to by the parties.

(3) If Seller shall fail for any reason whatsoever to vacate the Property after the above specified number of days, the Purchaser shall in addition to all other remedies have the right to commence any legal action or proceeding to evict and remove the Seller from the Property with Seller hereby agreeing to reimburse Purchaser for all reasonable

INITIAL: _____ _____

attorney fees and expenses incurred by the Purchaser in the enforcement of Purchaser's rights under this Agreement.

(4) In the event that closing does not occur on or before the date listed above, as a result of Purchaser's inability to close by such date, per diem liquidated damages in the amount of $____0____$ shall be paid by Purchaser to Seller, for each day the closing is delayed beyond the date of closing listed above.

(5) In the event that closing does not occur on or before the date listed above, as a result of Seller's inability to close by such date, per diem liquidated damages in the amount of $0 _____ shall be paid by Seller to Purchaser for each day the closing is delayed beyond the date of closing listed above.

4. EVIDENCE OF TITLE

Within fourteen (14) days of execution of this Agreement, Seller shall deliver (A.) __X____ An abstract of title, continued within thirty (30) days prior to closing or (B.) _____ A Commitment for Title Insurance issued by a title insurance company regularly doing business in the County where the Property is located, committing the company to issue an owner's policy in the usual form insuring merchantable title to the Property. In the event that the Property is located in Iowa and Seller elects to provide a Commitment for Title Insurance, Seller shall also provide an abstract of title to Purchaser prior to closing. If title evidence discloses exceptions other than those permitted under the rules for examination for abstracts of title adopted by the County Bar Association in which the Property is located, Purchaser or Purchaser's attorney shall give written notice of such exceptions to Seller within a reasonable time. Seller shall have a reasonable time to have such title exceptions removed, or any such exception, which may be removed by the payment of money may be cured by deduction from the purchase price at the time of closing. If Seller is unable to cure such exception, Purchaser shall be entitled to a refund of the earnest money. Furnishing a title insurance commitment insuring over an exception shall constitute a cure of such exception.

5. CONVEYANCE OF TITLE AND DOCUMENTS OF SALE

The parties agree to execute any transfer declarations or other documents required by the state, county or municipality in which the Property is located, as well as any documents required by the title insurance company in order to issue title insurance.

6. PRORATIONS AND ADJUSTMENTS

The following items shall be prorated at closing as of the date of delivery of possession:

A. Prorations

INITIAL: _____ _____

(1) Real estate taxes shall be prorated in accordance with standards adopted by the county bar association of the county where the real estate is located, which, in the absence of fraud, shall be final;

(2) Rent, if any, (with transfer in full of any security/damage deposit);

(3) Other income and operation expenses, if any.

B. Adjustments

Utility charges shall be adjusted by the parties by appropriate meter readings at or about the time of delivery and surrender of possession, with all utilities to be transferred to Purchaser's name as of the date of closing.

7. ASSESSMENTS

Seller shall pay all special assessments, which are a lien on the Property as of the date of closing. Seller acknowledges that prior to the execution of this Agreement Seller has no knowledge of or no notice has been received from any municipal authority concerning improvements which could result in a special assessment on the Property. Tap on fees, if any, which exist for municipal services to the Property, shall be paid by the Purchaser.

8. FIXTURES AND PERSONAL PROPERTY

All fixtures presently installed on the Property including but not limited to; brackets and fixtures, all carpeting, electric light fixtures, bathroom fixtures and accessories, telephone lines, central heating and cooling units and attached equipment, all shrubs and trees, shall be left by Seller in or upon said Property exactly as they are as of the date of this Agreement, and shall be deemed a part of the Property and title thereto shall pass to Purchaser at closing. The following personal property shall be sold to Purchaser as part of the closing: None

Seller shall deliver a Bill of Sale to Purchaser at closing for same. The parties agree that $ 0 of the Purchase Price shall be allocated toward the purchase of said personal property.

9. CONDITION OF PROPERTY

The parties agree that the Purchase Price reflects the condition of the Property and personal property being purchased (if any) and Purchaser acknowledges that the Property, the improvements and personal property (if any) thereof have been inspected, and Purchaser is acquainted with the condition thereof and accepts the same in:

X A. "As-Is" Condition.

INITIAL: _____

_____ B. "As-Is" condition except Seller warrants the plumbing, heating and electrical systems to be in normal working condition on date of possession and further warrants_____. Written notice of breach of the warranty contained above must be served upon Seller, Seller's attorney, or Seller's agent within two (2) business days of the date of possession. Purchaser shall have the right to inspect the Property during the 48-hour period immediately prior to closing.

10. DEFAULT

If Purchaser fails to make any payment or to perform any obligation imposed upon Purchaser by this Agreement, Seller may serve written notice of default upon Purchaser and if such specified default is not corrected within ten (10) days thereafter, Seller, subject to the terms of any listing agreement, may accept the earnest money and any additional down payment as damages or may pursue any available legal remedy including specific performance. In the event Seller fails to perform any obligation imposed upon Seller by this Agreement, Purchaser may serve written notice of default upon Seller and if such default is not corrected within ten (10) days thereafter, earnest money and any additional down payment deposit shall be refunded to Purchaser without prejudicing the Purchaser's right to any available legal or equitable remedy including specific performance. In the event of default the defaulting party shall be liable to the other party for reasonable attorney fees, expenses incurred by reason of default, and the real estate brokerage fee.

11. CASUALTY CLAUSE

Seller shall bear the risk of loss or damage to the Property prior to closing or possession, whichever first occurs. In the event all or a material part of the Property is damaged or destroyed prior to closing or possession, whichever first occurs, this Agreement shall terminate and be of no further force and effect, unless the Property can be restored to its present condition on or before the closing date. Seller shall keep adequate insurance, including fire and other extended coverage, on improvements on the Property until title has passed to Purchaser or possession is delivered to Purchaser, whichever first occurs. Purchaser shall be responsible for insurance coverage upon taking title to or possession of the Property, whichever occurs first.

12. EXPENSES OF TRANSFER

A. Seller shall pay:

(1) Broker's Commission;

(2) Cost of owner's title policy or the initial updating of the abstract(s) of title prior to closing, as necessary

(3) Revenue stamps and recording of any releases.

B. Purchaser shall pay:

(1) Recording fee for deed and mortgage;

INITIAL: _____

_____

(2) Cost of Purchaser's mortgage title insurance policy as required by mortgagee or the costs of re-continuing the abstract(s) of title post-closing.

Each party shall be responsible for their own attorney fees and customary closing costs for the County in which the Property is located. Closing costs do not include charges incident to the Purchaser's financing, and Purchaser shall pay such charges.

13. 1031 EXCHANGE

Purchaser agrees that it shall be an accommodation party, if requested by Seller, in a "1031 Starker Exchange," provided that Purchaser shall incur no additional cost with regard to said accommodation, shall not be required to take title to any property other than the Property, and said accommodation does not delay the closing of the transaction for the Property. Purchaser agrees to execute any and all documents necessary to effectuate such an exchange.

Seller agrees that it shall be an accommodation party, if requested by Purchaser, in a "1031 Starker Exchange," provided that Seller shall incur no additional cost with regard to said accommodation, shall not be required to take title to any property other than the Property, and said accommodation does not delay the closing of the transaction for the Property. Seller agrees to execute any and all documents necessary to effectuate such an exchange.

14. ESCROW

This Agreement will be closed through an escrow either with the (CHECK ONE) (A.)__X_____ Purchaser's attorney, (B.) _____ Title company selected by Purchaser's mortgage lender, or (C.) _____ Seller's attorney. The funds held in escrow shall be paid out upon recording of the necessary documents and the vesting of merchantable title of the Property in Purchaser.

15. REPRESENTATIONS OF SELLER

Seller hereby represents to Purchaser that, to the best of Seller's knowledge, the Property is not contaminated with, nor threatened with contamination from outside sources by, any chemical, material or substance to which exposure is prohibited, limited or regulated by any federal, state, county, local or regional authority or which is known to pose a hazard to health and safety and that Seller has not used the Property as a landfill or dumpsite, or for storage of hazardous substances, or has not otherwise done anything to contaminate the Property with hazardous wastes or substances. Seller warrants that the Property is not subject to any local, state or federal judicial or administrative action, investigation or order, as the case may be, regarding wells or underground storage tanks, solid waste disposal sites, or hazardous wastes or substances. In the event Purchaser notifies Seller before closing that the representations and warranties set forth herein are untrue and such notice is accompanied by a report from an engineering company or environmental consultant with experience in evaluating such matter, then Purchaser,ove at its option, may terminate this Agreement, and the earnest money paid herein shall be returned to Purchaser. Any and all environmental information that Seller has, if any, shall be provided to Purchaser within seven (7) days of execution of this Agreement.

INITIAL: _____

_____

16. LEASES

As of the date of this Agreement, the Property is subject to the following leases: None _____. Prior to closing, Seller shall not enter into any new leases or agree to extend any existing leases without Purchaser's prior written consent. All leases shall be assigned to Purchaser at closing, along with all security/damage deposits associated therewith.

17. SELLER'S CONSENT TO ASSIGNMENT

This Agreement may not be assigned by Purchaser to any other person or entity without Seller's prior written consent, which shall not be unreasonably withheld.

18. NOTICES AND ELECTRONIC TRANSMISSION

All notices required pursuant to this Agreement shall be in writing and signed by the party or party's agent (an "agent" shall be any person or persons designed in writing as such by a party and any attorney representing said party) and shall be given to the other party or that party's agent by:

A. Personally served upon the other party or that party's agent, in which case notice shall be effective upon the date of delivery;

B. By electronic transmission to the other party or that party's agent, in which case notice shall be effective on the date of the electronic transmission; or

C. Certified or registered mail, return receipt requested, and sent to the address of the party set forth below, which case notice shall be effective on the date of mailing.

If to Purchaser: Mediacom Attn: Todd Curtis
3900 26th Ave
Moline, Il 61201
Phone:

With copy to: Mel Foster Commercial Attn: Joe Wonio
3245 E 35th St Ct
Davenport, IA 52807
Phone: 563-370-8097

If to Seller: MM Development, LLC
1225 E River Dr, #320
Davenport, IA 52803
Phone:

With copy to: Mel Foster Commercial Attn: Thad DenHartog
3245 E 25th St Ct
Davenport, IA 52807
Phone:

INITIAL: _____

_____

Notice to any one party of a multiple person party shall be sufficient notice to all.

For the purpose of negotiating and finalizing this Agreement, any document transmitted electronically shall be treated in all manner and respects as an original document. The signature of any party shall be considered an original signature and such electronic document shall be considered to have the same binding legal effect as an original document.

19. GENERAL CONDITIONS

This Agreement shall be binding upon the parties and their successors and assigns. Time is of the essence of this Agreement. This Agreement shall be governed by and enforced in accordance with the laws of the state in which the Property is located. This Agreement contains the entire agreement of the parties and no representations, warranties, or agreements have been made by either party except as set forth herein. No modification, waiver, or amendment of the Agreement shall be effective unless made in writing and signed by the parties. All representations, warranties and covenants made by the parties shall survive closing. Paragraph headings are for the convenience of reference and shall not limit or affect the meaning of this Agreement.

20. BROKER REPRESENTATIONS

It is understood that no representation made by the Broker or Salesperson in the negotiation of this Agreement are being relied upon unless incorporated herein in writing. Broker and Salesperson make no representations or warranties, either expressed or implied, as to the physical or mechanical condition of the Property, the improvements thereon, or any personal property being transferred.

21. BROKERS AS AGENTS

Parties acknowledge that agency disclosures have been made and signed prior to signing of this Agreement. The Broker, the Broker's agents, employees, and associates agree to respond to all questions of the parties accurately and honestly, to the best of their knowledge, and agree to disclose all material defects about which they have knowledge, but are not required to discover hidden defects in the Property or defects of which they have no knowledge or give advice on matters outside the scope of their real estate licenses.

22. AGENCY

Listing Agent: Thad DenHartog

Purchaser's Agent: Joe Wonio

Company: Mel Foster Commercial

Company: Mel Foster Commercial

A. An agency disclosure must be made at the time specific assistance is provided to Purchaser or Seller. By signing below, Purchaser and Seller confirm that prior informed written disclosure of agency representation was provided to them, that they understand said representation and that the disclosure was provided prior to signing. Purchaser and Seller acknowledge and agree that:

INITIAL: _____

_____

CHECK ONE:

__X__(1) The Listing Agent is representing the Seller and the Purchaser's Agent is representing the Purchaser.

_____(2) The Agent, who is both the Listing Agent and the Purchaser's Agent, is acting as a Dual Agent with full knowledge and prior consent of both parties.

____(3) The Purchaser's Agent is representing the Purchaser only.

_____(4) The Listing Agent is representing the Seller only.

B. Seller and Purchaser request that Mel Foster Commercial Real Estate Services, L.L.C. select, prepare, and complete documents allowed by law or rule, and may contact their client by telephonic or electronic communication.

Purchaser Date 10/18/2020 Seller Date 11-30-20

23. RIDERS

This Agreement is subject to the following riders: Condition Precedent Rider.

24. ACCEPTANCE

When accepted, this Agreement shall become a binding a contract for the sale and purchase of the Property. If this Agreement is not accepted and returned to Purchaser and/or Purchaser's agent by the Seller on or before ~~November 19, 2020~~ December 2, 2020 at 5:00 p.m., it shall become null and void and the earnest money shall be refunded to the Purchaser. This is a legally binding contract. If not understood, consult with legal counsel of your choice. Receipt of a copy of this Agreement is acknowledged by the parties hereto. This Agreement has been read and executed on the dates beside our signatures.

Executed by Purchaser:

MCC Texas, LLC

Purchaser 10/18/2020 Date

Executed by Seller:

Seller Alejandro Mayorga 11-30-20 Date

Purchaser Date

Seller Date

INITIAL:

This Agreement has been prepared by:

Joe Wonio
Agent

MEL FOSTER COMMERCIAL REAL ESTATE SERVICES, L.L.C.
3245 East 35th Street Court, Davenport, IA 52807
(563) 324-4488 /FAX (563) 344-5803

INITIAL: _____

_____

CONDITION PRECEDENT RIDER

This Condition Precedent Rider is a supplement to and made a part of the Agreement for Sale of Commercial Real Estate (the "Agreement") dated November 18, 2020, by and between MM Development, LLC, as "Seller" and Mediacom, as "Purchaser".

The Agreement is conditioned upon Purchaser having a due diligence period beginning upon full execution of the Agreement by both parties and ending **March 15, 2021** (the "Due Diligence Period") to: (i) perform any due diligence on, regarding, or of the Property it so chooses; (ii) to perform any inspections on or of the Property it so chooses (provided, however, that any entry unto the Property shall be approved in advance by Seller in each instance); (iii) to examine the condition of the Property; (iv) to examine any contracts affecting the Property; (v) to determine whether the Property and the purchase thereof fits within Purchaser's business model and plans; and (vi) to determine whether the Property and the purchase thereof fits within Purchaser's intended use and purpose and obtaining proper zoning and other entitlements for the intended use (each of the above-referenced is herein referred to as a "Due Diligence Item"). Seller shall allow Purchaser and its agents and employees reasonable access to the Property during the Due Diligence Period. Unless otherwise noted, Purchaser shall pay for all of Purchaser's inspections.

In the event that Purchaser is not fully satisfied for any reason, at Purchaser's sole and absolute discretion, with each and every Due Diligence Item, including but not limited to the results of inspections, Purchaser may cancel and terminate this Agreement at any time during the Due Diligence Period by sending to Seller via email, fax, or by letter a written document terminating this Agreement. Upon such termination, this Agreement shall be null and void, neither party shall have any further responsibility to each other and the Earnest Money shall be returned to Purchaser. Any or all of the above-referenced contingencies or Due Diligence Items may be waived by Purchaser at any time by Purchaser delivering to Seller in writing a document stating such waiver(s). Alternatively, the parties may mutually agree to the remedy of any deficiency or defect arising under any Due Diligence Item through the execution of an Amendment to the Agreement, and proceed to closing.

Purchaser:

MC Iowa, LLC

Todd Curtis

Todd Curtis

Dated: 11/18/2020

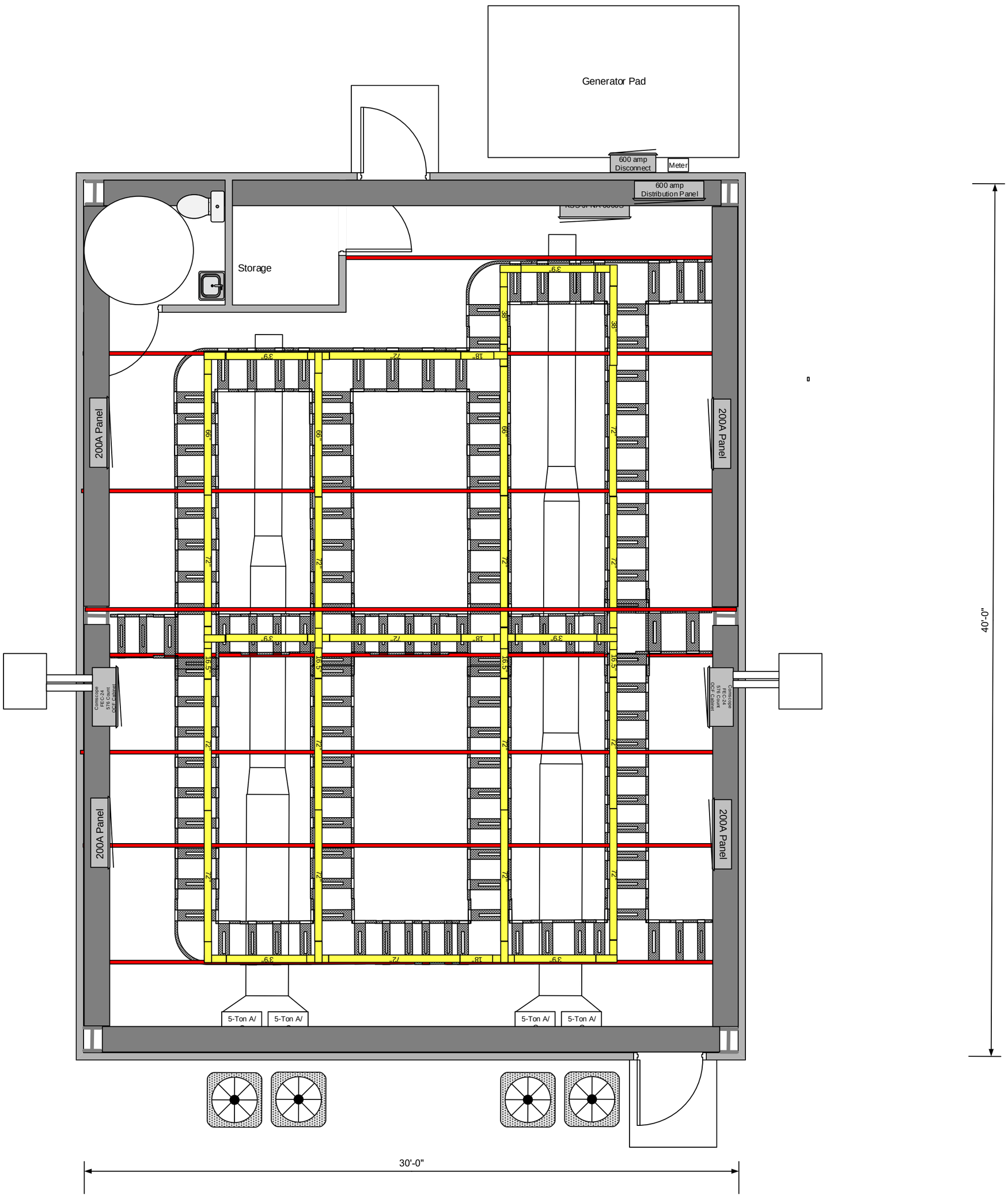
Seller:

Alejandro Mayorga, member

Dated: 11-30-20

Zoning Map Amendment (Rezoning) Request
REZ 20-08 5000 Grand Avenue

Proposed Communications Building
Example Elevations


Generator Pad
600 amp
Disconnect
Meter
600 amp
Distribution Panel
Storage
200A Panel
200A Panel
200A Panel
200A Panel
Commscope
FEC-24
576 Count
OCP Cabinet
Commscope
FEC-24
576 Count
OCP Cabinet
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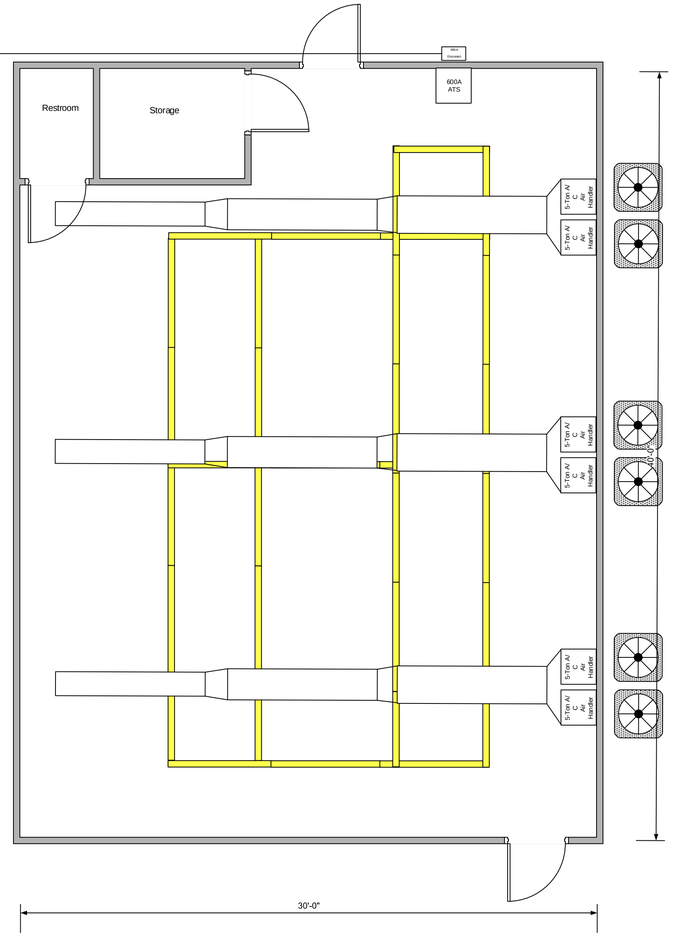
5-Ton A/
5-Ton A/
5-Ton A/
30'-0"
40'-0"


Restroom
Storage
600A
ATS
5 Ton AC Heater
5 Ton AC Heater
5 Ton AC Heater
5 Ton AC Heater
5 Ton AC Heater
5 Ton AC Heater
30'-0"

28 - pairs wire ladder clamps 3/8"
38 - pairs of plates
11- 144" x 24" wire ladder
3 – 24" 90 degree elbows
3 – 24" Crosses
5 – 24" Tee's
2 - 144" x 12" wire ladder
9 – 20' 2" unistrut
60 – 3/8" unistrut nuts
8 – 3/8" unistrut 90 degree brackets

DAVENPORT
DEVELOPMENT &
NEIGHBORHOOD SERVICES

Public Hearing Notice | Committee of the Whole

Date: 2/3/2021
Time: 5:30 PM

Location: Council Chambers | City Hall | 226 W. 4th ST.
Subject: Public Hearing for a Rezoning Request Before the Committee of the Whole

To: All property owners within 200 feet of the subject property located at **5000 Grand Avenue**

There is on file in the Development and Neighborhood Services Department (DNSD), on behalf of the Plan and Zoning Commission, the following request:

> **Case REZ20-08: Request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables [Ward 7].**

At its January 19, 2021 meeting, the Plan and Zoning Commission recommended approval of the aforementioned case with the following findings:

Findings:

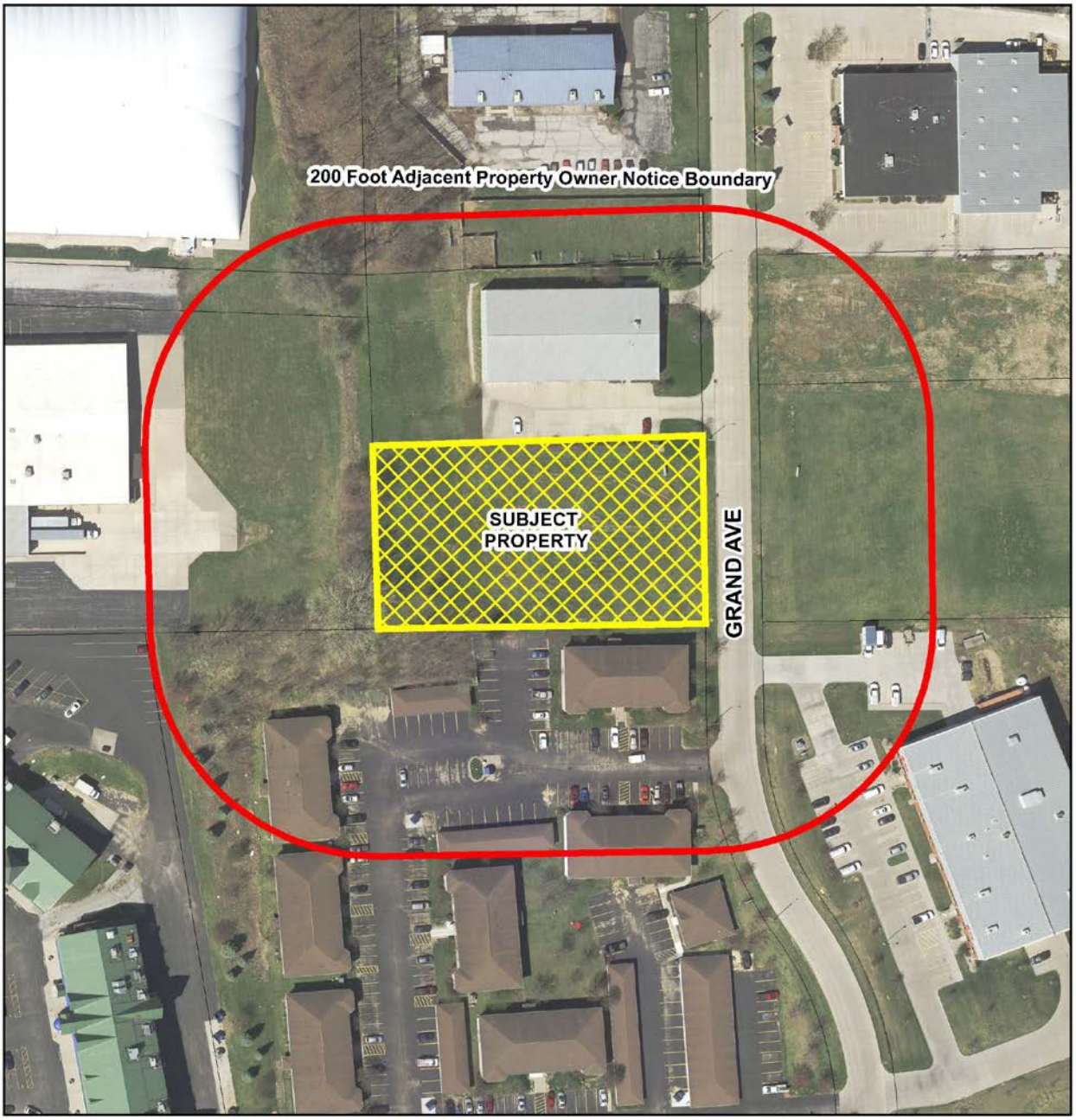
1. The proposed I-1 Light Industrial District is compatible with the zoning of nearby property.
2. The established neighborhood character is primarily industrial to the north and east of the subject property. To the south, there is an apartment complex and several smaller scale multi-family residential developments. The proposed low intensity use of the site will serve as a transition between industrial and residential properties.
3. Rezoning the property to I-1 Light Industrial District does not create any nonconformities.

Condition: The City Council is requested to pass a resolution amending the Future Land Use Designation from Residential General (RG) to Industry (I).

The public hearings on the above matter is scheduled for 5:30 p.m. or as soon thereafter as possible on Wednesday, February 3, 2021 in the Council Chambers of the Davenport City Hall, 226 West 4th Street, Davenport, Iowa. You may submit written comments on the above item(s) or to attend the public hearing to express your views, or both. Interpretive services are available at no charge. Servicios interpretativos libres estan disponibles. TTY: (563) 326-6145

Any written comments to be reported at the public hearing should be received in the Development and Neighborhood Services Department, at the below address, no later than 12:00 noon on the day of the public hearing(s).

Plan and Zoning Commission
Adjacent Property Owner Notice Area



REZ20-08 5000 Grand Avenue

Private parties utilizing City GIS data do so at their own risk. The City of Davenport will not be responsible for any costs or liabilities incurred due to any differences between information provided and actual physical conditions.

0 50 100 200 Feet

N

DAVENPORT
COMMUNITY PLANNING & ECONOMIC DEVELOPMENT

Friday, January 22, 2021

Please publish the following public notice in the next available edition of the Quad City Times.

The PO number for this notice is: 2106822

Please provide proof of publication for our records. If you have any questions, please contact us at planning@ci.davenport.ia.us or 563-326-6198. Thank you!

NOTICE
PUBLIC HEARING
WEDNESDAY, FEBRUARY 3, 2021 5:30 P.M.
CITY OF DAVENPORT COMMITTEE OF THE WHOLE
COUNCIL CHAMBERS - DAVENPORT CITY HALL
226 WEST 4th STREET – DAVENPORT, IOWA

There is on file in the Development and Neighborhood Services Department (DNSD), on behalf of the Plan and Zoning Commission, the following requests:

Case REZ20-08: Request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables [Ward 7].

The legal description of the property proposed to be rezoned is as follows:

Lot 5 in Lyngholm Park 8th Addition to the City of Davenport, Scott County, Iowa.

At its January 19, 2021 meeting, the Plan and Zoning Commission recommended approval of the aforementioned case with the following findings:

Findings:

1. The proposed I-1 Light Industrial District is compatible with the zoning of nearby property.
2. The established neighborhood character is primarily industrial to the north and east of the subject property. To the south, there is an apartment complex and several smaller scale multi-family residential developments. The proposed low intensity use of the site will serve as a transition between industrial and residential properties.
3. Rezoning the property to I-1 Light Industrial District does not create any nonconformities.

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express your views, or both. Interpretive services are available at no charge. Servicios interpretativos libres estan disponibles. TTY: (563) 326-6145

Any written comments to be reported at the public hearing should be received in the Development and Neighborhood Services Department, at the above address, no later than 12:00 noon on the day of the public hearing(s). PO No. 2106822

Development and Neighborhood Services Department
E-MAIL: planning@davenportiowa.com PHONE: 563-326-6198

DAVENPORT
DEVELOPMENT & NEIGHBORHOOD SERVICES

PUBLIC HEARING NOTICE | Plan and Zoning Commission

Date: 1/5/2021 Location: Council Chambers | City Hall | 226 W. 4th ST.
Time: 5:00 PM Subject: Public Hearing for Rezoning Request before the Plan and Zoning Commission

To: All property owners within 200 feet of the subject property located at **5000 Grand Avenue.**

What is this About?
This notice is being sent to inform you that a public hearing will be held for a Rezoning Request. The purpose of the Rezoning Request is to allow for construction of a communications building.

Request/Case Description
Case REZ20-08: Request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables [Ward 7].

What are the Next Steps after the Public Hearing?
The Plan and Zoning Commission will hold a formal public hearing at their meeting on January 5, 2021. The Plan and Zoning Commission will vote (provide a recommendation) to the City Council at their meeting on January 19, 2021. The Commission's recommendation will be forwarded to the City Council which will then hold its own public hearing. You will receive a notice of the City Council's public hearing. For the specific dates and times of subsequent meetings, please contact the case planner below.

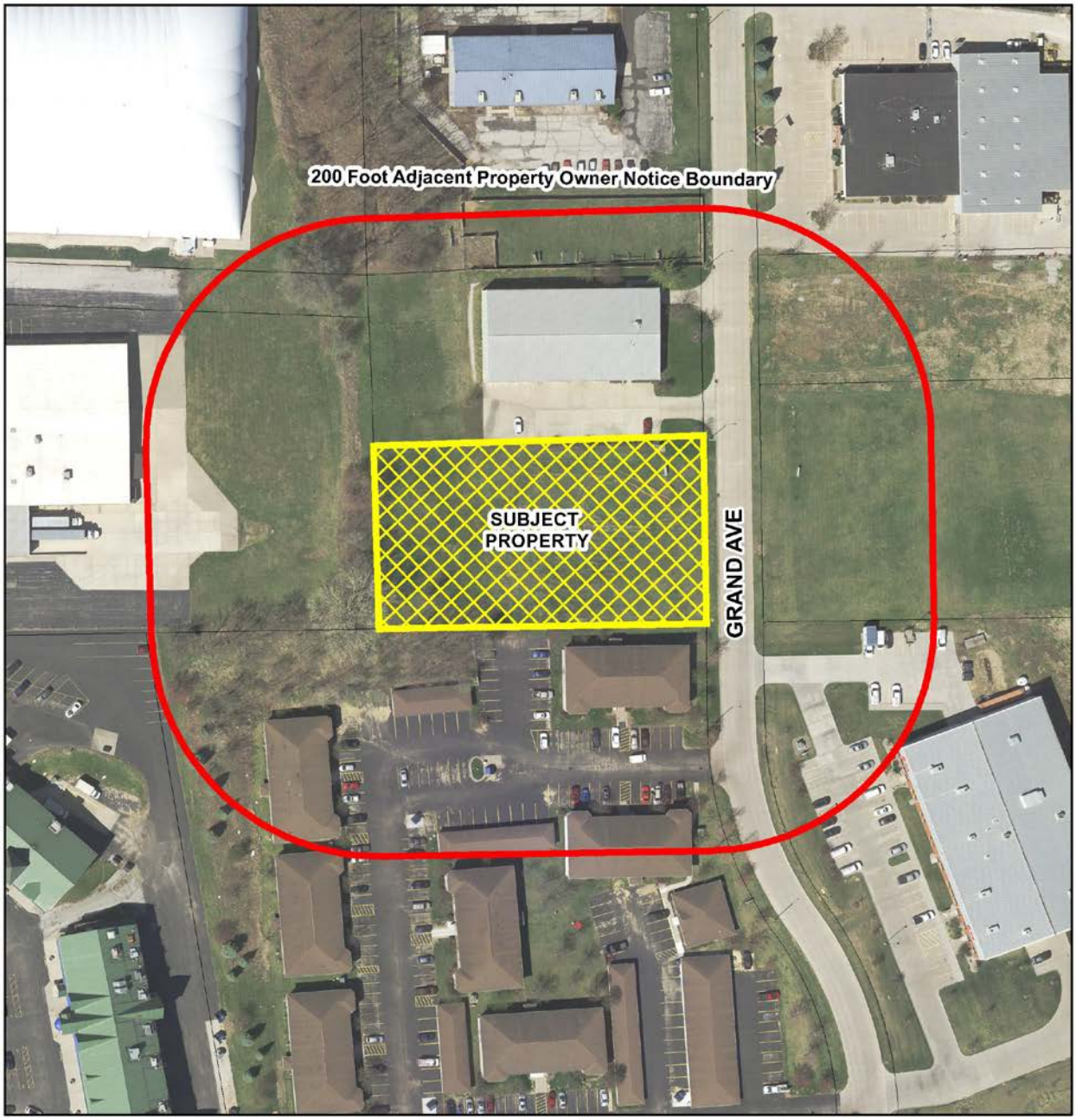
Would You Like to Submit an Official Comment?
As a neighboring property owner you may have an interest in commenting on the proposed request via email or in person at the public hearing. Send written comments to planning@davenportiowa.com (no later than 12:00 PM *one day before* the public hearing) or to: Planning, 1200 E 46th St, Davenport IA 52807.

On-line/Telephone Participation:
Persons may join the meeting virtually: https://www.gotomeet.me/Davenport_Planning/planzoning & at 1-866-899-4679 with access code: 492-653-453. All documents related to the meeting (agenda included) are at "Search Minutes & Agendas": www.cityofdavenportiowa.com/boards Mondays before the meeting/public hearing.

Do You Have Any Questions?
If you have any questions or if accommodations are needed for any reason, please contact the planner assigned to this project (Matt Werderitch) at matt.werderitch@davenportiowa.com or 563-888-2221. Interpretive services are available at no charge. Servicios interpretativos libres estan disponibles. TTY: (563) 326-6145

Please note items may be removed or tabled to a future hearing date at the request of the Applicant or Commission/Board. Those interested verifying case actions and/or tablings, please contact Planning at 563-326-6198 or planning@davenportiowa.com for updates.

Plan and Zoning Commission
Adjacent Property Owner Notice Area



REZ20-08 5000 Grand Avenue

Private parties utilizing City GIS data do so at their own risk. The City of Davenport will not be responsible for any costs or liabilities incurred due to any differences between information provided and actual physical conditions.

0 50 100 200 Feet

N

City of Davenport

Department: Legal
Contact Info: Brian Heyer | 563-326-7735

Action / Date
2/3/2021

Subject:
Public Hearing on the proposed conveyance of the vacated public right-of-way know as a portion of the east-west alley lying south of the 1900 block of West 15th Street between Wilkes Avenue and Pacific Street (City of Davenport, petitioner). [Ward 4]

Recommendation:
Hold the Hearing.

Background:
The City of Davenport vacated this alley right-of-way in August of 1961. During a recent land sale, it was discovered that the alleyway had not been conveyed to the abutting property owners of 1907, 1911, 1921, 1923, 1927, and 1933 West 15th Street, who all own property on both sides of the vacated alley.

ATTACHMENTS:

	Type	Description
🗋	Backup Material	Map

REVIEWERS:

Department	Reviewer	Action	Date
Legal	Admin, Default	Approved	1/28/2021 - 11:42 AM

1900 Block of W 15th Street Proposed Alley Conveyance

City of Davenport

Department: Public Works - Engineering
Contact Info: Noah Jones | 563-327-5168

Action / Date
2/3/2021

Subject:
Public Hearing on the plans, specifications, form of contract, and estimate of cost for the Harrison Street Reconstruction (Northbrook Drive to 5003 Harrison Street) project, CIP #35047. [Ward 7]

Recommendation:
Hold the Hearing.

Background:
This project shall be a full width reconstruction, including pavement removal, subdrain installation, new subbase, PCC paving with integral curbing, PCC sidewalk and driveway approaches, ADA ramps, topsoil, and seeding for Harrison Street between Northbrook Drive and 5003 Harrison Street.

Estimate of cost is $186,000.

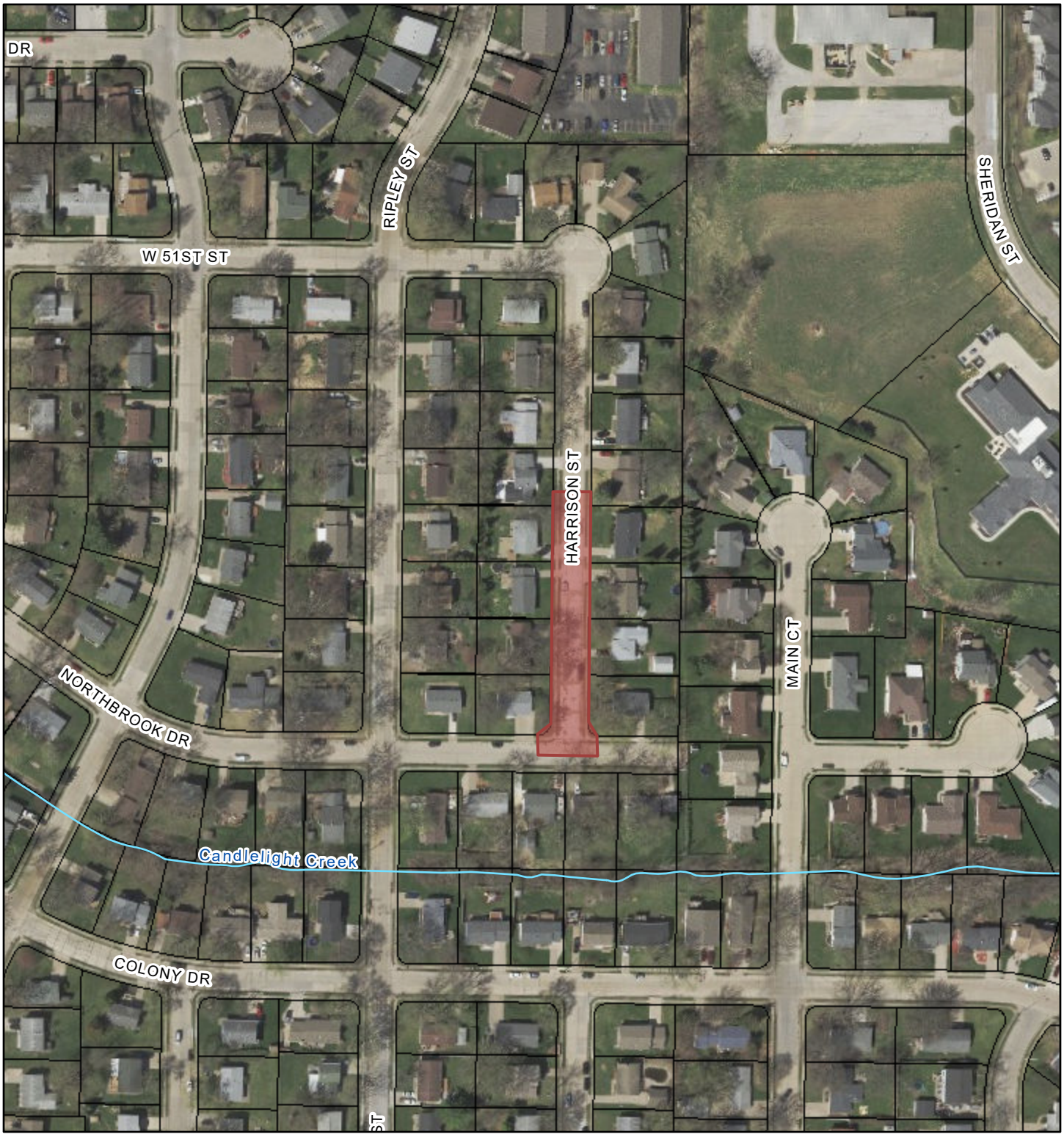
ATTACHMENTS:

	Type	Description
🗋	Backup Material	Location Map

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:09 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:09 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:22 PM

Harrison & Northbrook Reconstruction



8/14/2020, 9:22:50 AM

1:3,009

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.12 km

Web AppBuilder for ArcGIS
Scott County Iowa, Bi-State Regional Commission |

City of Davenport

Department: Public Works - Engineering
Contact Info: Noah Jones | 563-327-5168

Action / Date
2/3/2021

Subject:
Public Hearing on the plans, specifications, form of contract, and estimate of cost for the West 43rd Street Reconstruction (Michigan Avenue to Elsie Avenue) project, CIP #35047. [Ward 2]

Recommendation:
Hold the Hearing.

Background:
This project shall be a full width reconstruction, including pavement removal, subdrain installation, new subbase, PCC paving with integral curbing, PCC sidewalk and driveway approaches, ADA ramps, topsoil, and seeding for West 43rd Street from North Michigan Avenue to North Elsie Avenue and North Elsie Avenue from West 43rd Street to West 42nd Street.

Estimate of cost is $418,000.

ATTACHMENTS:

	Type	Description
🗋	Backup Material	Location Map

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:21 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:22 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:22 PM

43rd St Reconstruction Location Map

12/15/2020, 1:26:21 PM

1:2,257

0 0.01 0.03 0.05 mi

0 0.02 0.04 0.09 km

Web AppBuilder for ArcGIS
Scott County Iowa, Bi-State Regional Commission |

City of Davenport

Department: Public Works - Engineering **Action / Date**
Contact Info: Nichole Kriz | 563-326-7784 **2/3/2021**

Subject:
Public Hearing on the plans, specifications, form of contract, and estimate of cost for the Sheffield Drive Reconstruction project, CIP #35047. [Ward 2]

Recommendation:
Hold the Hearing.

Background:
This project will remove the existing concrete pavement on Sheffield Drive from 115' north of North Thornwood Avenue to Hillandale Road and replace it with new sub-drains, drainable base, and asphalt pavement. Driveway approaches and sidewalks will also be removed and replaced as necessary.

Funding is available thru CIP #35047. The estimated project cost is $420,000.

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:19 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:19 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:28 PM

City of Davenport

Department: Public Works - Engineering **Action / Date**
Contact Info: Nichole Kriz | 563-326-7784 **2/3/2021**

Subject:
Public Hearing on the plans, specifications, form of contract, and estimate of cost for the Heatherton Drive Reconstruction project, CIP #35047. [Ward 2]

Recommendation:
Hold the Hearing.

Background:
This project will remove the existing concrete pavement on Heatherton Drive from Fairmount Street to North Michigan Ave and replace it with new sub-drains, drainable base, and asphalt pavement. Driveway approaches and sidewalks will also be removed and replaced as necessary.

Funding is available thru CIP #35047. The estimated project cost is $420,000.

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:10 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:11 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:28 PM

City of Davenport

Department: Public Works - Engineering
Contact Info: Noah Jones | 563-327-5168

Action / Date
2/3/2021

Subject:
Public Hearing on the plans, specifications, form of contract, and estimate of cost for the East 38th Street Reconstruction (Spring Street to Belle Avenue) project, CIP #35047. [Ward 6]

Recommendation:
Hold the Hearing.

Background:
This project shall be a full width reconstruction, including pavement removal, subdrain installation, new subbase, PCC paving with integral curbing, PCC sidewalk and driveway approaches, ADA ramps, topsoil, and seeding for E 38th St from east of Spring St to west of Belle Ave (south).

Estimate of cost is $347,000.

ATTACHMENTS:

	Type	Description
🗋	Backup Material	Location Map
🗋	Backup Material	Notice of Public Hearing

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:09 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:09 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:30 PM

E 38th St Reconstruction Project Location

1/7/2021, 12:22:45 PM

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Notice of Hearing

on Proposed Plans, Specifications, and Proposed Contract for the

E 38th St Reconstruction (Spring to Belle) Project

Notice is hereby given that at 5:30 P.M., on Wednesday February 3, 2021 at the Council Chambers, City Hall, in the City of Davenport, Iowa, there will be conducted a hearing on the proposed plans, specifications, and form of contract which the City Council has caused to be filed with the City Clerk of the City of Davenport, Iowa, and on the cost and necessity of the above project in the City of Davenport, Iowa.

At said hearing any interested person may file written objection or comments with respect to the proposed plans, specifications, form of contract or cost of and necessity for such improvements and may be heard orally with respect thereto.

Brian Krup,
Deputy City Clerk

PO 2106849

City of Davenport

Department: Public Works - Engineering **Action / Date**
Contact Info: Nick Schmuecker | 563-327-5162 **2/3/2021**

Subject:
Public Hearing on the plans, specifications, form of contract, and estimate of cost for the West 53rd Street Patching project, CIP #35046. [Wards 7 & 8]

Recommendation:
Hold the Hearing.

Background:
The stretch of West 53rd Street between Northwest Boulevard and Candlelight Creek was selected for full depth patching by the City's pavement management program due to good panel structure but deteriorating joints along with a relatively high traffic count. This project will rehabilitate the joints and add pavement life before the pavement deteriorates to the point of needing full reconstruction.

The program is scheduled to be bid yet this winter with construction not to start until the end of this school year. Funding for the West 53rd Street Patching project is established within CIP #35046. The current estimate is $1,060,000.

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:22 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:22 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:31 PM

City of Davenport

Department: Public Works - Engineering
Contact Info: Sandy Doran | 563-326-7756

Action / Date
2/3/2021

Subject:
Public Hearing on the plans, specifications, form of contract, and estimate of cost for the Water Pollution Control Plant Gray Water Conversion project, CIP #39005. [All Wards]

Recommendation:
Hold the Hearing.

Background:
The proposed project includes the installation of pump skid including concrete pad, water work, plumbing, electrical, and control integration; installing water lines within and between WPCP buildings as well as completing water line disconnects and tie-overs; and installing new horizontally drilled 2-inch water line between the Raw Pump Building and Control Building.

This project is in conjunction with the UV Disinfection Project and has been identified in the Iowa Department of Natural Resources Consent Order. The estimated construction cost is $260,640.

ATTACHMENTS:

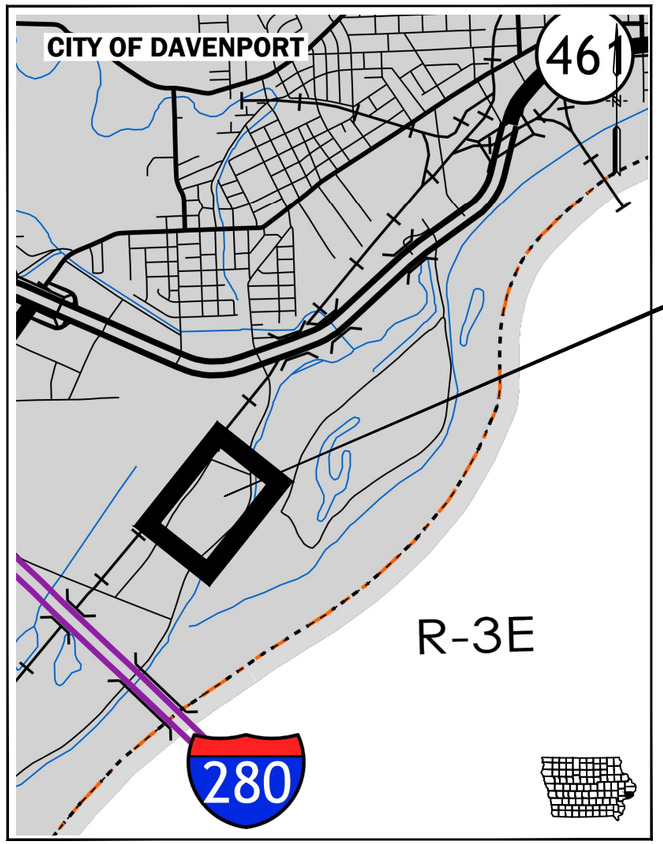
	Type	Description
🗋	Backup Material	WPCP Gray Water Conversion Project Plan Set
🗋	Backup Material	WPCP Gray Water Conversion Project Specifications

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:22 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:23 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:31 PM

PLOTTED: Wednesday, January 20, 2021 4:38:21 PM

PLANS FOR
WPCP GRAY WATER CONVERSION
DAVENPORT, IOWA



VICINITY MAP
NOT TO SCALE

DRAWING INDEX

NO.	DRAWING TITLE
G.01	TITLE SHEET & INDEX
G.02	DETAILS
G.03	DETAILS
G.04	DETAILS
C.01	OVERALL SITE PLAN
C.02	GENERAL PIPE ROUTING
C.03	GRAY WATER PIPE PLAN & PROFILE
C.04	RAW SEWAGE PUMP STATION
C.05	CONTROL BUILDING SERVICE
C.06	GRAY WATER PUMP
C.07	THICKENER CONTROL STRUCTURE
C.08	WEST TUNNEL
C.09	GRIT FACILITY
C.10	TRAVELING BAR SCREEN
C.11	DIGESTER BUILDING
X.01	SLUDGE BUILDING
E.01	CONTROL BUILDING ELECTRICAL PLAN
E.02	ELECTRICAL PHOTOS

IOWA ONE CALL
1-800-292-8989 | 811
www.iowaonecall.com

GENERAL NOTES

1. ALL ELEVATIONS ARE TO NAVD88 DATUM.
2. REMOVE AND REPLACE ALL STREET SIGNS AS DIRECTED BY ENGINEER. COST IS INCIDENTAL TO CONSTRUCTION.
3. SHAPE ALL DITCHES TO DRAIN AFTER CONSTRUCTION.
4. CONFIRM LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES AS REQUIRED TO ELIMINATE CONFLICTS PRIOR TO CONSTRUCTION. ALLOW UTILITY PERSONNEL TO RELOCATE UTILITIES WHERE CONFLICTS OCCUR.
5. DO NOT INTERRUPT EXISTING UTILITIES OR INDIVIDUAL SERVICES UNLESS DIRECTED BY ENGINEER.
6. LOCATIONS OF CONSTRUCTION LIMIT LINES SHOWN ON PLANS ARE APPROXIMATE. ENGINEER WILL LOCATE CONSTRUCTION LIMITS IN FIELD. CONFINE ALL CONSTRUCTION OPERATIONS, INCLUDING ACCESS TO WORK, TO CONSTRUCTION LIMITS.
7. SET MANHOLE COVERS FLUSH WITH PROPOSED GRADES UNLESS OTHERWISE NOTED.
8. STATIONING IS ALONG CENTER LINE OF PIPE, UNLESS OTHERWISE NOTED.
9. PROTECT UTILITY POLES, LINES AND APPURTENANCES NOT SHOWN FOR RELOCATION.
10. RESET ALL PROPERTY PINS DISTURBED BY CONSTRUCTION; PINS RESET BY REGISTERED LAND SURVEYOR; COST IS INCIDENTAL TO CONSTRUCTION.
11. PROTECT ALL SURFACING, NOT INDICATED BY SHADING FOR REMOVAL AND REPLACEMENT FROM DAMAGE DURING CONSTRUCTION.
12. ALL SAFETY AND NOTIFICATION REQUIREMENTS OF THE DAVENPORT WPCP SHALL BE FOLLOWED WHILE ON SITE.
13. CONTRACTOR SHALL VERIFY ALL EXISTING PIPE SIZES, LOCATIONS, AND ALIGNMENTS IN THE FIELD PRIOR TO BEGINNING CONSTRUCTION WORK.
14. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL PROPOSED TIE-OVER CONNECTIONS, ABANDONMENTS, AND PIPE HANGER/ANCHOR LOCATIONS FOR NEW PIPE.
15. SEE DETAILS 490 THROUGH 498 FOR PIPE HANGER SYSTEMS; PIPING SHALL BE SUPPORTED THROUGHOUT.
16. ALL WORK SHALL COMPLY WITH CURRENT CITY OF DAVENPORT BUILDING AND PLUMBING CODES, SUDAS SPECIFICATIONS AS AMENEDED BY THE CITY OF DAVENPORT, AND SPECIFICATIONS ACCOMPANYING THIS PLAN SET
17. CONTRACTOR SHALL FIELD VERIFY LOCATION AND POSITION OF IN-LINE FILTER AND GRAY WATER PUMP SKID, AND VERIFY HEIGHTS AND DISTANCE REQUIREMENTS ARE MET FOR THE PROPER OPERATION AND MAINTENANCE OF ALL COMPONENTS AND ALL REQUIRED SET-BACK DISTANCES ARE MET.
18. EXISTING PIPE INSULATION SHALL BE REVIEWED BY CONTRACTOR FOR POTENTIAL ASBESTOS AND HANDLED ACCORDINGLY.

PROTECTION OF VEGETATION

TREES AND OTHER VEGETATION WHICH MAY BE REMOVED ARE MARKED WITH AN "X" OVER THE APPROPRIATE SYMBOL. FOR EXAMPLE ⊠ 12" INDICATES THE REMOVAL OF A 12" TREE. REPLACEMENT, BY CONTRACTOR, OF THESE ITEMS IS NOT REQUIRED. TUNNEL, INSTALL TIGHT SHEETING, HAND EXCAVATE OR EMPLOY OTHER MEANS APPROVED BY ENGINEER TO PROTECT EXPOSED PORTIONS AND ROOT SYSTEMS OF TREES AND OTHER VEGETATION NOT SCHEDULED FOR REMOVAL. IF TREES AND OTHER VEGETATION NOT SCHEDULED FOR REMOVAL ARE DAMAGED DURING CONSTRUCTION, REPLACE IN KIND AND SIZE AT NO COST TO CITY OR PROPERTY OWNER.

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE: _____
NAME: JACOB D. LUCAS
DATE: 6/29/2020
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2021
PAGES COVERED BY THIS SEAL: ALL E SHEETS

LICENSED PROFESSIONAL ENGINEER — JACOB D. LUCAS NO.23240 — IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE: _____
NAME: CHRIS A. PARIZEK
DATE: 6/29/2020
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2021
PAGES COVERED BY THIS SEAL: ALL G AND C SHEETS AND ALL X SHEETS

LICENSED PROFESSIONAL ENGINEER — CHRIS A. PARIZEK NO.24728 — IOWA

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

VEENSTRA & KIMM, INC.
1800 5th Ave • Rock Island, Illinois 61201
309-786-7590 • 309-797-0996(FAX) • 877-241-8010(WATS)

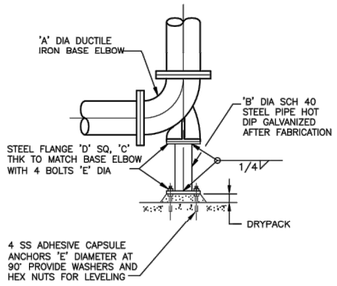
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

TITLE SHEET & INDEX

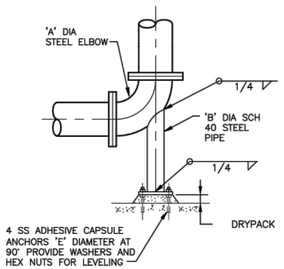
DWG. NO. G.01
PROJECT 222107

X-REFS:
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 TITLE SHEET AND INDEX

PLOTTED: Wednesday, January 20, 2021 4:38:27 PM
X-REFS:
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 TITLE SHEET AND INDEX



DUCTILE IRON BEND

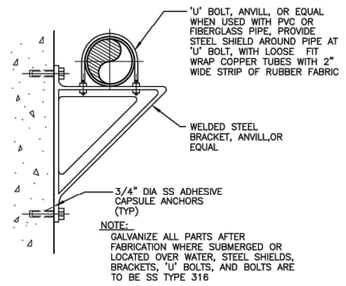


STEEL BEND

BEND 'A' DIA	DIMENSIONS IN INCHES 'B' DIA	'C' THICK	'D' SQ	'E' DIA
4	2	3/8	6	5/8
6	2 1/2	3/8	7	5/8
8	4	1/2	9	5/8
10	4	1/2	9	5/8
12	6	1/2	11	3/4
14	6	1/2	11	3/4
16	6	1/2	11	3/4
18	8	1/2	13 1/2	3/4
20	8	1/2	13 1/2	3/4
24	8	1/2	13 1/2	3/4
30	10	3/4	16	7/8
36	12	3/4	19	7/8
42	16	3/4	23 1/2	1
48	18	3/4	25	1 1/8

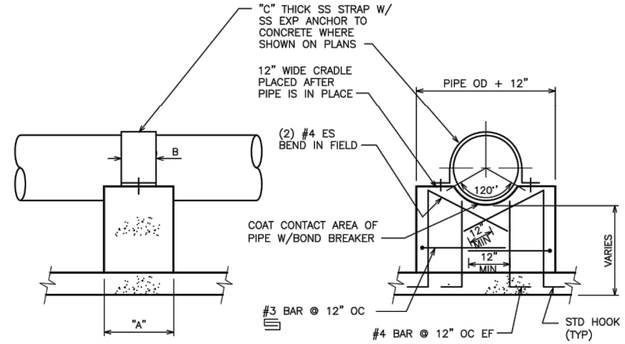
NOTE:
1. MATERIAL FINISH TO MATCH PIPE.
2. FOR CONSTRUCTION BEND SUPPORT SEE DETAIL (310)

BEND SUPPORT DETAIL (493)
NO SCALE



NOTE:
GALVANIZE ALL PARTS AFTER FABRICATION WHERE SUBMERGED OR LOCATED OVER WATER, STEEL SHIELDS, BRACKETS, 'U' BOLTS, AND BOLTS ARE TO BE SS TYPE 316

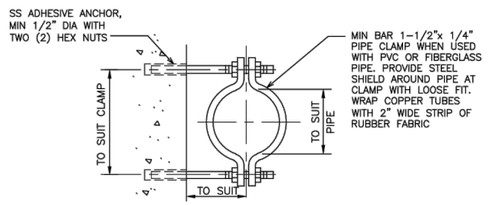
PIPE BRACKET DETAIL (494)
NO SCALE



NOTE:
WHEN ATTACHING TO EXISTING CONCRETE PROVIDE EQUIVALENT SIZE THREADED ANCHORS.

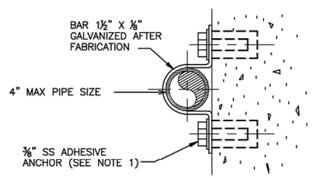
CONCRETE PIPE SUPPORT (495)
NO SCALE

NOMINAL PIPE SIZE	DIMENSIONS IN INCHES "A"	"B"	"C"
6"	12"	4"	1/4"
8"	12"		
10"	12"		
12"	12"		
14"	12"		
16"	12"		
18"	12"		
20"	12"	5"	3/8"
22"	12"		
24"	12"		
26"	12"		
30"	12"		
34"	15"		
36"	15"	6"	
42"	18"		
48"	18"		
54"	18"		
60"	18"		



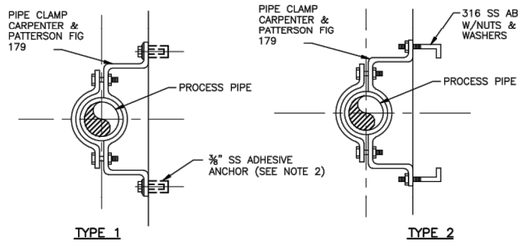
NOTE:
GALVANIZE ALL PARTS AFTER FABRICATION. WHERE SUBMERGED OR LOCATED ON OR ABOVE TOP OF WALL OF HYDRAULIC STRUCTURE, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL.

PIPE CLAMP DETAIL (496)
NO SCALE



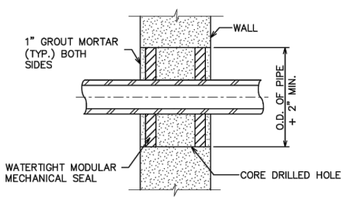
NOTES:
1. WHERE SUBMERGED OR LOCATED ON OR ABOVE TOP OF WALL OF HYDRAULIC STRUCTURE, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL.
2. WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE STEEL SHIELD AROUND PIPE AT CLAMP WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" WIDE STRIP OF RUBBER FABRIC.

PIPE CLAMP DETAIL FOR INDIVIDUAL PIPES (497)
NO SCALE



NOTES:
1. DO NOT USE FOR PIPE LARGER THAN 8" IN DIAMETER.
2. ALL INSTALLATIONS IN SUBMERGED OR LOCATED ON OR ABOVE TOP OF WALL OF HYDRAULIC STRUCTURE SHALL BE FABRICATED OF TYPE 316 SS, ALL OTHERS SHALL BE GALVANIZED FOLLOWING FABRICATION.

PIPE CLAMP DETAIL FOR INDIVIDUAL PIPES (498)
NO SCALE



EXISTING CONCRETE WALL PENETRATION (419)
NO SCALE

DATE	REVISIONS		
		SCALE	AS NOTED
		DRAWN	CAP
		CHECKED	LFF
		APPROVED	CAP
		DATE	10/30/2019
		ISSUED FOR	BID

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

V&K
VEENSTRA & KIMM, INC.
1800 5th Ave • Rock Island, Illinois 61201
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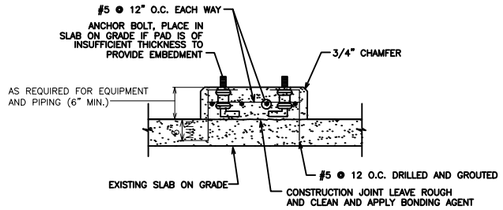
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

DETAILS

DWG. NO. G.02
PROJECT 222107

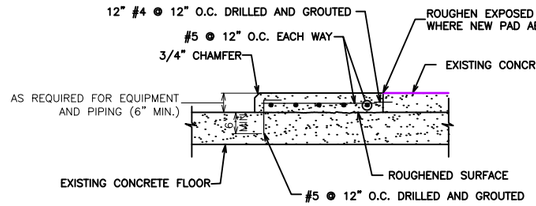
PLOTTED: Wednesday, January 20, 2021 4:38:30 PM



NOTES:

1. ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE AT INTERFACE WITH NEW CONCRETE.
2. INSTALL L BARS AROUND PERIMETER OF PAD 6" FROM EDGE OF PAD. DRILL AND EPOXY GROUT 6" INTO FLOOR.
3. APPLY BONDING AGENT TO FLOOR AND CUT SURFACE OF EXISTING PAD PRIOR TO PLACING CONCRETE PAD.
4. INSTALL ANCHOR BOLTS AS REQUIRED BY PUMP MANUFACTURER.

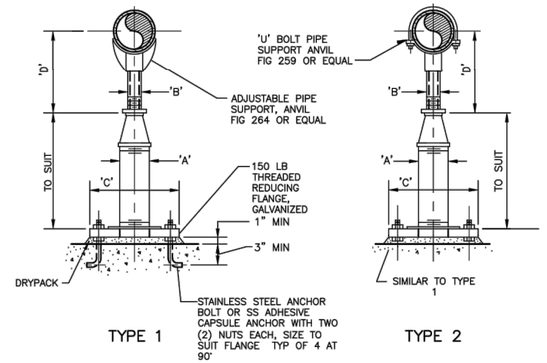
ANCHOR BOLT DETAIL 309A
NO SCALE



NOTES:

1. ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE AT INTERFACE WITH NEW CONCRETE.
2. INSTALL L BARS AROUND PERIMETER OF PAD 6" FROM EDGE OF PAD. DRILL AND EPOXY GROUT 6" INTO FLOOR.
3. APPLY BONDING AGENT TO FLOOR AND CUT SURFACE OF EXISTING PAD PRIOR TO PLACING CONCRETE PAD.
4. ENSURE REINFORCING BAR PLACEMENT ANTICIPATES ANCHOR BOLT LOCATIONS FOR PUMP SKID.

EQUIPMENT PAD DETAIL 309B
NO SCALE



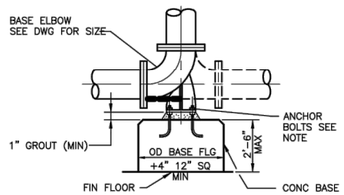
NOTE:

1. UNDER VALVES, METERS OR OTHER SPECIAL APPURTENANCES A FABRICATED SUPPORT PIECE MAY BE UTILIZED AS ACCEPTABLE TO ENGINEER

PIPE SUPPORT DETAIL 490
NO SCALE

ADJUSTABLE PIPE SUPPORT
APPROX DIMENSIONS IN INCHES

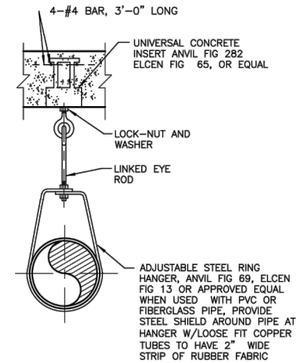
PIPE SIZE	A	B	C	D MIN	D MAX
2 1/2	2 1/2	1 1/2	9	8	11 1/2
3	2 1/2	1 1/2	9	8 1/4	11 3/4
3 1/2	2 1/2	1 1/2	9	8 1/2	12
4	3	2 1/2	9	10 1/4	14
6	3	2 1/2	9	11 5/8	15 1/4
8	3	2 1/2	9	13 5/8	16 1/2
10	3	2 1/2	9	14 5/8	18 1/4
12	3	2 1/2	9	15 5/8	19 3/4
14	4	3	11	18 5/8	20 3/4
16	4	3	11	19 7/8	22 1/4
18	6	3 1/2	13 1/2	21 1/4	24
20	6	3 1/2	13 1/2	23 1/4	25 1/2
24	6	4	13 1/2	26 1/2	28 1/4
30	6	4	13 1/2	29 5/8	31 1/2
32	6	4	13 1/2	30 5/8	32 3/4
36	6	4	13 1/2	32 5/8	34 3/4



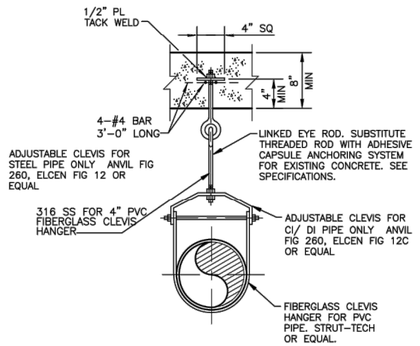
NOTE:

(4) STAINLESS STEEL 'E' DIA ANCHOR BOLTS WITH (2) S.S. HEX NUTS AND WASHERS FOR LEVELING AFTER INSTALLATION. SEE DETAIL 493 FOR 'E' DIAMETER

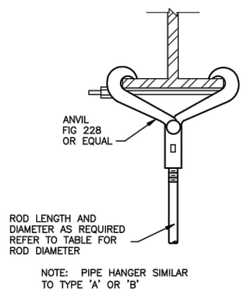
FLOOR SUPPORT DETAIL 491
NO SCALE



TYPE 'A' FOR HANGER RODS 3/4" DIA AND SMALLER



TYPE 'B' FOR HANGER RODS 7/8" DIA AND LARGER, AND MIN 8" THICK CONCRETE



TYPE 'C' BEAM CLAMP

PIPE HANGER DETAIL 492
NO SCALE

PIPE HANGER RODS & SUPPORT SPACING

PIPE DIA (INCHES)	ROD DIA (INCHES)	MAX SUPPORT SPACING (FEET) STL PIPE	MAX SUPPORT SPACING (FEET) CI/DI PIPE	WEIGHT LIMIT (LBS) TYPE 'A'	WEIGHT LIMIT (LBS) TYPE 'B'
1 & SMALLER	3/8	5	MIN 1 HANGER PER PIPE LENGTH AND FITTING MAX SPACING 5 FEET– LOCATE HANGER CLOSE TO EACH CONNECTION	610	———
1 ± TO 2	3/8	5		610	———
2 ± TO 3 ±	1/2	10		1130	———
4 TO 5	5/8	10*		1430	———
6	3/4	10		1430	3800
8,10,12	7/8	10		———	3800
14,16	1	10		———	3800

* 7.5' MAX. SPACING FOR 4" SCH. 80 PVC

NOTE:

GALVANIZE ALL PARTS AFTER FABRICATION UNLESS OTHERWISE NOTED.

DATE	REVISIONS		
		SCALE	AS NOTED
		DRAWN	CAP
		CHECKED	LFF
		APPROVED	CAP
		DATE	10/30/2019
		ISSUED FOR	BID

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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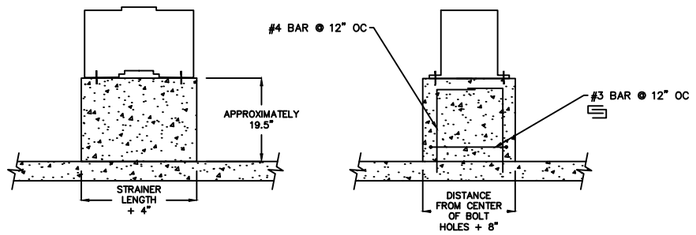
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

DETAILS

DWG. NO. G.03

PROJECT 222107

X-REFS:
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 TITLE SHEET AND INDEX



NOTES:

1. VERIFY FINAL DIMENSIONS OF DUPLEX STRAINER BEFORE CONSTRUCTING PEDESTAL. VERIFY VERTICAL PLACEMENT OF STRAINER.
2. INSTALL L BARS AROUND PERIMETER OF PAD 6" FROM EDGE OF PAD. DRILL AND EPOXY GROUT 6" INTO FLOOR.
3. APPLY BONDING AGENT TO FLOOR PRIOR TO PLACING CONCRETE PEDESTAL.
4. INSTALL ANCHOR BOLTS AS REQUIRED BY STRAINER MANUFACTURER.

DUPLEX STRAINER PEDESTAL DETAIL 310
NO SCALE

PLOTTED: Wednesday, January 20, 2021 4:38:33 PM
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DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

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0 1"
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WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

DETAILS

DWG. NO.
G.04
PROJECT 222107

PLOTTED: Wednesday, January 20, 2021 4:38:52 PM
X-REFS: 222107 AERIAL & 222107 TOPO
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 SITE PLAN

SCALE: 1" = 50'
0' 50' 100'

EXISTING YARD HYDRANT (TYP.)
STRUCTURE 60 RAS BUILDING
STRUCTURE 50 AERATION TANKS
STRUCTURE 40 SLUDGE BUILDING SEE DETAILS ON SHEET X.01
STRUCTURE 30 GRIT FACILITY SEE DETAILS ON SHEET C.09
SERVICE TUNNEL FROM CONTROL BUILDING TO GRIT FACILITY
STRUCTURE 20 TRAVELING BAR SCREEN SEE DETAILS ON SHEET C.10
CHLORINE BUILDING
PROPOSED GRAY WATER LINE TO DIGESTER BUILDING AND RAS BUILDING
PROPOSED WATER LINE CONVERSION IN WEST TUNNEL SEE DETAILS ON SHEET C.08
EXISTING INFLUENT GRAY WATER LINE TO PUMP
FUTURE UV DISINFECTANT BUILDING
DIGESTER BUILDING SEE DETAILS ON SHEET C.11
THICKENER CONTROL STRUCTURE SEE DETAILS ON SHEET C.07
STRUCTURE 90 CONTROL BUILDING
PROPOSED GRAY WATER LINE CONNECTION SEE DETAILS ON SHEET C.05
MAINTENANCE BUILDING
PROPOSED GRAY WATER PUMPS, FILTERS/STRAINER, PRESSURE VALVE, CONTROL SYSTEM TIE IN AND ALARMS SEE DETAILS ON SHEET C.06
PROPOSED 2" GRAY WATER LINE SEE DETAILS ON SHEET C.05
STAGING AREA
EXISTING GRAY WATER LINE TO BELT FILTER PRESS
PROPOSED DIRECTIONALLY BORED GRAY WATER LINE INTO CONTROL BUILDING SEE SHEET C.03
STRUCTURE 10 RAW SEWAGE PUMP STATION SEE DETAILS ON SHEET C.04
EXISTING POTABLE WATER LINE
EXISTING 6" POTABLE WATER SERVICE FEED FROM WATER DISTRIBUTION SYSTEM

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE
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0 1"
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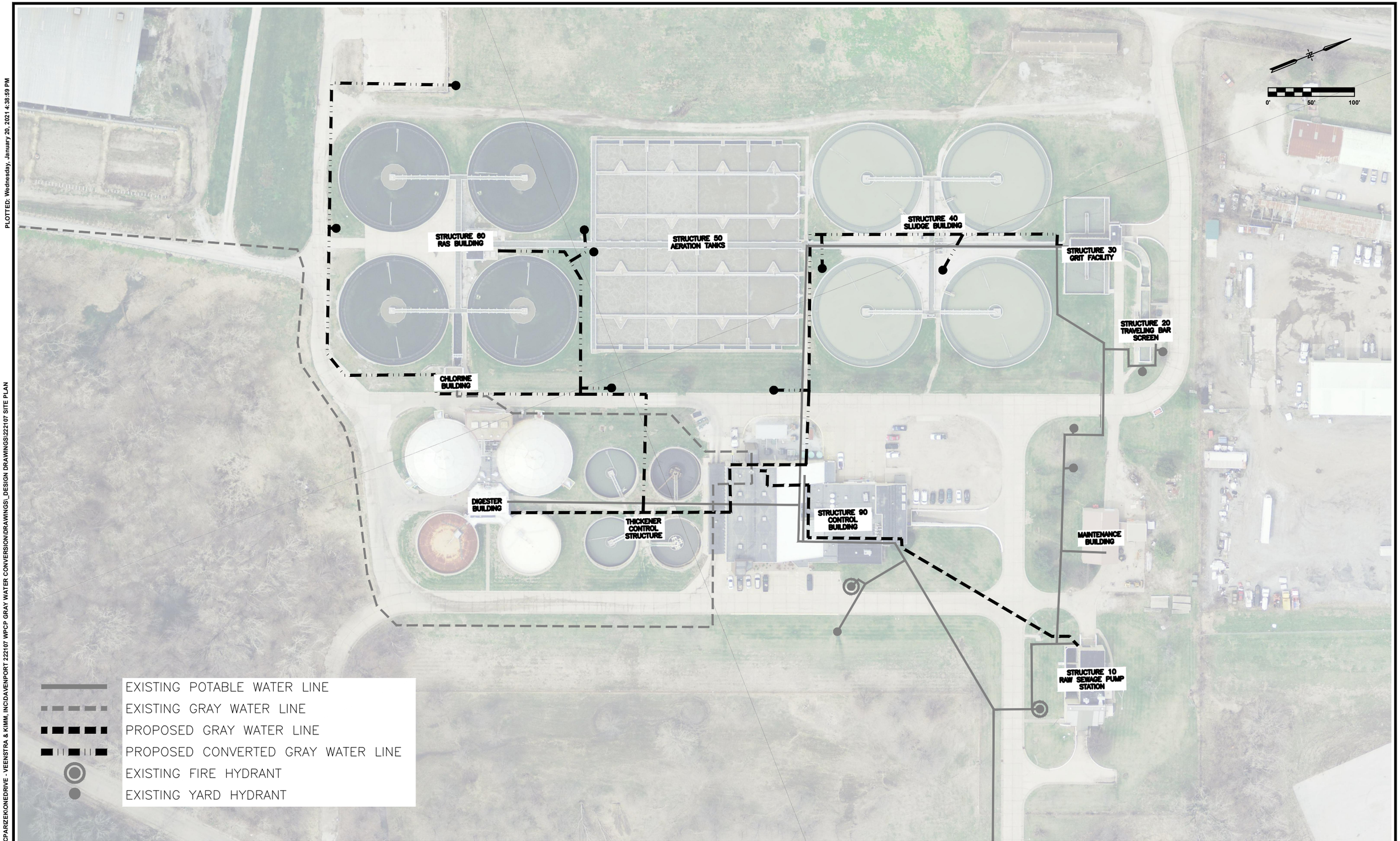
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

OVERALL SITE PLAN

DWG. NO. C.01
PROJECT 222107



PLOTTED: Wednesday, January 20, 2021 4:38:59 PM

X-REFS: 222107 AERIAL & 222107 TOPO
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DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

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0 1"
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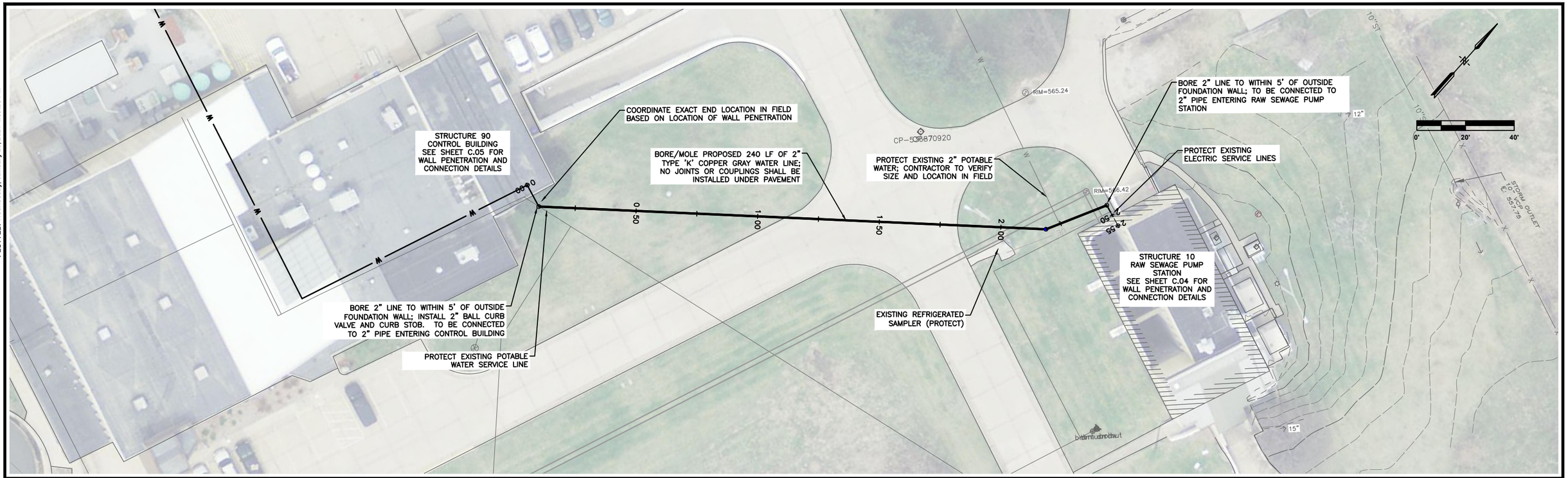
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

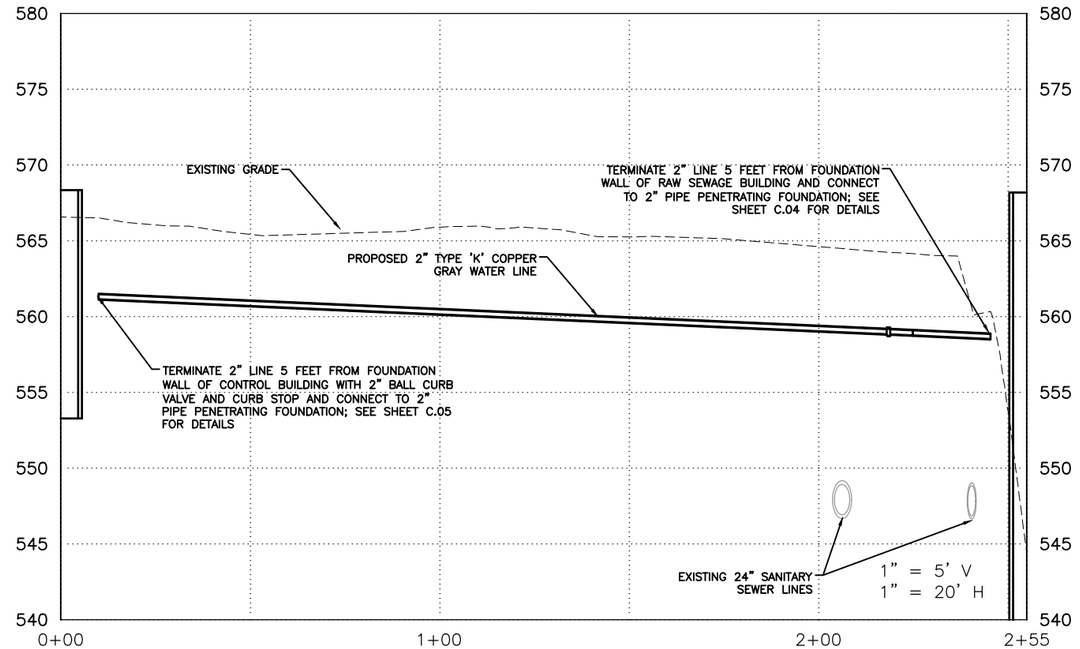
GENERAL PIPE ROUTING

DWG. NO.
C.02

PROJECT 222107

PLOTTED: Wednesday, January 20, 2021 4:39:23 PM





X-REFS: 222107 TOPO & 222107 AERIAL
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DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
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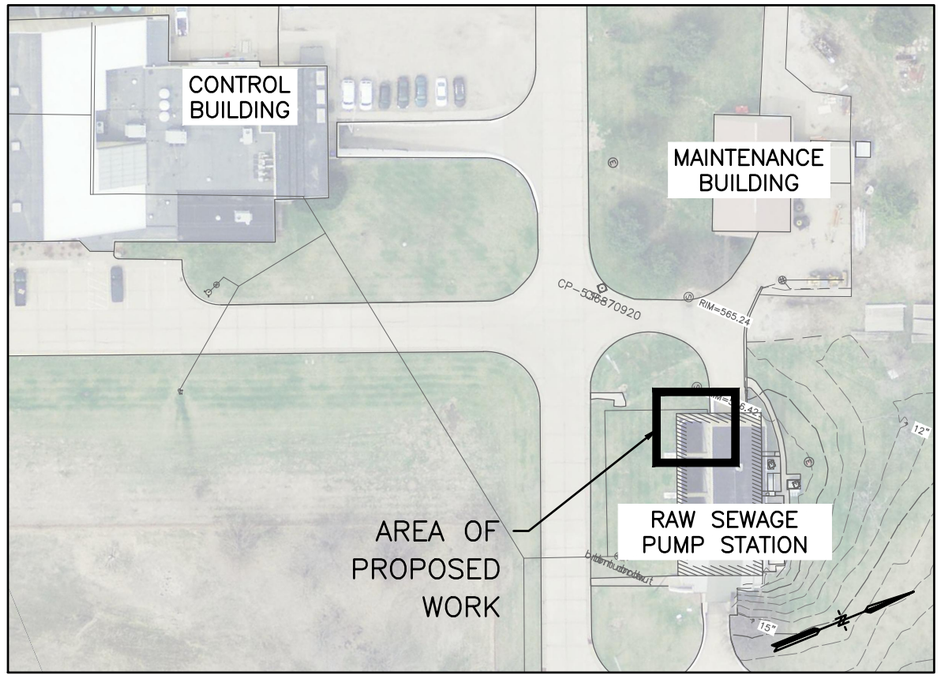
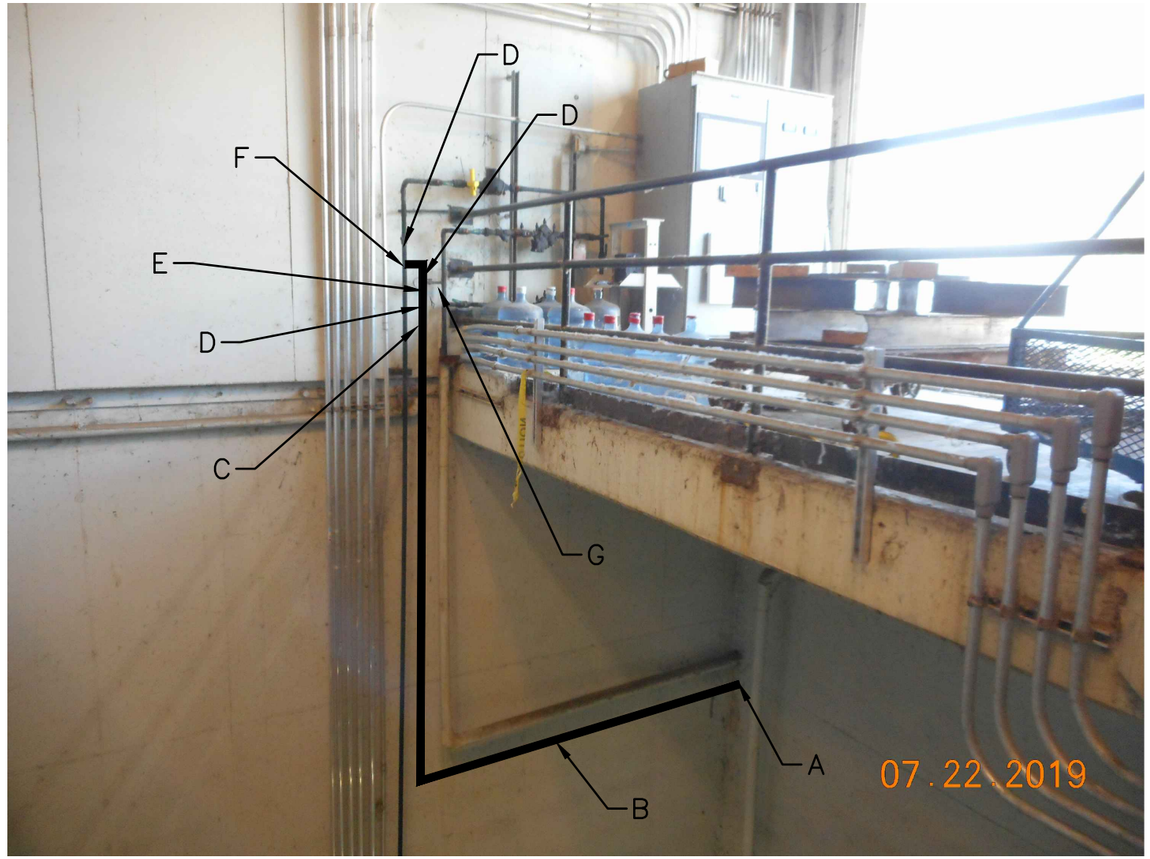
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

GRAY WATER PIPE PLAN & PROFILE

DWG. NO.
C.03
PROJECT 222107



GENERAL LOCATION REFERENCE
NOT TO SCALE



PIPING AND CONNECTION DETAIL
NOT TO SCALE

DETAIL LEGEND:

A PROPOSED WALL PENETRATION LOCATION FOR PROPOSED 2" GRAY SERVICE LINE. SEE WALL PENETRATION DETAIL ON SHEET G.03.

B PROPOSED 2" GRAY WATER LINE.

C PROPOSED 2"x1" REDUCER.

D PROPOSED 1" VALVE.

E PROPOSED PRESSURE GAUGE.

F PROPOSED TIE-IN OF PROPOSED GRAY WATER LINE INTO EXISTING WATER LINE. PROPOSED 1"x1"x1" TEE.

G ADJUST PLACEMENT OF EXISTING PRESSURE GAUGE AS NECESSARY.

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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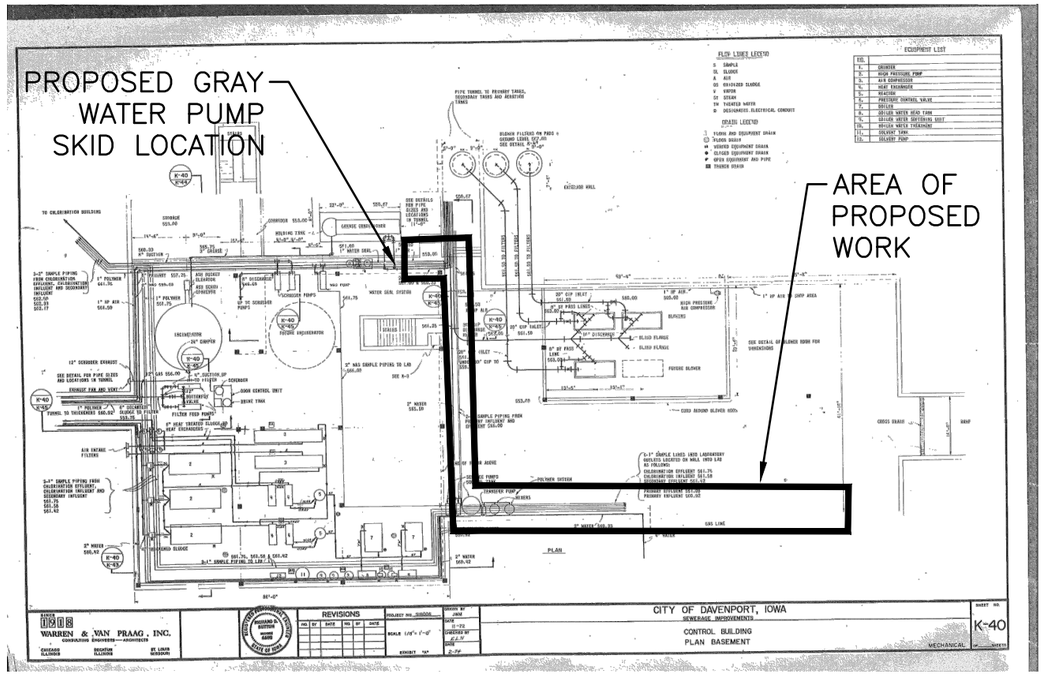
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

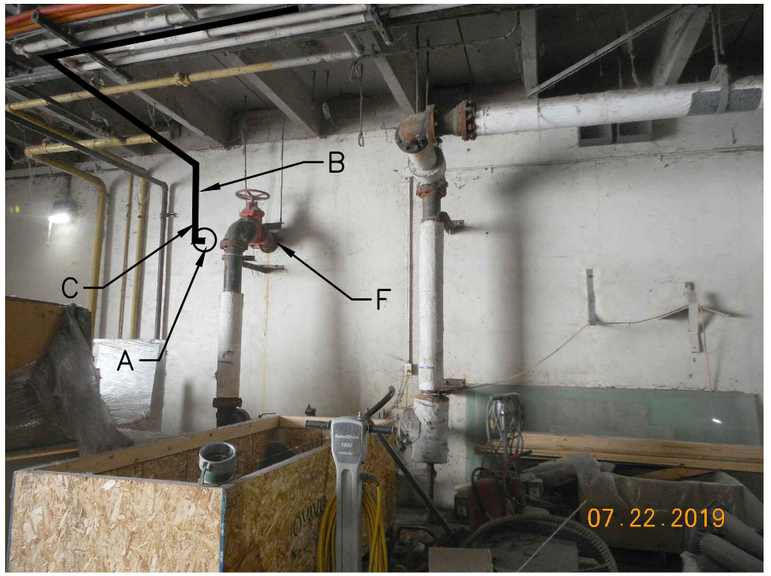
RAW SEWAGE PUMP STATION

DWG. NO. C.04
PROJECT 222107

PLOTTED: Wednesday, January 20, 2021 4:39:51 PM
X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS



GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE



PIPING AND CONNECTION DETAIL
NOT TO SCALE

DETAILS AND REFERENCE LEGEND:

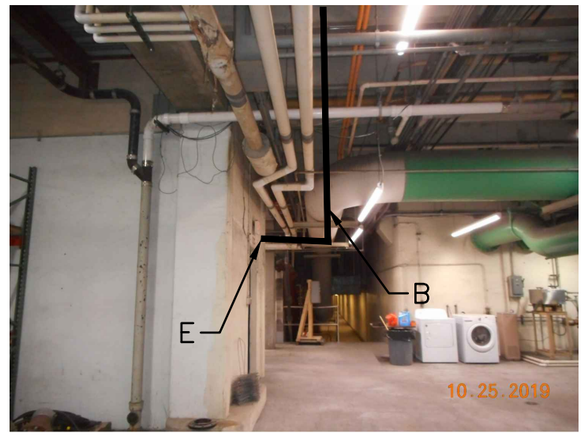
A PROPOSED WALL PENETRATION LOCATION FOR NEW 2" GRAY SERVICE LINE. SEE WALL PENETRATION DETAIL ON SHEET G.03. PIPE SHOULD ENTER BUILDING FOUNDATION A MINIMUM OF 5' FROM EXISTING 6" POTABLE WATER SERVICE LINE.

B PROPOSED 2" GRAY WATER LINE. PROPOSED ALIGNMENT SHOWN FOR GENERAL INFORMATION ONLY. CONFIRM LOCATION OF PROPOSED ALIGNMENT FOR 2" GRAY WATER LINE. SEE HANGER DETAILS ON SHEETS G.02 AND G.03.

C PROPOSED 2" VALVE.

E CONTINUE PROPOSED 2" GRAY WATER LINE TO PROPOSED GRAY WATER PUMP SKID.

F EXISTING 6" POTABLE WATER SERVICE LINE.



PIPING RUN REFERENCE
NOT TO SCALE

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	12-27-2018
ISSUED FOR	BID

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

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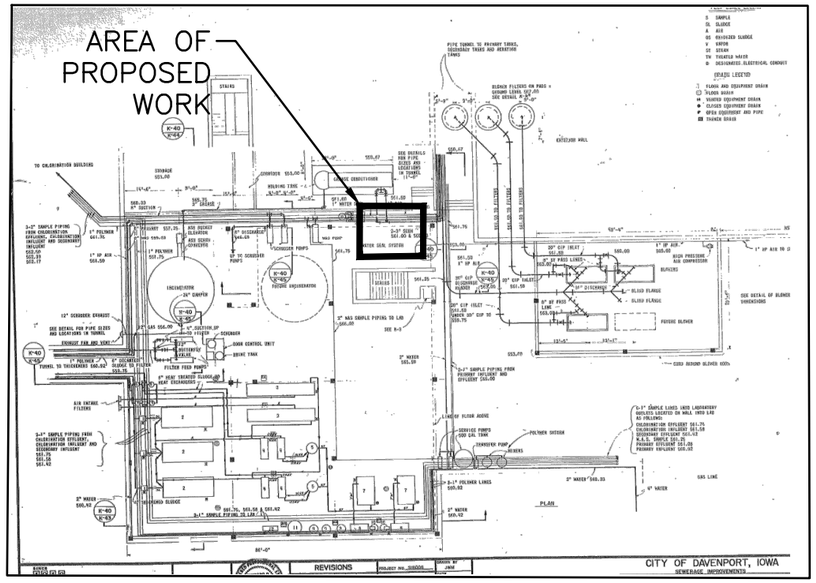
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

CONTROL BUILDING SERVICE

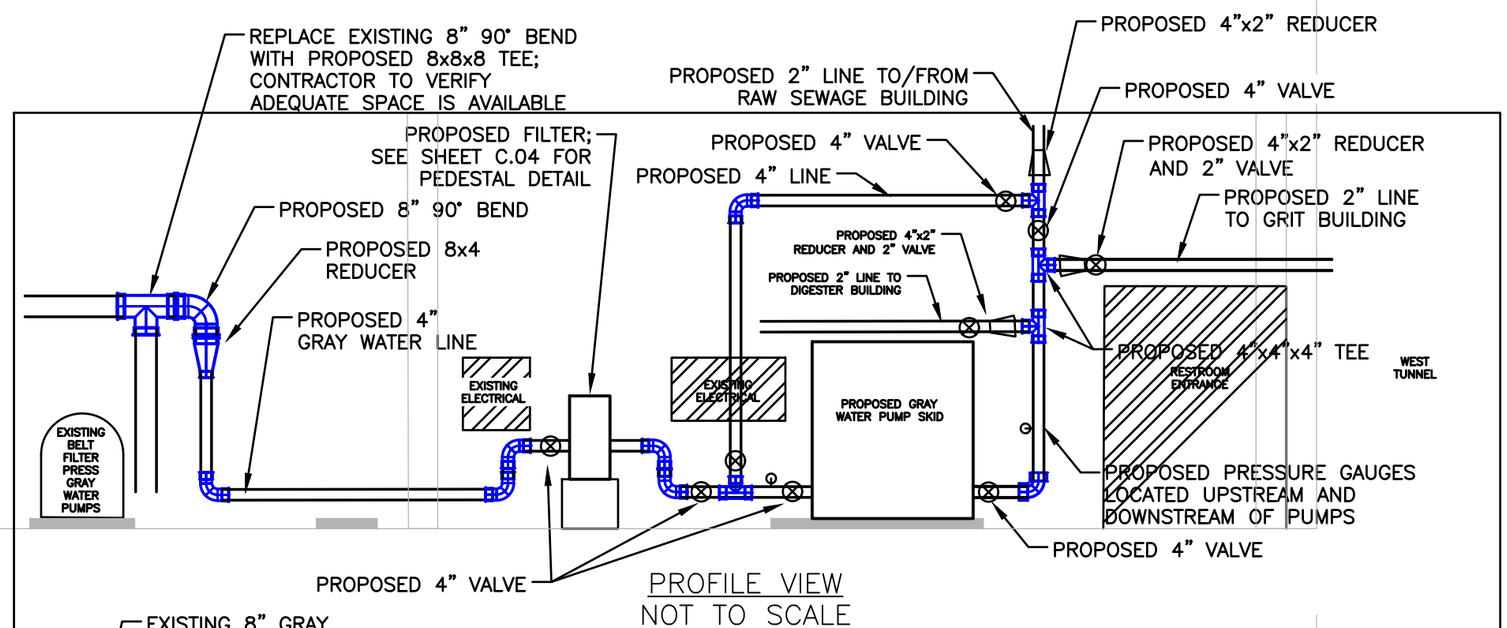
DWG. NO. C.05

PROJECT 222107

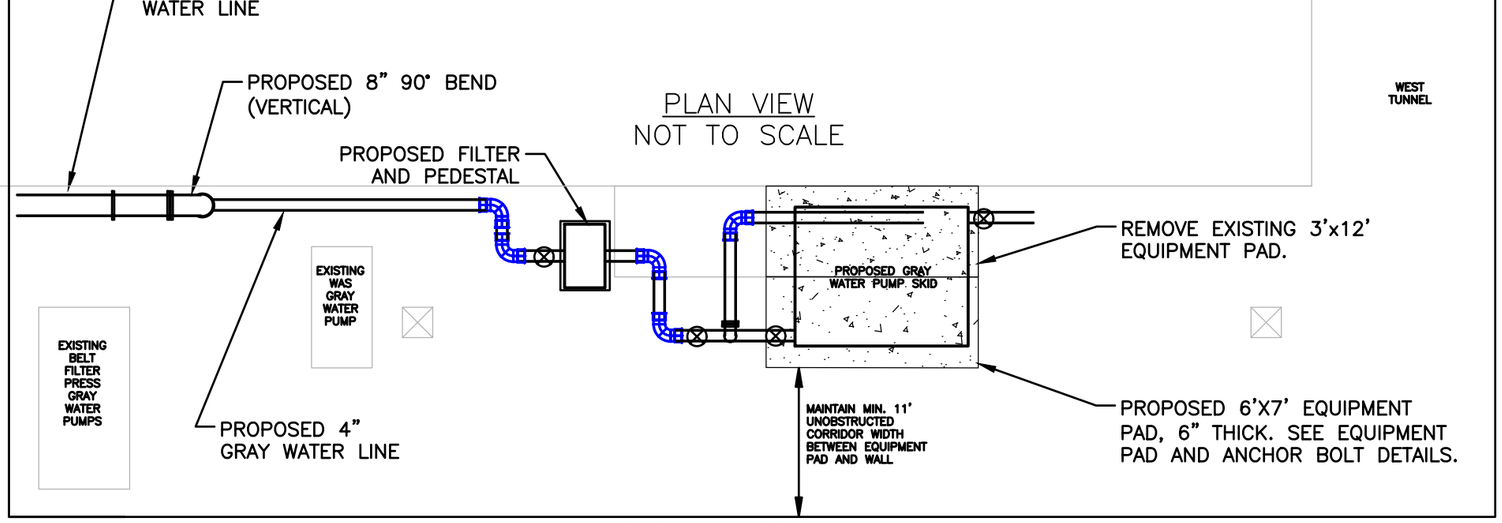
PLOTTED: Wednesday, January 20, 2021 4:39:57 PM
X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS



GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE



PROFILE VIEW
NOT TO SCALE



PLAN VIEW
NOT TO SCALE

PIPING DETAILS
NOT TO SCALE

DETAILS LEGEND:

A REMOVE EXISTING 8" ELBOW AND INSTALL PROPOSED 8"x8"x8" TEE.

B EXISTING BELT FILTER PRESS GRAY WATER PUMPS.

GRAY WATER FEED CONNECTION LOCATION DETAIL
NOT TO SCALE

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

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WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

GRAY WATER PUMP

DWG. NO. C.06

PROJECT 222107

PLOTTED: Wednesday, January 20, 2021 4:40:00 PM
X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS

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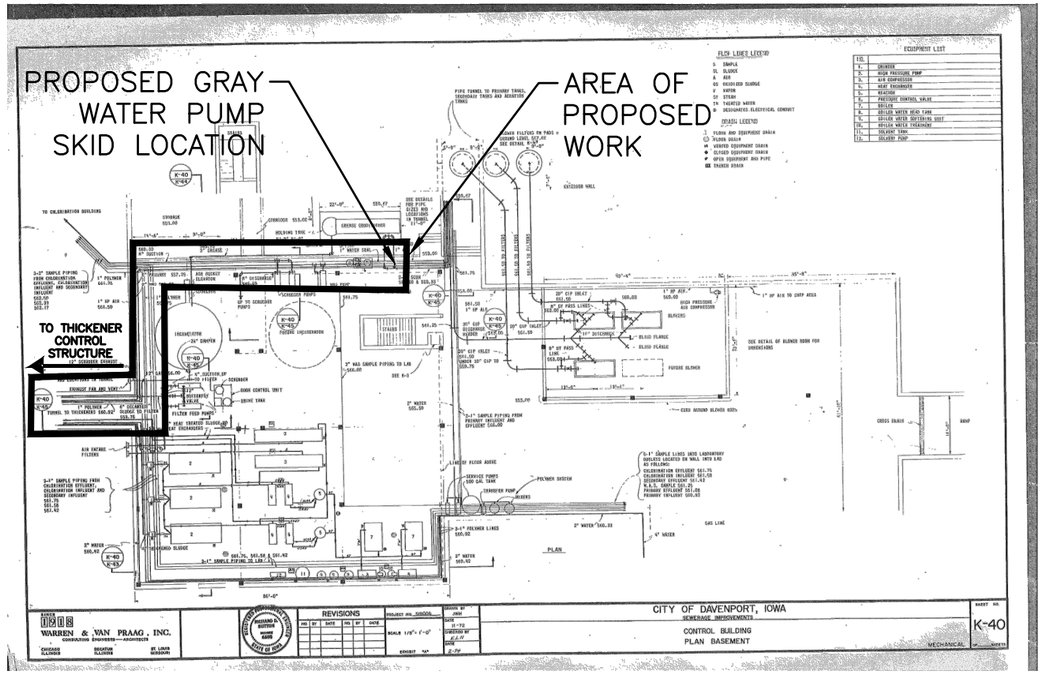
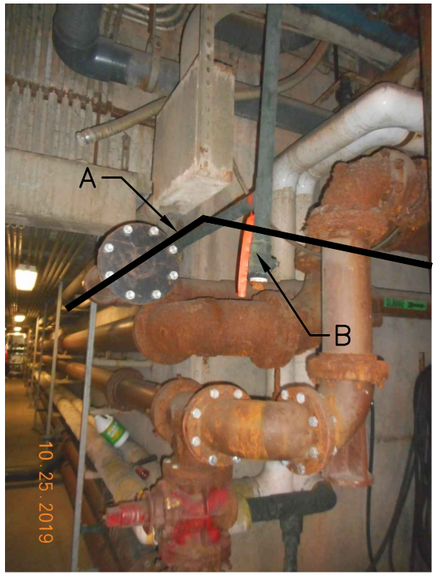


GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE



WEST TUNNEL ENTRANCE
NOT TO SCALE

DETAILS LEGEND:

A PROPOSED 2" GRAY WATER LINE; RUN FROM PROPOSED GRAY WATER PUMP. PROPOSED ALIGNMENT DRAWN FOR GENERAL REFERENCE LOCATION ONLY.

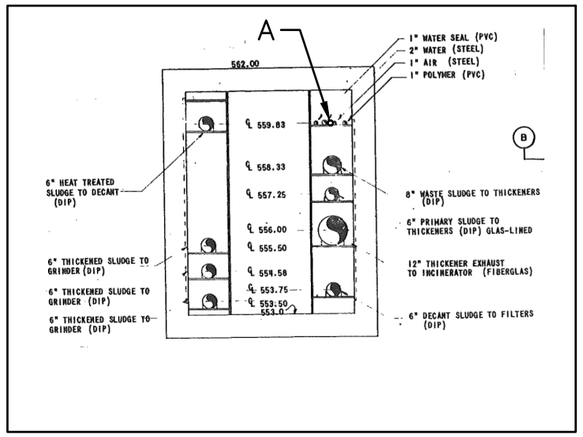
B EXISTING POTABLE WATER LINE.

C CUT EXISTING POTABLE WATER LINE BRANCH SERVING RAS BUILDING AND TIE INTO PROPOSED 2" GRAY WATER LINE. CAP ALL CUT PIPE ENDS.

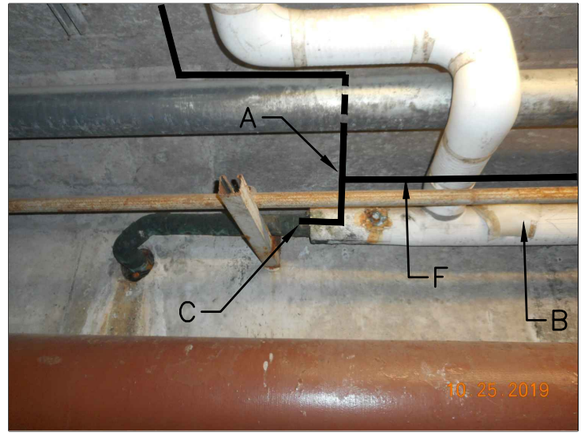
D PROPOSED 2" GRAY WATER SERVICE RUN THROUGH EXISTING CHASE IN WALL OF THICKENER CONTROL STRUCTURE.

E REMOVE CAP FROM ABANDONED 4" PIPE AND USE AS CASING FOR PROPOSED 2" GRAY WATER LINE TO DIGESTER BUILDING. SEE SHEET C.13 FOR DIGESTER BUILDING DETAILS. SEE SPECIFICATIONS FOR END-SEAL AND SPACER DETAILS.

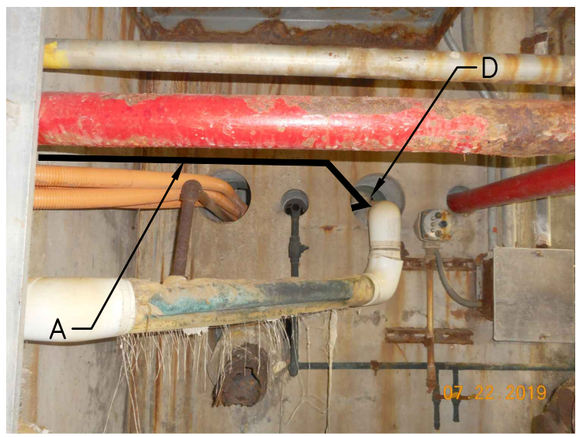
F INSTALL PRESSURE GAUGE ON GRAY WATER LINE BEFORE SERVICE BRANCHES.

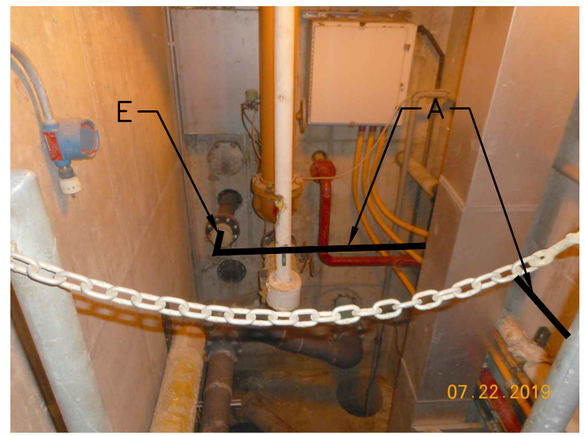


WEST TUNNEL PIPE LOCATION
NOT TO SCALE



RAS LINE TIE-OVER DETAIL
NOT TO SCALE





PIPING DETAILS IN THICKENER CONTROL STRUCTURE
NOT TO SCALE

DATE	REVISIONS		
		SCALE	AS NOTED
		DRAWN	CAP
		CHECKED	LFF
		APPROVED	CAP
		DATE	10/30/2019
		ISSUED FOR	BID

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

VEENSTRA & KIMM, INC.
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309-786-7590 • 309-797-0996(FAX) • 877-241-8010(WATS)

WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

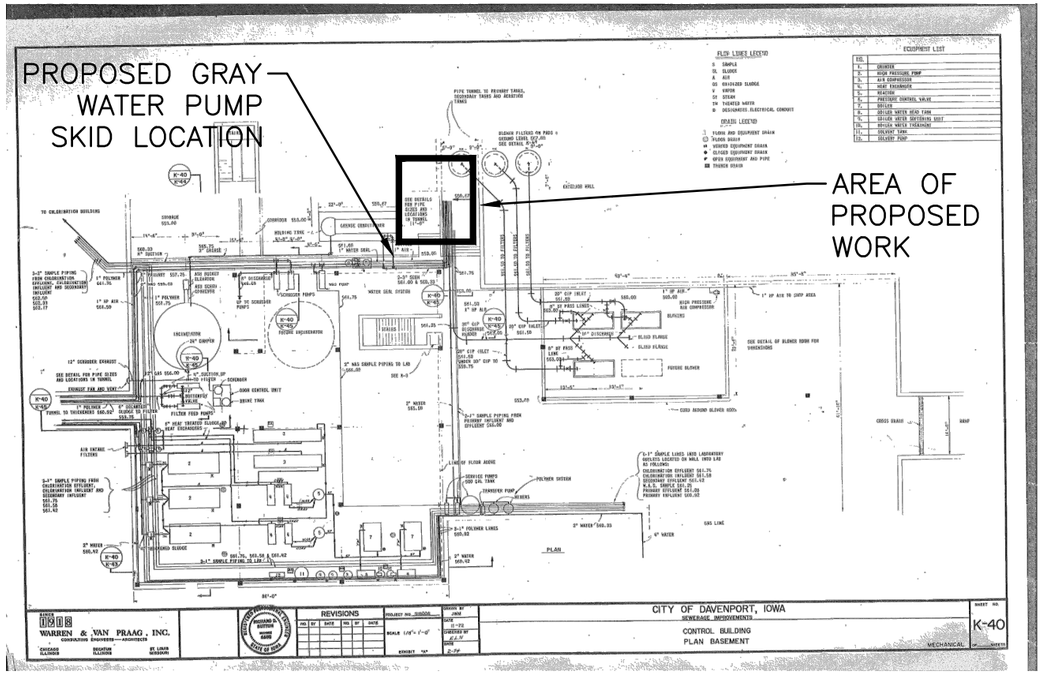
THICKENER CONTROL STRUCTURE

DWG. NO. C.07

PROJECT 222107

X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARZEKI\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS

PLOTTED: Wednesday, January 20, 2021 4:40:37 PM



GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE

PIPING AND CONNECTION DETAIL
NOT TO SCALE

DETAIL LEGEND:

A CUT AND CAP EXISTING 2" POTABLE WATER SERVICE ABOVE EXISTING TEE.

B CUT OUT EXISTING 90° BEND AND INSTALL 2" VALVE FOR PROPOSED GRAY WATER LINE CONVERSION.

C PROPOSED 2" GRAY WATER LINE.

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

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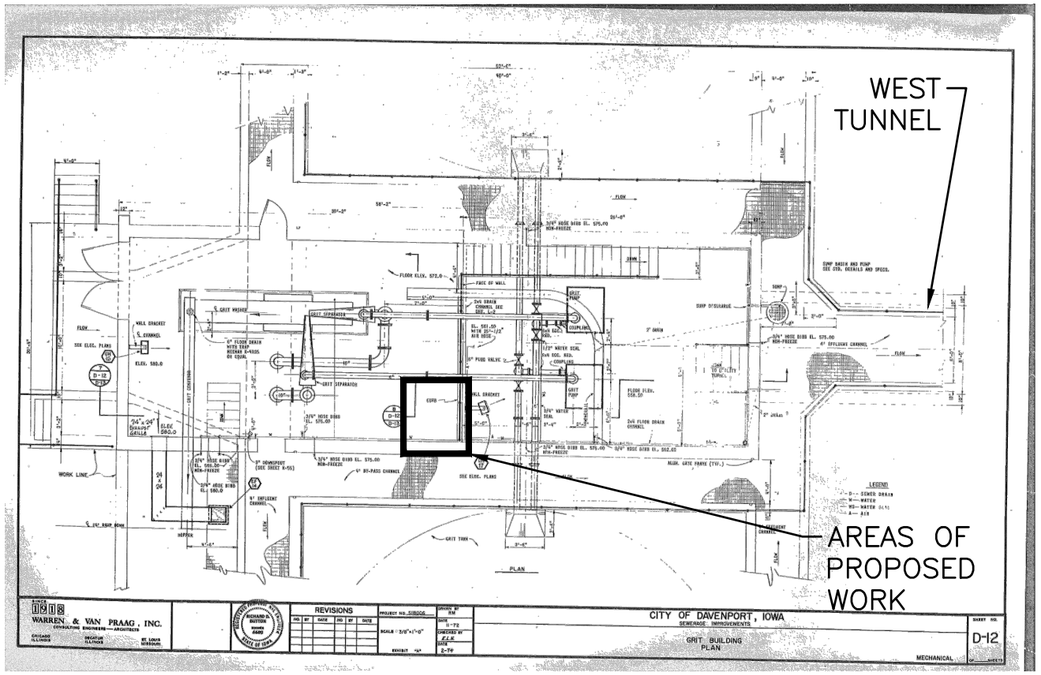
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

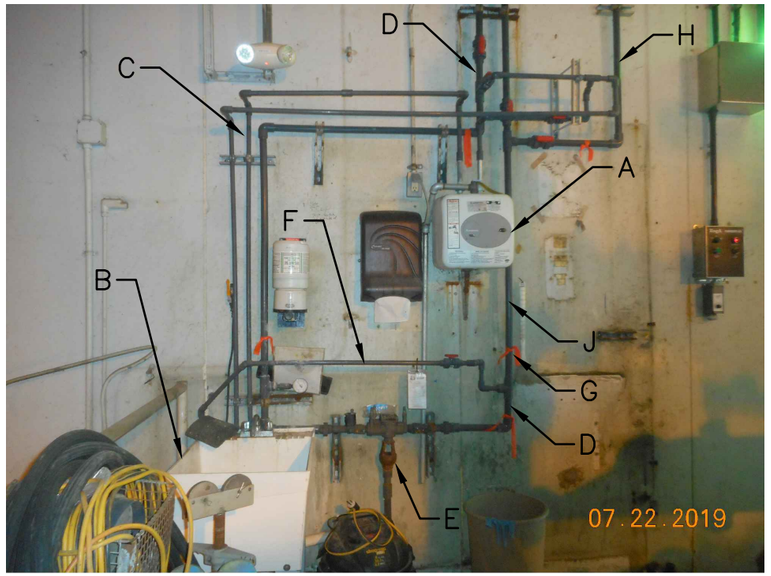
WEST TUNNEL

DWG. NO.
C.08
PROJECT 222107

X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS



GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE



REMOVAL DETAIL
NOT TO SCALE

PIPING AND REMOVAL DETAILS LEGEND:

A REMOVE EXISTING WATER HEATER.

B REMOVE EXISTING SINK AND SALVAGE TO WPCP.

C REMOVE ALL SERVICE PLUMBING DEDICATED TO REMOVED WATER HEATER AND SINK.

D CUT AND CAP WATER SERVICE LINES.

E REMOVE EXISTING BACKFLOW PREVENTOR AND DRAIN LINE.

F EXISTING FEED FOR PUMP SEAL WATER SYSTEM (TO REMAIN IN SERVICE).

G ADD WALL ANCHOR AND SECURE EXISTING PIPE.

H EXISTING FEED TO HOSE BIBS (TO REMAIN IN SERVICE).

J CUT IN PROPOSED PRESSURE GAUGE.

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE
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0 1"
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WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

GRIT FACILITY CONVERSION

DWG. NO. C.11
PROJECT 222107

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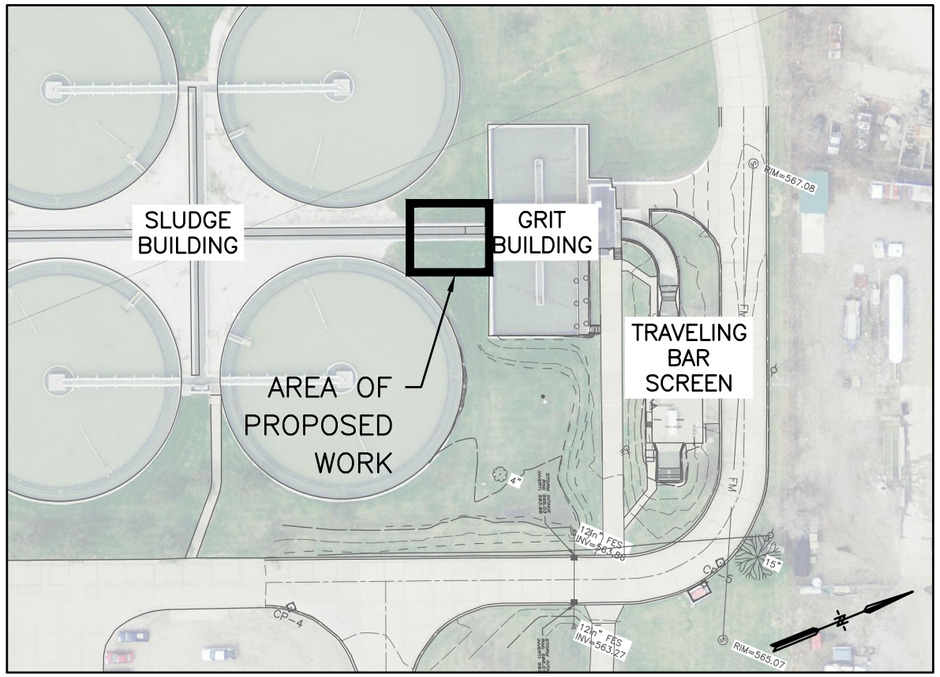
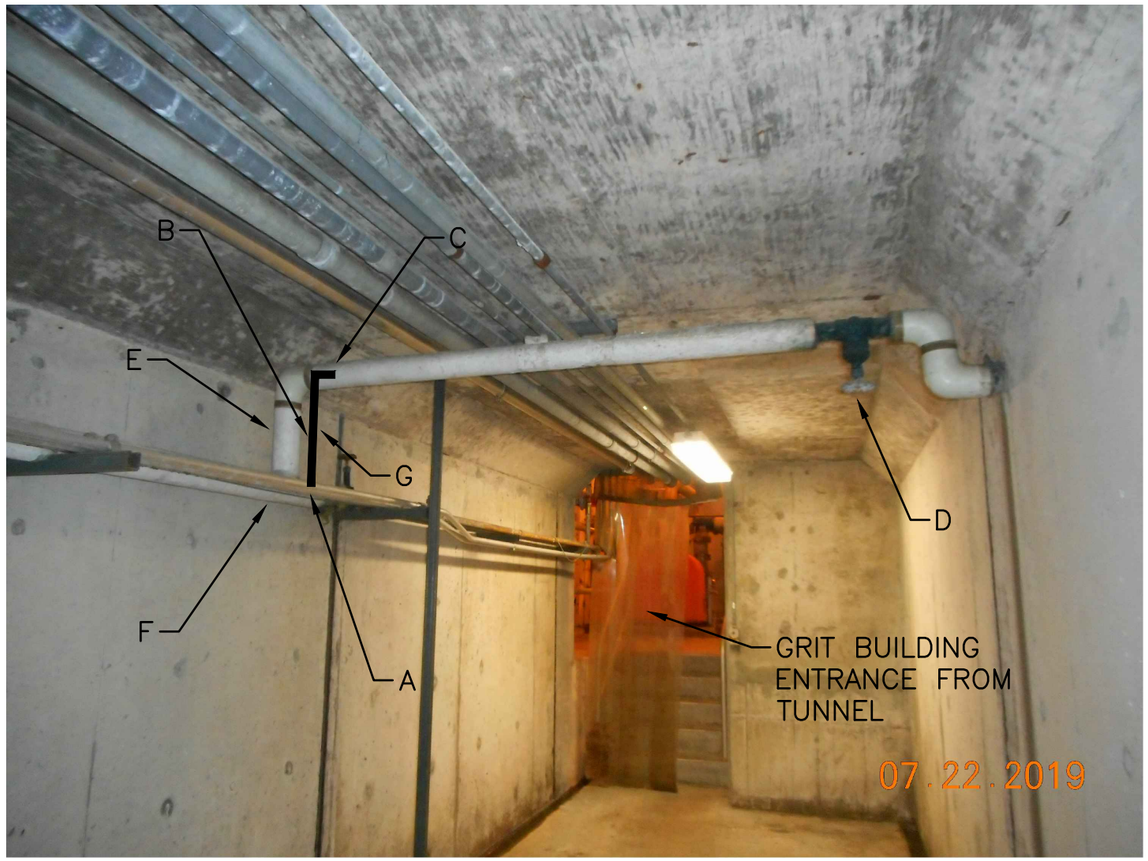


GENERAL LOCATION REFERENCE
NOT TO SCALE



PIPING DETAIL IN WEST TUNNEL
NOT TO SCALE

DETAIL LEGEND:

A CUT–IN PROPOSED 2" POTABLE WATER TEE INTO EXISTING 2" POTABLE WATER LINE.

B PROPOSED 2" POTABLE WATER PIPE AND FITTINGS.

C PROPOSED CONNECTION OF 2" POTABLE WATER PIPE TO EXISTING POTABLE WATER LINE FEEDING TRAVELING BAR SCREEN.

D REPLACE EXISTING WATER VALVE WITH 2" VALVE.

E REMOVE EXISTING PIPE, FITTINGS, AND PIPE INSULATION.

F REMOVE EXISTING TEE AND REPAIR (CONVERTED) GRAY WATER LINE, INCLUDING EXISTING INSULATION.

G INSTALL PRESSURE GAUGE.

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE
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WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

TRAVELING BAR SCREEN

DWG. NO. C.10
PROJECT 222107

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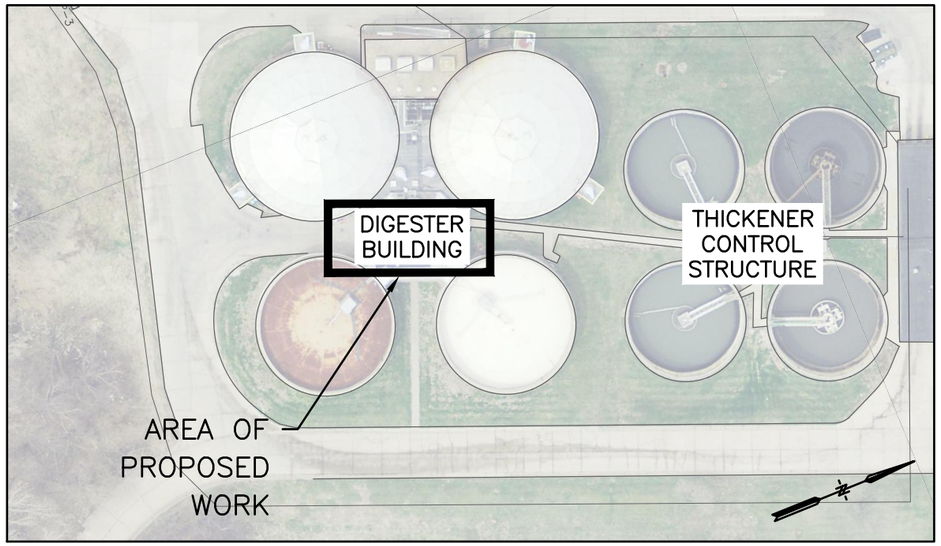

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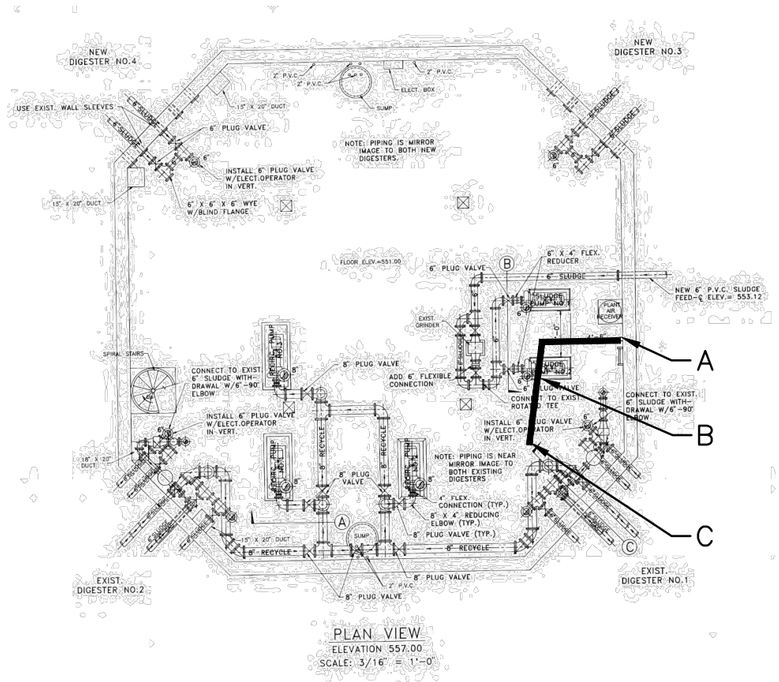


PLAN VIEW
ELEVATION 557.00
SCALE: 3/16" = 1'-0"

FLOOR PLAN DETAIL REFERENCE
NOT TO SCALE

DETAILS LEGEND:

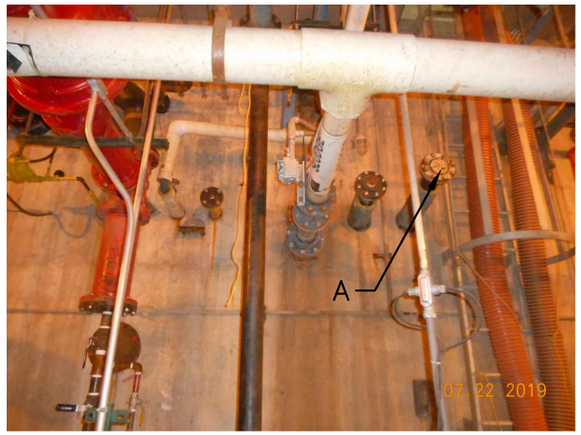
A REMOVE CAP. ABANDONED 4" PIPE REPURPOSED FOR AS CASING FOR PROPOSED GRAY WATER LINE FED FROM THICKENER CONTROL STRUCTURE. LOCATED ON NORTH WALL IN BASEMENT LEVEL. INSTALL PIPE END-SEAL.

B PROPOSED 2" GRAY WATER PIPE. ANCHOR TO EXISTING UTILITY HANGERS. PROPOSED ALIGNMENT SHOWN FOR GENERAL REFERENCE ONLY; CONTRACTOR SHALL FIELD VERIFY.

C REDUCE PROPOSED 2" GRAY WATER LINE DOWN TO 1" LINE, REMOVE EXISTING CAP, AND CONNECT TO EXISTING GRAY WATER PIPE STUB.

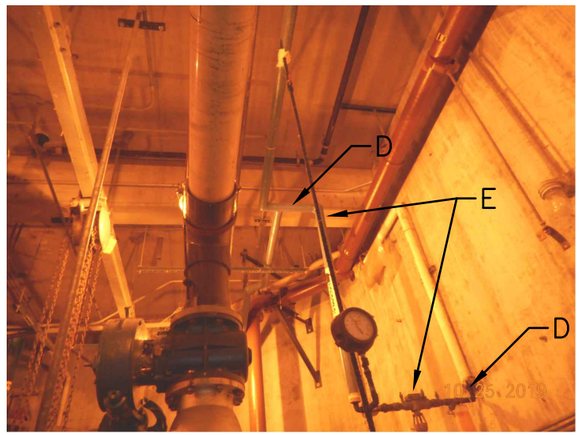
D CUT EXISTING 1" SERVICE LINE FEEDING SEAL WATER LINES AND CAP STUBS.

E REMOVE EXISTING INSULATED 1" PIPE, BACKFLOW DEVICE, AND ASSOCIATED DRAIN LINE.



PIPING FEED DETAIL
NOT TO SCALE

PIPING CONNECTION DETAIL
NOT TO SCALE



PIPING DISCONNECTION DETAIL
NOT TO SCALE

DATE	REVISIONS

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DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

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V&K
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CITY OF DAVENPORT

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DIGESTER BUILDING

DWG. NO.
C.11
PROJECT 222107

X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS\222107 BUILDING PLAN SHEETS\DRAWINGS\222107 BUILDING PLAN SHEETS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS_DESIGN DRAWINGS.DWG
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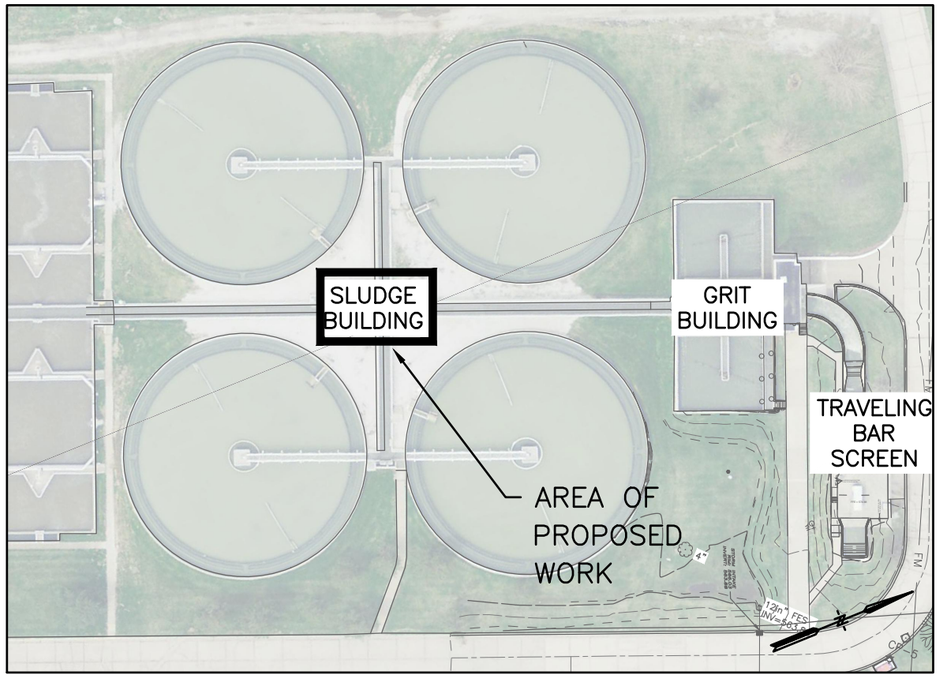


GENERAL LOCATION REFERENCE
NOT TO SCALE

PIPING DETAIL
NOT TO SCALE

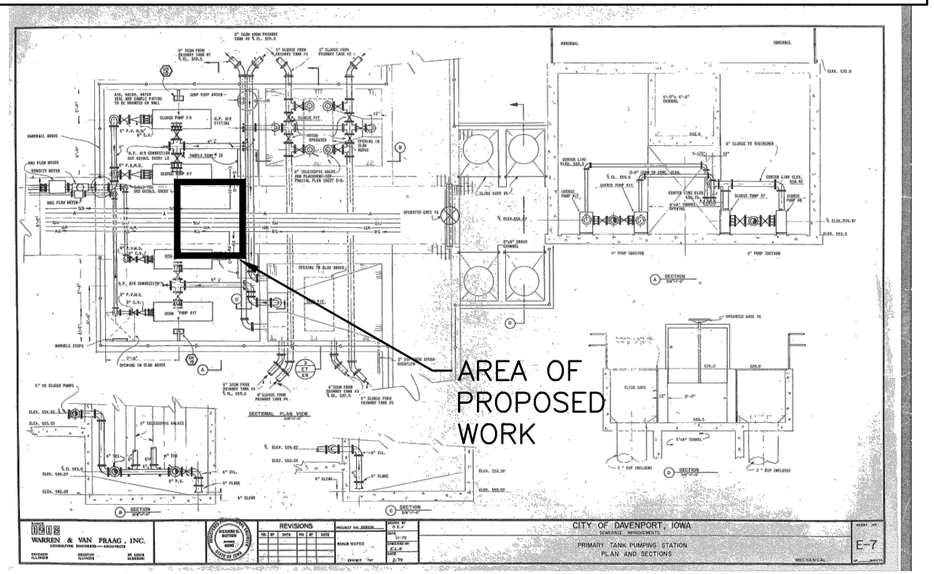
DETAIL LEGEND:

A PROPOSED CONNECTION TO EXISTING 2" LINE (CONVERTED TO GRAY WATER) AND PRESSURE GAUGE. REPAIR DISTURBED INSULATION.

B PROPOSED $\frac{1}{2}$" GRAY WATER LINE.

C CUT EXISTING $\frac{1}{2}$" GRAY WATER LINE AND CONNECT TO PROPOSED $\frac{1}{2}$" LINE.

D CUT OUT EXISTING 1"x$\frac{1}{2}$" TEE AND REPAIR EXISTING 1" PIPE WITH PIPE AND COUPLING MATERIALS TO MATCH EXISTING.



GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

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WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

SLUDGE BUILDING

DWG. NO. X.01

PROJECT 222107

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SPECIFICATIONS

FOR

WPCP GRAY WATER CONVERSION

DAVENPORT, IOWA

STATE REVOLVING FUND PROJECT NO. CS1920896 01

VEENSTRA & KIMM, INC.

SPECIFICATIONS
FOR
WPCP GRAY WATER CONVERSION
DAVENPORT, IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signed: Date:

6/29/2020

Chris A. Parizek, P.E.
Iowa License No. 24728
My license renewal date is December 31, 2021

Pages covered by this seal:

ALL DIVISIONS EXCEPT 16 AND 17

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signed: Date:

6/29/2020

Jacob D. Lucas, P.E.
Iowa License No. 23240
My license renewal date is December 31, 2021

Pages covered by this seal:

Divisions 16 and 17

Prepared by
VEENSTRA & KIMM, INC.
Rock Island
Illinois

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GRAY WATER CONVERSION PROJECT
WATER POLLUTION CONTROL PLANT
DAVENPORT, IOWA

State Revolving Fund Project No. CS1920896 01

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END OF SECTION

FOR THE WPCP GRAY WATER CONVERSION PROJECT AND WORK INCIDENTAL THERETO IN AND FOR THE CITY OF DAVENPORT, IOWA:

Sealed bids will be received by the City of Davenport's eBidding website, until **February 25, 2021 at 2:00 p.m.** for the related work as described in the plans, specifications and contract documents now on file at www.cityofdavenportiowa.com/purchasing click on "BIDS". Bids shall be acted upon by the Davenport City Council at a subsequent meeting.

*There will be a pre-bid meeting on **February 11, 2021 at 10:00 a.m.** at the Public Works Center, 1200 E. 46th Street, Davenport, IA. All contractors and subcontractors interested in this project are encouraged to attend this meeting.*

A. Project involves installation of pump skid, including concrete pad, water work and plumbing, electricial, and control integration; running new water lines within and between campus buildings and completeing water line disconnections and tie-overs; and install new horizontally drilled 2-inch water line between the Raw Pump Building and Control Building. Project includes demolition, removal, excavation, erosion control, site restoration, and seeding.
B. All work shall be done in strict compliance with the plans and specifications prepared by the office of the City Engineer. Copies of said plans and specifications may be obtained from the City of Davenport Purchasing Division's eBidding website at the website provided: www.cityofdavenportiowa.com/purchasing click on "Bids". There is no charge for a copy of the plans and specifications. Contractors must be logged in to download the plans at https://davenport.ionwave.net.
C. Each bid shall be made in the electronic form furnished for Bid WPCP Gray Water Conversion Project. Vendors must be registered as a vendor in order to submit an electronic bid. Late bids will not be accepted by the eBidding site. Faxed or emailed bids are not acceptable.
D. Prices in bid should be free of all sales taxes. Pursuant to Iowa Code sections 422.42 (15) & (16), the awarded contractor will be issued a tax exemption certificate to purchase construction materials (within the state of Iowa) that will be incorporated into real property for this project tax free.
E. For bid amounts $100,000 or greater, the bid must be accompanied by a bid bond, certified check, or a cashier's check, of which a claim may be made against as specified in the "Instructions to Bidders". Each bid bond or check shall be in the amount of five percent (5%) of the bid amount and must be submitted in a separate electronic attachment titled "Bid Surety". Bids submitted without a bid bond, when necessary, will not be considered. If a bid bond is necessary, scan a copy and attach it to the electronic bid, low bid's bid bond will be physically collected.
F. The awarded contractor will be required to furnish a Performance and Maintenance Bond, if contract amount is $100,000 or greater, in an amount equal to one hundred percent (100%) of the contract amount, and said bond to be issued by a responsible surety approved by the City and shall guarantee the faithful performance of the contract and the workmanship and materials for a period of four years from the date of acceptance of the project by the City.
G. Manufacturer's written warranties and guarantees shall also be required from the awarded bidder.
H. Bidders will be required to comply with the President's Executive Order No. 11246. The requirements for bidders and contractors under this order are explained in the Federal loan documents.
I. Any bidder or equipment supplier whose firm or affiliate is listed in the GSA publication "List of Parties Excluded from Federal Procurement and Nonprocurement Programs" will be prohibited from the bidding process. Anyone submitting a bid who is listed in this publication will be determined to be a nonresponsive bidder in accordance with 40 CFR Part 31.
J. A Contractor's Suspension/Debarment Certification is contained in the specifications; however, this certification should not preclude any interested party from ascertaining whether the certifying person is actually on the "List of Parties Excluded from Federal Procurement and Nonprocurement

Programs".

K. On the basis of the bids received, the City Council may propose award for the contract. Final award will not be made until the proposed award is approved by the Department of Natural Resources of the State of Iowa. It is anticipated that such approval will be made within thirty (30) days after application for approval of the proposed award. No claims for compensable delay shall arise as the result of delay in the approval of award.

L. The selected contractor will be required to submit to the City a Certificate of Insurance for General Liability, Workers Compensation, and Vehicle insurance coverages. The limits of the policies shall be as specified in the "General Contract Conditions", which may be obtained from the City's website (www.cityofdavenportiowa.com).

M. Specifications and contract documents governing the proposed improvements and also proceedings of the City Council referring to this proposed improvement are hereby made part of this notice and a proposed contract shall be executed in compliance with the "Instructions to Bidders" and with the "General Contract Conditions".

N. Payments to the contractor for such improvement will be made monthly in warrants as specified in the "General Contract Conditions".

O. By virtue of the statutory authority, preference will be given to products and provisions grown and coal produced within the State of Iowa and as specified in the "General Conditions".

P. The City reserves the right to reject any or all bids and to waive technicalities and irregularities, if it is deemed in the public interest to do so.

Q. Attention is called to the fact that the contractor must ensure that employees and applicants for employment are not discriminated against because of race, color, creed, religion, sex, national origin or ancestry, age, marital status, familial status, gender identity or expression, physical or mental disabilities, or political beliefs and affiliations.

R. Potential prime contractors are required to comply with the City's Disadvantaged Business Enterprise (DBE) program. Bidders shall complete the applicable certification attached to the proposal. For a listing of certified DBE contractors, visit the State of Iowa's website at http://www.iowadot.gov/civilrights/dbe_program.html.

S. As the project will be funded with Iowa State Revolving Fund (SRF) financing, regulations related to American Iron and Steel, Davis-Bacon wages, and all other funding related requirements included in the specifications will apply to this project.

GENERAL INSTRUCTIONS TO BIDDERS
WPCP GRAY WATER CONVERSION PROJECT

Following are general requirements for all vendors submitting bids to the City of Davenport. If the instructions below conflict with the specific instructions given for an individual bid, individual bid instructions take precedence. Failure to fully follow these instructions may result in bid rejection.

1. Complete the line items in each bid. Enter the unit price. The electronic bid submission will do the extended price with the quantity give.
2. Unless otherwise specified, only new items of the current model may be bid, and full warranty is to be provided for a minimum of 90 days from City acceptance date, with all repairs/replacements at no cost to the City.
3. Bids may be for any or all items listed. Unit prices are required for each item bid, the electronic bid submission system will extend the price times the quantity of units. Pay careful attention to the quantities and units of measure requested.
4. Only one price may be submitted per line item. Specifications are written to provide a common basis for competitive bidding, and are not intended to eliminate substantially similar items. Any deviations from specifications must be clearly noted on your bid. Alternative bids must be clearly marked "ALTERNATE," and submitted on separate sheets attached in the Response Attachments area of your bid.
5. Bid prices are to include all delivery costs, unless specifically noted on the bid submission. Vendor is responsible for delivery to location specified, within time period committed. Any changes must be pre-approved in writing by the City Purchasing Division, or the purchase award is subject to cancellation.
6. Electronic bids received by the stated opening date and time will be opened and recorded publicly in the Purchasing Division, and are available for public inspection. Paper, Fax, or emailed bids received will not be considered. The electronic bid submission system will not allow late bids.
7. Generally, award(s) will be made to the lowest responsive and responsible bidder(s), who comply with the bid requirements and specifications. However, the City reserves the right, in its sole discretion, to split bid awards between vendors, change quantities ordered, waive irregularities or nonconformance, reject any or all bids in whole or in part, or cancel the bid in entirety, if deemed in the City's best interest. Final award will not be made until the proposed award is approved by the Department of Natural Resources of the State of Iowa.
8. The City makes no representation that an award be made to any bidder responding to this request. Bidders are responsible for all costs incurred to participate in the City bidding process. The City reserves the right to request bid clarifications, samples and/or product testing.
9. Vendors submitting bids must abide by city, state, and federal Affirmative Action and Equal Opportunity Employment regulations, as well as regulations regarding patents, licenses, bonds and permits for the products or services.
10. The City of Davenport is exempt from paying various sales and excise taxes as a municipal government. Proof of exemption will be furnished upon request.
11. Bids may be modified or withdrawn prior to the bid opening, following the same submission requirements of #1 above. All bid prices and terms are to be honored by the bidder for 60 days after bid opening unless the vendor provides prompt notification and documentation of an honest error or omission.

12. Awards of bids may not be assigned to another vendor without written authorization from the Purchasing Division. Vendors are responsible for all acts and performance of any subcontractors and secondary suppliers, including full responsibility for their direct payment. Failure to meet terms and conditions of an awarded bid authorizes the City Purchasing Division to purchase the items or services elsewhere and charge the full increase of cost to the defaulting vendor.
13. This project will be funded using the Iowa State Revolving Fund and all regulations regarding the use of SRF funds are applicable. The following forms must be submitted with the bid documents:
    A. Certification of Non-Segregated Facilities Form
    B. Debarment and Suspension/Certification Regarding Debarment and Suspension Form
    C. Disadvantaged Business Enterprise Certification Form
    D. DBE Program Subcontractor Performance Form
    E. DBE Program Subcontractor Utilization Form
14. Other Federal Requirements Language
    A. Standard Equal Employment Opportunity Specifications
    B. Federal Labor Standards Provisions (including Davis-Bacon prevailing wage rates)
    C. Preservation of Open Competition and Government Neutrality
    D. Historical and Archeological Finds
    E. Prohibitions on Procurement from Violating Facilities
15. Right of Entry and Records Retention requirements are required for this project.
16. Special requirements for American Iron and Steel enacted by Congress on January 17, 2014, are included in this project.

BID CHECK LIST
MUST BE COMPLETED AND RETURNED WITH BID FORMS

The following items are being submitted as required with the completed bid forms for the **WPCP Gray Water Conversion Project.**

_____ 1. Bid Form w/ Statement of Intent

_____ 2. Bidder Status Form

_____ 3. Bid Bond for 10% of bid amount

_____ 4. Non-Collusion Affidavit

_____ 5. Affirmative Action Program Package

_____ 6. Certification of Non-Segregated Facilities

_____ 7. Certification Regarding Debarment

_____ 8. DBE Subcontractor Contact Information with required documentation

_____ 9. DBE Subcontractor Performance Form

_____ 10. DBE Subcontractor Utilization Form

Firm Name: _____

Signature: _____

Date: _____

BID FORM
(STIPULATED PRICE BASIS)

1. BID RECIPIENT

   1.1 This Bid is submitted to:

   Owner: City of Davenport, Iowa

   Address: Purchasing Division

   226 West Fourth Street

   Davenport, Iowa 52801

   Project Identification: WPCP Gray Water Conversion Project

   1.2 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2. BIDDER'S ACKNOWLEDGEMENTS

   2.1 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 120 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

3. BIDDER'S REPRESENTATIONS

   3.1 In submitting this Bid, Bidder represents that:

      3.1.1 Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

Addendum No.	**Addendum Date**

(Bidder shall insert number of each Addendum received.)

      3.1.2 Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

      3.1.3 Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, and performance of the Work.

3.1.4 Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

3.1.5 Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

3.1.6 Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

3.1.7 The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

3.1.8 Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

4. FURTHER REPRESENTATIONS

4.1 Bidder further represents that:

4.1.1 This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;

4.1.2 Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

4.1.3 Bidder has not solicited or induced any individual or entity to refrain from bidding; and

4.1.4 Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

5. BASIS OF BIDS

5.1 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Price
1	Gray Water Conversion	LS	1		
			TOTAL BID (ITEM 1)		

6. TIME OF COMPLETION

6.1 Bidder agrees that the Work, and any Milestones, will be substantially complete and will be completed and ready for final payment in accordance with the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.2 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work, and any specified Milestones, within the Contract Times.

7. ATTACHMENTS TO THIS BID

7.1 The following documents are attached to and made a condition of this Bid:

7.1.1 As defined in the General Conditions.

7.1.2 Bidder Status Form

8. DEFINED TERMS

8.1 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders and the General Conditions.

9. BID SUBMITTAL

9.1 This Bid submitted by:

If Bidder is:

An Individual

Name *(typed or printed)*: _____

By *(signature)*: _____

Doing business as: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner – attach evidence of authority to sign)

Name *(typed or printed)*: _____

A Corporation

Corporation Name:_____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature – attach evidence of authority to sign)

Name *(typed or printed)*: _____

Title: _____ (CORPORATE SEAL)

Attest: _____
(Signature of Corporate Secretary)

Date of Qualification to do business is:_____

A Joint Venture

Joint Venture Name: _____ (SEAL)

By: _____
(Signature of joint venture partner – attach evidence of authority to sign)

Name *(typed or printed)*: _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address: _____

_____

Phone No.: FAX No.: _____

BID SUBMITTED on _____, 20____

Iowa Contractor's License No.: _____

Contractor's License Class (where applicable): _____

Bidder is a resident of Iowa: Yes No

The following "Statement of Intent, Nondiscrimination and Equal Opportunity Statement" shall be completed by each bidder and returned in duplicate with other bid documents.

STATEMENT OF INTENT
NONDISCRIMINATION
AND
EQUAL OPPORTUNITY STATEMENT

The Contractor does hereby certify to the City of Davenport, Iowa, that no person shall, in any way, be favored or discriminated against because of his/her race, color, creed, religion, sex, national origin or ancestry, age, marital status, physical or mental disability, or political beliefs and affiliations. If selected as the successful bidder, this Contractor hereby agrees to file a nondiscrimination and equal opportunity statement and an Affirmative Action Program, as required subject to the requirements of the City of Davenport's Affirmative Action Programs.

_____
COMPANY

_____
EXECUTIVE OFFICER

WPCP GRAY WATER
CONVERSION PROJECT
(PROJECT NAME)

_____
AFFIRMATIVE ACTION OFFICER

ADDRESS OF THE AFFIRMATIVE ACTION OFFICER

_____

_____

PHONE NUMBER _____

END OF SECTION

Bidder Status Form

To be completed by all bidders — Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No My company has an office to transact business in Iowa.

☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders — Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

You may attach additional sheet(s) if needed. City, State, Zip: _____

To be completed by non-resident bidders — Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:

_____

2. Does your company's home state or foreign country offer preferences to bidders who are residents? ☐ Yes ☐ No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

_____

_____

You may attach additional sheet(s) if needed.

To be completed by all bidders — Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

You must submit the completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156.
This form has been approved by the Iowa Labor Commissioner.

Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.

☐ Yes ☐ No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.

☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

CITY OF DAVENPORT

BOND REQUIREMENTS

For all bids over $100,000, the City of Davenport requires a Bid Bond for 5% be submitted with the bid. The front page of the bid bond should be scanned and attached with the electronic bid. Bids over $100,000, received without a bid bond, will be considered non-responsive.

For all bids over $100,000, the awarded contractor will be required to submit a Performance/Maintenance Bond for 100% of the total amount of the project, and a 4-year Maintenance Bond.

NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

State of _____)
) ss.
County of _____)

Deposes and says that:

1. He is _____
(Owner, partner, officer, representative or agent)

of _____, the Bidder that has

submitted the attached Bid:

2. He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such bid:

3. Such Bid is genuine and is not a collusive or sham Bid;

4. Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or lawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed)_____

(Title)_____

Subscribed and sworn to before me

This _____day of _____, 20___

_____

_____

_____
(Title)

My commission expires _____

CITY OF DAVENPORT
AFFIRMATIVE ACTION PROGRAM

Dear Vendor:

As a potential prime contractor for the City of Davenport, we ask your cooperation in completing this package, which is designed to comply with the City of Davenport's commitment to Affirmative Action.

After completing this package, please return it to the City of Davenport, Purchasing Division, 226 - West 4th Street, Davenport, Iowa 52801.

This form will be kept on file in the Purchasing Division for a period of three (3) years from the date submitted below and will be applicable to any contract your firm may be awarded during this time.

If you have any questions, please contact the Purchasing Division at (563) 326-7760.

Affirmative Action Reporting For:

Company Name_____

Company Address _____

Area Code/Phone Number _____ Fax _____

The undersigned attests that the above-named firm is an Equal Opportunity Employer.

Official Signature _____

Printed Name _____

Date _____

GENERAL INFORMATION

A. Owner(s) and/or Principal(s) of our Company are:

Name & Address	Position	Sex	Racial Origin

B. Other Areas of Interest

Please list other Branches or Subsidiaries of this Company:

Company Name	Address

C. We will utilize the Certified DBE Directory provided by the City of Davenport in seeking qualified minority and female contractors as a means of increasing minority and female entrepreneurship with our company. The Directory may be obtained through the Finance Department/Purchasing Division.

D. As a result of our Affirmative Actions, we are setting a goal to have protected class contractors/subcontractors and or suppliers in the following areas:

E. We will require timely and adequate submittals of Affirmative Action Programs from all contractors/subcontractors who propose to work on City of Davenport projects and will take whatever steps are necessary to ensure that non-protected class contractors/subcontractors have adequate protected class representation in their total work forces.

CITY OF DAVENPORT – AFFIRMATIVE ACTION PROGRAM
DATA REPORTING FORM 1

Employment Data: Please include all employees. These figures should be indicative of your present work force.

CLASSIFICATIONS	CAUCASIAN Male/Female		BLACK Male/Female		HISPANIC Male/Female		ASIAN/PACIFIC ISLANDER Male/Female		AMERICAN INDIAN Male/Female	
Officers/Managers										
Professionals										
Technicians										
Office/Clerical										
Skilled Craft Workers										
Sales Workers										
Service/ Maintenance										
Laborers										
Apprentices										
(On the Job) Trainees										

CITY OF DAVENPORT – AFFIRMATIVE ACTION PROGRAM
DATA REPORTING FORM 2

PROTECTED CLASS EMPLOYEES

List the name, address, date hired, discipline or trade, classification and protected class membership for each protected class person with your company.

Name & Address	Discipline Or Trade	Classification	Date Hired	Protected Class Membership
Example: Janice Smith 711 American St. Dav. IA 52804	Electrician	Journeyman	10/7/70	Female
1.				
2.				
3.				
4.				
5.				
6.				

Use additional sheets as necessary

FEDERALLY ASSISTED PROGRAM ONLY

We (including areas of interest as applicable) currently have contracts on other Federally-assisted projects in Iowa, Kansas, Missouri and Nebraska, as follows:

NAME	PROJECT TYPE	LOCATION	CONTRACT AMOUNT

2. Past contractual experience (including areas of interest, as applicable) on Federally assisted contracts in Iowa, Kansas, Missouri, and Nebraska has been: _____

_____

_____

3. We (including areas of interest) have _____ number of Federally assisted contracts in the United States; these total $_____.

NAME	TYPE	LOCATION	CONTRACT AMOUNT	YEAR

4. In conjunction with this project, we propose to subcontract the following types of work:

_____

_____

COMPLIANCE CERTIFICATE

Section 3 of the Housing and Urban Development Act

Reference Contract for: _____

The work to be performed under this contract is on a project assisted under a program providing direct Federal financial assistance from the Department of Housing and Urban Development and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701 u. Section 3 requires that to the greatest extent feasible opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns, which are located in, or owned in substantial part by persons residing in the area of the project.

The parties to this contract will comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of Housing and Urban Development set for the in 24 CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of this contract. The parties to this contract certify and agree that they are under no contractual or other disability, which would prevent them from complying with these requirements.

The contractor will send to each labor organization or representative of workers with which he has a collective bargaining agreement or other contract or understanding, if any, a notice advising the said labor organization or workers' representative of his commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.

The contractor will include the Section 3 clause in every subcontract for work in connection with the project and will, at the direction of the applicant for or recipient of Federal financial assistance, take appropriate action pursuant to the subcontract upon a finding that the subcontractor is in violation of regulations issued by the Secretary of Housing and Urban Development, CFR 135. The contractor will not subcontract with any subcontractor when it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR 135 and will not let any subcontract unless the subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.

Compliance with the provisions of Section 3, the regulations set forth in 24 CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of the contract, shall be a condition of the Federal financial assistance provided to the project, binding upon the applicant or recipient for such assistance, its successors and assigns. Failure to fulfill these requirements shall subject the applicant or recipient, its contractors and subcontractors, its successors, and assigns to those sanctions specified by the grant or loan agreement or contract through which Federal assistance is provided, and such sanctions as are specified by 24 CFR 135.

_____

Contractor's Signature

SRF Required Front-End Specifications

This packet includes the special requirements that apply only to projects subject to "American Iron and Steel" requirements enacted by Congress on January 17, 2014. Please consult with the DNR Project Manager to determine if the AIS requirements apply. If not, Attachment 9 may be removed.

Attachment 1: Certification of Non-Segregated Facilities Form *(to be completed and signed by Prime Contractor and submitted with the bid)*

Attachment 2: Statement in Advertisement for Bids on Debarment and Suspension/Certification Regarding Debarment and Suspension Form *(to be completed and signed by Prime Contractor and submitted with the bid)*

Attachment 3: Disadvantaged Business Enterprise Certification Form *(to be completed and signed by Prime Contractor and submitted with the bid)*

Attachment 4: DBE Program Subcontractor Performance Form (*to be completed and signed by Prime and DBE Subcontractor for each subcontract and submitted with the bid)*

Attachment 5: DBE Program Subcontractor Utilization Form *(to be completed and signed by Prime Contractor and submitted with the bid)*

Attachment 6: DBE Program Subcontractor Participation Form *(for voluntary use of DBEs)*

Attachment 7: Other Federal Requirements Language

A. Standard Equal Employment Opportunity Specifications
B. Federal Labor Standards Provisions (including Davis-Bacon prevailing wage rates)
C. Preservation of Open Competition and Government Neutrality
D. Historical and Archeological Finds
E. Prohibitions on Procurement from Violating Facilities

Attachment 8: Right of Entry and Records Retention

Attachment 9: Use of American Iron and Steel

Please note: *The Davis Bacon wage determination received from the Iowa Finance Authority must also be included in the front-end specifications.*

Attachment 1

SRF Required Front-End Specifications

(This form must be completed and signed by Prime Contractor and submitted with the bid.)

U.S. Environmental Protection Agency

Certification of Non-Segregated Facilities

(Applicable to contracts, subcontracts, and agreements with applicants who are themselves performing Federally assisted construction contracts, exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause.)

By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national original, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NON-SEGREGATED FACILITIES

A Certification of Non-segregated Facilities, as required by the May 9, 1967, order (33 F.R. 7808, May 28, 1968) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

_____

Signature Date

_____

Name and Title of Signer (Please Type)

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

EPA-7 5720-4.2

Attachment 2
SRF Required Front-End Specifications

(This form must be completed and signed by the Prime Contractor and submitted with the bid.)

Debarments and Suspensions

Any bidder or equipment supplier whose firm or affiliate is listed in on the U.S. General Services Administration Excluded Parties List will be prohibited from the bidding process. The excluded parties records search engine is located at the System for Award Management (SAM) website: https://www.sam.gov/SAM/. Anyone submitting a bid who is listed on this web site will be determined to be a non-responsive bidder in accordance with 40 CFR Part 31.

United States Environmental Protection Agency Washington, DC 20460

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission o f fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transaction s (Federal, State, or local) terminated or cause or default.

I understand that a false statement on this certification may be ground for rejection of this proposal or termination of the award. In addition, under 18 U SC Sec. 10 01, a false statement ma y result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.

_____

Typed Name & Title of Authorized Representative

_____

Signature of Authorized Representative Date

☐ I am unable to certify to the above statements. My explanation is attached.

Attachment 3

SRF Required Front-End Specifications

(This form must be completed and signed by Prime Contractor and submitted with the bid.)

Disadvantaged Business Enterprise (DBE) Solicitation

It is EPA's policy that recipients of EPA financial assistance through the State Revolving Fund programs award a "fair share" of subagreements to small, minority and women-owned businesses, collectively know as Disadvantaged Business Enterprises (DBEs). Iowa's Fair Share goals are:

	Minority-Owned Business Enterprise (MBE) Goal	Women-Owned Business Enterprise (WBE) Goal
Construction	1.7%	2.2%
Supplies	0.6%	5.6%
Services	2.5%	11.3%
Goods/Equipment	2.5%	10.4%
Average	1.8%	7.4%

Only work performed by certified DBEs can be counted toward the goals. In Iowa, DBEs must be certified through the Iowa Department of Transportation (IDOT). Information on certification requirements and a list of certified DBEs is on the IDOT website at https://secure.iowadot.gov/DBE/Home/Index/.

Prime contractors' DBE requirements for SRF projects include:

- Taking affirmative steps for DBE participation
- Documenting the efforts and the proposed utilization of certified DBEs

PROJECT INFORMATION

SRF Applicant:	
Bidder:	
Address:	
Contact Person:	
Signature:	
Phone Number:	
E-Mail Address:	
Check if Prime Contractor is: ☐ **Minority-Owned** ☐ **Women-Owned**	

GOOD FAITH EFFORTS CHECKLIST

Please complete the checklist to determine if you have complied with the requirement to make good faith efforts to ensure that certified DBEs have the opportunity to compete for procurements funded by EPA financial assistance funds. Bidders/offerers must make good faith efforts prior to submission of bids/proposals.

1. Did you ensure that DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities? ☐ Yes ☐ No

2. Did you make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process? This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date. ☐ Yes ☐ No

3. Did you consider in the contracting process whether firms competing for large contracts could subcontract with DBEs? This will include dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process. ☐ Yes ☐ No

4. Did you encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually? ☐ Yes ☐ No

5. Did you use the services of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce to identify potential subcontractors? ☐ Yes ☐ No

6. List the potential DBE subcontractors that were contacted. Only list those that are certified through the Iowa Department of Transportation.

Name	**How Contacted (e.g. letter, phone call, fax, e-mail)**	**Response (e.g. did not respond, not interested, not competitive)**

PROPOSED UTILIZATION OF DBE SUBCONTRACTORS

Please include Attachments 4 and 5 to document the proposed utilization of certified DBE subcontractors.

CONTRACT ADMINISTRATION PROVISIONS

Several contract provisions are required to prevent unfair practices that adversely affect DBEs. These include:

1. Prime Contractor must pay its Subcontractor for satisfactory performance no more than 30 days from the Prime Contractor's receipt of payment from the SRF loan recipient.

2. Prime Contractor must notify the SRF loan recipient in writing prior to termination of a DBE subcontractor for convenience.

3. Prime Contractor must employ the six Good Faith Efforts to solicit a replacement subcontractor if a DBE subcontractor fails to complete work under a subcontract for any reason.

Attachment 4

SRF Required Front-End Specifications

(This form must be completed and signed by Prime and DBE Subcontractor for each subcontract and submitted with the bid.)

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form

This form is intended to capture the DBE[1] subcontractor's[2] description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractor's bid or proposal package.

Subcontractor Name	Project Name	
Bid/Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact
Address		
Telephone No.	Email Address	
Prime Contractor Name	Issuing/Funding Entity	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor

DBE Certified by ____ DOT _____ SBA _____Other: _____	Meets/exceeds EPA certification standards? _____ YES _____ NO _____ Unknown

[1]A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2]Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	**Date**

Subcontractor Signature	Print Name
Title	**Date**

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Attachment 5

SRF Required Front-End Specifications

(This form must be completed and signed by Prime Contractor and submitted with the bid if utilizing DBE subcontractors.)

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or intended use of identified certified DBE[1] subcontractors[2] and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name	Project Name	
Bid/Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact
Address		
Telephone No.	Email Address	
Issuing/Funding Entity		
I have identified potential DBE certified subcontractors _____ YES _____ NO If yes, please complete the table below. If no, please explain: _____		

Subcontractor Name/Company Name	Company Address/Phone/Email	Estimated Dollar Amount	Currently DBE Certified?

Continue on back if needed

[1]A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2]Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	**Date**

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Attachment 6
SRF Required Front-End Specifications
(This form is not required for bidding. It is for the voluntary use of DBE Subcontractors.)

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Participation Form

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE[1] subcontractor[2] the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g. in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name	Project Name	
Bid/Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact
Address		
Telephone No.	Email Address	
Prime Contractor Name	Issuing/Funding Entity	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

[1]A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2]Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Participation Form

Please use the space below to report any concerns regarding the above EPA-funded project:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Subcontractor Signature	Print Name
Title	**Date**

EPA FORM 6100-2 (DBE Subcontractor Participation Form)
Return to: Regional Coordinator, Small Business Utilization, U.S. Environmental Protection Agency, Region 7, 11201 Renner Blvd., Lenexa, KS 66219

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Attachment 7
SRF Required Front-End Specifications

Other Federal Requirements Language

A. Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)

1. As used in these specifications:
   a. “Covered area” means the geographical area described in the solicitation from which this contract resulted;
   b. “Director” means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
   c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
   d. "Minority" includes:
      (i) Black (all persons having origin in any of the Black African racial groups not of Hispanic origin);
      (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
      (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Sub-continent, or the Pacific Islands); and
      (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 6-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor’s or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employee in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a

Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work in being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal emp1oyment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor employees are assigned to work. The Contractor, where possible will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's effort, to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The

Contractor shall provide notice of these programs to the source complied under 7b above.
f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and test to be used in the selection process.
j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
1. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
m. Ensure that seniority practices, job classifications work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
p. Conduct a review, at least annually, of all supervisors’ adherence to and performance under the Contractor’s EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetable or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps at least as extensive as those standards prescribed in paragraph 7 of these specifications so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

Federal Register, Vol. 43, No. 68 - Friday, April 7, 1978 (Corrected May 5, 1978).
Effective Date: May 8, 1978
Federal Register, Vol. 45, No. 194. Paragraph 4, revised October 3, 1980
Effective Date: September 30, 1980

APPENDICES A and B-80

Notice of Requirement for Affirmative Action To Ensure Equal Employment Opportunity

(Executive Order 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

(See Appendix B-80 and Appendix A Below)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and in the regulations in 41 CFR Part 60—4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60—4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60—4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer Identification number of the subcontractor, estimated dollar amount of the subcontract, and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the “covered area” is (State of Iowa).

APPENDIX A

The following goals and timetables for female utilization shall be included in all Federal and federally assisted construction contracts and subcontracts in excess of $10,000. The goals are applicable to the contractor’s aggregate on-site construction workforce whether or not part of that workforce is performing work on a Federal or federally assisted construction contract or subcontract.

Area covered: Goals for Women apply nationwide.

Timetable Goals (percent)
From Apr. 1, 1978 until March 31, 1979 . . . . . .3.1
From Apr. 1, 1979 until March 31, 1980 . . . . . .5.0
From Apr. 1, 1980 until March 31, 1981 . . . . . .6.9

Published, Federal Register May 5, 1978

APPENDIX B-80

Until further notice, the following goals for minority utilization in each construction craft and trade shall be included in all Federal or federally assisted construction contracts and subcontracts in excess of $10,000 to be performed in the respective geographical areas. The goals are applicable to each nonexempt contractor’s total onsite construction workforce, regardless of whether or not part of that workforce is performing work in a Federal, federally assisted or nonfederally related project, contract or subcontract. Construction contractors which are participating in an approved Hometown Plan (see 41 CFR 60—4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all their other covered construction work, such contractors are required to comply with the applicable SMSA of EA goal contained in this appendix B-80.

Economic Areas

State: Iowa Goal %

096 Dubuque IA:
SMSA Counties:
2200 Dubuque, IA …….. 0.6
IA Dubuque
Non-SMSA
Counties ……..… 0.5
IA Allamakee, IA Clayton, IA Delaware, IA, Jackson IA, Winneshiek

099 Davenport Rock Island Moline, IA-IL:
SMSA Counties:
1960 Davenport Rock Island Moline, IA-IL …..… 4.6
IL Henry, IL Rock Island Moline, IA Scott

Non-SMA
Counties ……. 3.4
IL Carroll, IL Hancock, IL Henderson, IL ,Mercer, IL Whiteside, IA Clinton, IA Des Moines, IA Henry, IA Lee, IA Louisa, IA, Muscatine, MO Clark

100 Cedar Rapids, IA:
SMSA Counties:
1360 Cedar Rapids, IA …… 1.7
IA Linn

Non-SMSA Counties ……..…… 1.5
IA Benton, IA Cedar, IA Iowa, IA Johnson, IA, Jones, IA, Washington

101 Waterloo, IA:
SMSA Counties:
8920 Waterloo-Cedar Falls, IA …… 4.7
IA Black Hawk

Non-SMSA Counties ……..… 2.0
IA Bremer, IA Buchanan, IA Butler, IA Cerro Gordo, IA Chickasaw, IA Fayette, IA Floyd, IA Franklin, IA Grundy, IA Hancock, IA Hardin, IA Howard, IA Mitchell, IA Winnebago, IA Worth

102 Fort Dodge, IA:
Non-SMSA Counties …….. 0.4
IA Buena Vista, IA Calhoun, IA Carroll, IA Clay, IA Dickinson, IA Emmet, IA Greene, IA Hamilton, IA Humboldt, IA Kossuth, IA Palo Alto, IA Pocahontas, IA Sac, IA Webster, IA Wright

103 Sioux City, IA:
SMSA Counties:
7720 Sioux City, IA-NE ……..……..… 1.9
IA Woodbury, NE Dakota

Non-SMSA Counties ……. 1.2
IA Cherokee, IA Crawford, IA Ida, IA Monona, IA O'Brien, IA Plymouth, IA Sioux, NE Antelope, NE Cedar, NE Cuming, NE Dixon, NE Knox, NE Madison, NE Pierce, NE Stanton, NE Thurston, NE Wayne, SD Bon Homme, SD Clay, SD Union, SD Yankton

104 Des Moines, IA:
SMSA Counties:
2120 Des Moines, IA ……..…… 4.5
IA Polk, IA Warren

Non SMSA Counties: ……..……. 2.4
IA Adair, IA Appanoose, IA Boone, IA Clarke, IA Dallas, IA Davis, IA Decatur, IA Guthrie, IA Jasper, IA Jefferson, IA Keokuk, IA Lucas, IA Madison, IA Mahaska, IA Marion, IA Marshall, IA Monroe, IA Poweshiek, IA Ringgold, IA Story, IA Tama, IA Union, IA Van Buren, IA Wapello, IA Wayne

143 Omaha, NE:
SMSA Counties:
5920 Omaha, NE-IA …….……..…… 7.6
IA Pottawattamie, NE Douglas, NE Sarpy

Non-SMSA Counties ……..... 5.3
IA Adams, IA Audubon, IA Cass, IA Fremont, IA Harrison, IA Mills, IA Montgomery, IA Page, IA Shelby, IA Taylor, NE Burt, NE Cass, NE Colfax, NE Dodge, NE Platte, NE Saunders, NE Washington

Published, Federal Register October 3, 1980

B. Federal Labor Standards Provisions (including Davis-Bacon prevailing wage rates)

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

(1) Minimum wages. (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill,

except as provided in Sec. 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additionalclassification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The EPA shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records. (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency). The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/whd/programs/dbra/forms.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency), the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its

own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a ``Statement of Compliance,'' signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under Sec. 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under Sec. 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the ``Statement of Compliance'' required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's

hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rateon the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the (write in the name of the Federal agency) may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility. (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) Contract Work Hours and Safety Standards Act. The Agency Head shall cause or require the contracting officer to insert the following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Sec. 5.5(a) or 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The loan recipient shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the

subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in Sec. 5.1, the Agency Head shall cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

C. Preservation of Open Competition and Government Neutrality Towards Government Contractors' Labor Relations on Federal and Federally Funded Construction Projects (Executive Order 13202, as amended by Executive Order 13208)

Executive Order 13202, signed February 17, 2001 and amended April 4, 2001, requires all executive agencies that issue grants to ensure Government neutrality toward contractors' labor relations. This applies to recipients of SRF assistance. The Executive Order prohibits discrimination against contractors and their employees in construction contracts based upon labor affiliation or lack thereof.

SRF assistance recipients and any construction managers acting on their behalf must ensure that bidding specifications, project agreements, and other controlling documents do not require, prohibit, or otherwise discriminate, with respect to labor affiliation or lack thereof.

D. Historical and Archeological Finds

If, during the course of construction, evidence of deposits of historical or archeological interest is found, the contractor shall cease operations affecting the find. The owner shall then notify the State Revolving Fund Environmental Review Specialist, who shall in turn notify the State Historic Preservation Office. The SRF shall consult with the SHPO and other interested parties to determine the proper course of action regarding the discovery. No further disturbance of the deposits shall ensue until the SRF Environmental Review Specialist determines that the project activities in that area may proceed. Compensation to the contractor, if any, for lost time or changes in construction to avoid the find, shall be determined in accordance with changed conditions or change order provisions of the specifications.

Authority for this derives from the National Historic Preservation Act (16 U.S.C. §§ 470 *et seq.*) and 36 CFR Part 800. If human remains are discovered then state law also applies IC 263B.

E. Prohibitions on Procurement from Violating Facilities (Section 306, Clean Air Act; Section 508, Clean Water Act; Executive Order 11738)

Both the Clean Water Act and the Clean Air Act prohibit federal agencies from extending assistance by way of loans or contracts to persons who have been convicted of violations of either law. Executive Order 11738 was issued to coordinate enforcement by the U.S. Environmental Protection Agency, which shall designate facilities which have given rise to a conviction for an offense under the criminal provisions of the Clean Air Act and the Clean Water Act.

The Executive Order also prohibits agencies from extending assistance to facilities that are not in compliance with either Act.

SRF assistance recipients may not procure goods, services, or materials from suppliers listed by the EPA as violators.

The Excluded Parties Listing search engine is located at the System for Award Management (SAM) website: https://www.sam.gov/SAM/.

Attachment 8
SRF Required Front-End Specifications

Right of Entry and Records Retention

The recipient shall provide access at all times for the Department of Natural Resources, the Iowa Finance Authority, the state auditor, and the U.S. EPA Office of the Inspector General to all project records and documents for inspection and audit purposes for a period of three years after the date of last loan payment. The same access to the project site(s) shall be provided for inspection purposes.

92.8 (2).6.e. State inspections. Personnel of the department shall have the right to examine all construction aspects of the project, including materials and equipment delivered and stored on site for use on the project.

Attachment 9
SRF Required Front-End Specifications

"American Iron and Steel" Requirements

H.R. 3547, the "Consolidated Appropriations Act, 2014," enacted January 17, 2014 by the U.S. Congress, includes "American Iron and Steel" provisions that require Clean Water and Drinking Water State Revolving Fund assistance recipients of these funds to use iron and steel produced in the United States.

H.R. 3547 includes the following language in Division G, Title IV, under the heading, "Use of American Iron and Steel":

> Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.
>
> (2) In this section, the term "iron and steel products" means the following products made primarily of iron and steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.
>
> (b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the "Administrator") find that—
>
> (1) applying subsection (a) would be inconsistent with the public interest;
>
> (2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quantity; or
>
> (3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.
>
> (c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

The final guidance and any published waivers are found at: https://www.epa.gov/cwsrf/state-revolving-fund-american-iron-and-steel-ais-requirement. In particular the contractor should pay attention to the guidance for documentation of compliance. There is also a waiver for incidental items; in order to qualify for this waiver the total materials and costs for the project must be tracked and incidental items identified.

Sample "American Iron and Steel" Contract Language

In order to fulfill the requirements, the assistance recipient must in good faith design the project and solicit bids for construction with U.S.-made iron and steel. The following information will be included in any contracts resulting from this request for bids:

The Contractor acknowledges to and for the benefit of the City of _____ ("Purchaser") and the State of Iowa (the "State") that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund and such law contains provisions commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement.

The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State.

Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

Sample Certifications

As indicated in the contract language, it will be the responsibility of the Contractor to obtain certifications that the products and materials used in the project are U.S.-made. EPA recommends the use of a step certification process for documenting compliance with AIS requirements, similar to one used by the Federal Highway Administration. Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. Each handler (supplier, fabricator, manufacturer, processor, coater, etc.) of the iron and steel products certifies that their step in the process was domestically performed.

The following information is provided as a sample letter of step certification for AIS compliance. Documentation must be provided on company letterhead. In this example, there may be multiple letters from different manufacturers if one manufacturer did not perform all of the steps.

Date

Company Name
Company Address
City, State Zip

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. Xxxx

2. Xxxx

3. Xxxx

Such process took place at the following location:

_____

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the U.S. and providing detailed information on the steps involved.

The following is a template for this type of final certification.

Template American Iron and Steel Certification Letter

On Manufacturer's Letterhead

IRON & STEEL, INC.
1959 Steel Drive
Ironville, OH 12345

MATERIAL CERTIFICATION

April 30, 2015

RE: Job Name: Waterprojectville, Iowa – 2015 State Revolving Fund Water Infrastructure Project
SRF Project Number: CS1920999 01

References the SRF Project

I certify that the processes for manufacturing or fabricating the following products and/or materials provided for the subject project took place at the following U.S. locations:

Quantity	Description	Manufacturing Processes	Location Where Processes Occurred
3 count	AB123456 4" Gate Valve	Melting, poured, machined	Ironville, OH
60 count	XY654321 Reinforced Concrete Manhole	Melted, rolled, fabricated	Steel City, IA
60 count	XZ123456 Manhole Cover	Melted, cast, finished	Stainless, MS
1200 linear feet	AB654321 4" Ductile Iron Water Pipe	Melted, rolled, finished	Pipetown, CA

I further certify that the products and/or materials are in full compliance with the American Iron and Steel requirements as mandated in the U.S. Environmental Protection Agency's State Revolving Fund programs. If any of the above compliance statements change while providing material to this project we will immediately notify the supplier, prime contractor, consulting engineer, or project owner.

Specifies the Products and Quantities

Specifies the Manufacturing Processes and the U.S. Locations Where They Were Performed

On behalf of IRON & STEEL, INC.,

Jane Smith
Jane Smith
Product Quality Manager

Signature of Manufacturer's Representative

Covered and Non-Covered Items

The EPA issued a waiver for de minimus incidental components of eligible water and wastewater infrastructure projects. Funds used for such de minimus incidental components cumulatively may comprise no more than a total of 5% of the total cost of the materials used in and incorporated into a project. The cost of an individual incidental item may not exceed 1% of the total cost of the materials used in and incorporated into a project.

De minimus incidental items include miscellaneous, generally low-cost components that are essential for, but incidental to, the construction and are incorporated into the physical structure of the project. For many of these incidental components, the country of manufacture and the availability of alternatives are not readily or reasonably identifiable prior to procurement in the normal course of business. For others, the country of manufacture may be known but the miscellaneous character in conjunction with the low cost, individually and (in total) as typically procured in bulk, mark them as properly incidental.

Examples of incidental components could include small washers, screws, fasteners (i.e., nuts and bolts), miscellaneous wire, corner bead, ancillary tube, etc. Examples of items that are clearly not incidental include significant process fittings (i.e., tees, elbows, flanges, and brackets), distribution system fittings and valves, force main valves, pipes, treatment and storage tanks, large structural supports, etc.

Assistance recipients should in consultation with their contractors determine the items to be covered by this waiver, must retain relevant documentation (i.e. invoices) as to those items, and must summarize in reports to the State of Iowa the types and/or categories of items to which this waiver is applied, the total cost of incidental components for each type or category, and the calculations by which they determined the total cost of materials used in and incorporated into the project.

The successful bidder will fill out the materials spreadsheet (shown below) and submit it to the assistance recipient to indicate covered and non-covered items proposed to be procured for the project.

American Iron and Steel Materials Spreadsheet – to be Submitted by Successful Bidder
Iowa Department of Natural Resources - May 2014
Based on EPA Memorandum (4/15/2014): De Minimus Waiver of Section 436 of P.L. 113-76, Consolidated Appropriation Acts (CAA), 2014

Project:			
Bidder:		Date:	

*Covered Pr pipes or fittings; manhole covers; municipal castings; pipe clamps and restraints; valves; structural steel; hydrants, tanks; flange onstruction materials.

**Incidental lly low-cost items, often procured in bulk, such as washers, screws, fasteners, small amounts of wire, etc.

Choose an item.
Lined/unlined pipes or fittings
Manhole covers
Municipal castings
Pipes clamps or restraints
Valves
Structural steel
Hydrants
Tanks
Flanges
Reinforced precast concrete
Construction materials

		Description of Other oducts if Not Included in Covered Products	Bid Amount Covered Products	Bid Amount Incidentals	Documentation Will be Obtained	Item is Incidental and will be Claimed under de Minimus Waiver**
1	Choose an item.				☐	☐
2	Choose an item.				☐	☐
3	Choose an item.				☐	☐
4	Choose an item.				☐	☐
5	Choose an item.				☐	☐
6	Choose an item.				☐	☐
7	Choose an item.				☐	☐
8	Choose an item.				☐	☐
9	Choose an item.				☐	☐
10	Choose an item.				☐	☐

At the end of construction, the contractor will submit a final list showing covered and non-covered items.

American Iron and Steel Materials Spreadsheet with de Minimus Items
Iowa Department of Natural Resources - May 2014
Based on EPA Memorandum (4/15/2014): De Minimus Waiver of Section 436 of P.L. 113-76, Consolidated Appropriation Acts (CAA), 2014

Project:					
Contractor:		Submitted By:			
Date:		Final De Minimus List	☐		
Total Materials Cost:		Total Amount Covered Under de Minimus Waiver		Percent (must be 5% or less of total materials cost)	

*Covered Products include: Lined or unlined pipes or fittings; manhole covers; municipal castings; pipe clamps and restraints; valves; structural steel; hydrants, tanks; flanges; reinforced precast concrete; construction materials.
**Incidental items are miscellaneous, generally low-cost items, often procured in bulk, such as washers, screws, fasteners, small amounts of wire, etc.

	Covered Products*	Description if Not Included in Covered Products	Date Purchased	Dollar Amount Covered Products	Dollar Amount Incidentals	Documentation Received	Incidental**
1	Choose an item.					☐	☐
2	Choose an item.					☐	☐
3	Choose an item.					☐	☐
4	Choose an item.					☐	☐
5	Choose an item.					☐	☐
6	Choose an item.					☐	☐

These documents are available on-line at http://www.iowasrf.com/about_srf/use-of-american-iron-and-steel/.

"General Decision Number: IA20190001 07/19/2019

Superseded General Decision Number: IA20180002

State: Iowa

Construction Types: Heavy and Highway

County: Scott County in Iowa.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate,if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to

the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019
1	01/18/2019
2	03/29/2019
3	04/19/2019
4	07/19/2019

CARP0004-006 01/01/2019

	Rates	Fringes
CARPENTER	$ 30.39	25.32
PILEDRIVERMAN	$ 30.39	25.32

CARP2158-003 06/01/2017

	Rates	Fringes
MILLWRIGHT	$ 28.81	24.05

ELEC0145-004 06/04/2018

	Rates	Fringes
CABLE SPLICER	$ 36.00	22.21
ELECTRICIAN	$ 35.00	22.13

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* ENGI0150-011 06/01/2019

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 36.00	33.30
GROUP 2	$ 35.00	33.30
GROUP 3	$ 32.35	33.30
GROUP 4	$ 31.30	33.30

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane (Friction or Hydraulic, regardless of size or attachments); Tow or Push Boat

GROUP 2: Asphalt Heater-Planer Unit; Asphalt Paver; Asphalt Paver Screed; Asphalt Plant; Automatic Curbing Machine; Backfiller (throw bucket); Blastholer Self-Propelled Rotary Drill or Similar Machines; Boom Tractor or Side Boom; Boring Machine (Directional, Vertical or Horizontal); Building Hoist (1,2 or 3 drums); Caisson Auguring Machines; Central Redi-Mix Plant; Chip Spreader; Cleaning & Priming

Machine; Combination Backhoe Front End Loader; Combination Concrete Finishing Machine and Float; Concrete Breaker or Hydro-Hammer; Concrete Conveyor or Pump; Concrete Paver; Concrete Spreader; Concrete Wheel Saw (Large self-propelled); Crusher (Stone, Concrete, Asphalt, etc.); Curing-Tinning Machine; Dipper Dredge Crane man; Dipper Dredge Operator; Dual Purpose Truck (Boom, Winch, etc.); Excavator; Farm-Type Tractor Operating Scoop or Scraper or with Power Attachment; Forklift (6000 lb. capacity); Grader, Motor Grader, Motor Patrol, Auto Grader, Form Grader, Pull Grader, Sub Grader, Elevating Grader; Group Equipment Greaser; Guard Rail Post Driver; Hoists; Hydraulic Dredge Leverman or Engineer; Hydro-Vac Truck Mounted or Pull Type, and Similar Equipment; Laser Screed; Loader (Track, Rubber Tire or Articulated); Locomotive Engineer; Mechanic-Welder; Mechanical Loaded Log Chippers or Similar Machines; Milling Machine; Mucking Machine; Pile Driver; Pipe Bending; Pug Mill; Road Widener-Shoulder Spreader; Scraper (self-propelled); Self-Propelled Roller or Tire Roller (on Asphalt or Blacktop), Sheep Foot or Pad Foot Compactor; Shovel; Slip Form Paver; Steel Track-Type Tractor (Dozer, Push Cat, etc.); Transfer or Shuttle Buggy; Trenching Machine (40 H.P. & over); Work Boat.

GROUP 3: Articulated Off-Road Haul Unit; Asphalt Booster; Boiler (Engineer or Fireman); Conveyor Over 20 H.P.; Distributor; Driver on Truck Crane or Similar Machines; Elevator; Farm-Type Tractor (Without Power Attachment); Fireman & Pump Operator at Asphalt Plant; Forklift (Less

than 6000 lb. capacity); Grout Pump; Light Plant; Mechanical Broom; Mud Jack; Self-Propelled Roller (Other than listed in Group 2); Straddle Carrier; Trench Machine (Under 40 H.P.).

GROUP 4: Air Compressor (400 C.F.M. or over); Compact Loader (Rubber Tire, Track & Utility); Engine Driven Welding Machine; Mechanical Heater (other than steam boiler); Small Outboard Motor Boat (Safety Boat & Life Boat); Water Pump (More than one well point pump).

IRON0111-001 07/01/2018

	Rates	Fringes
IRONWORKER	$ 31.75	25.52

LABO0309-005 01/01/2019

SCOTT COUNTY

	Rates	Fringes
LABORERS		
GROUP 1	$ 28.13	21.07
GROUP 2	$ 28.63	21.07
GROUP 3	$ 29.26	21.07

LABORER CLASSIFICATIONS

GROUP 1 - Flagman; Dumpman; Spotter; Broom Man; Landscaper; Planting & Removal of Trees; Fencing Laborers; Cleaning of Forms or Lumber (in Bone Yard); Laying of Sod; Moving and/or Maintenance of Flares & Barricades; Operation of all Hand, Electric, Air, Hydraulic or Mechanically Powered Tools under the the Laborers' including Jackhammer, Tamper, Air Spade, Auger, Concrete Saw, Chain Saw, Utility Saw, Rock Drill, Vibrator; Mortar Mixer; Power & Hand Saw (When Clearing Timber); General Laborer; Material Handler; Form Handler; Concrete Dumper; Puddler; Explosives Handler; Center Strip Handler & Installer; Prime Mover or any Mechanical Device Taking the Place of Concrete Buggy or Wheelbarrow; Sandpoint Setter; Asphalt Kettleman; Sheeting Hammer Driver; Laying & Jointing of Telephone Conduit; Gas Distribution Man; Pipe Setter On Lateral, Drain Tile, Culvert Pipe & Storm Sewer; Catch Basin Lead; Catch Basin; Manholes; Batch Dumper; Tank Cleaner; Cofferdam Worker; Bankman on Floating Plant; Jointman With Pipelayer; Back-up Man (Corker, Joint Maker) With Pipe Setter On Sewer & Water Main; Batterboard Man or Laser Operator on Sewer & Water Main; Laborer in Ditch or Tunnel, on Sewer or Water Main & Telephone Conduit, Cutters; Burners; Torchman; Gravel Box Man; Asphalt Plant; Concrete Plant; Deck Hand; Unloading of Steel & Rebar; & Wrecking Laborers

GROUP 2 - Asphalt Raker or Luteman; Pipe Setter on Sewer or Water Main; Gunnite Nozzle Man; Asphalt or Concrete Curb

Machine Operator; Concrete Burning Machine Operator; & Coring Machine Operator; Hazardous Waste Worker; Asbestos Abatement Worker

GROUP 3 - Concrete Specialist (All work relating to but not limited to pouring, striking of & finishing all concrete surfaces)

PAIN0081-001 05/01/2017

	Rates	Fringes
Painters:		
Brush & Roller	$ 28.42	15.85
Drywall Taper	$ 28.92	15.85
Elevated Tanks, Bridges, Stacks Flag Poles, Mfg, Vessels (interior and exterior surfaces)	$ 30.42	15.85
Sign Painters	$ 16.37	15.85
Spray, Structural Steel and Sandblasting, Industrial	$ 28.92	15.85

PLAS0544-001 01/01/2019

SCOTT COUNTY

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 27.90	23.16

TEAM0371-001 05/01/2012

SCOTT COUNTY

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 31.34	10.05+a
GROUP 2	$ 31.78	10.05+a
GROUP 3	$ 32.02	10.05+a
GROUP 4	$ 32.28	10.05+a
GROUP 5	$ 33.13	10.05+a

Footnote:

a. PENSION: $40.10 per day

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Drivers on 2 axle trucks hauling less than 9 tons , air compressor and welding machines and brooms, including those pulled by separate units, warehousemen, greasers and tiremen, pick- up-trucks when hauling material, tools or men to and from and on the job site, and forklifts up to 6,000 lb capacity

GROUP 2: 2 or 3 axle trucks hauling more than 9 tons but hauling less than 16 tons. A-frame winch trucks, or similar equipment when used for transportation purposes. Forklifts over 6,000 lb capacity, winch trucks, four axle combination units, hydrolift Trucks, vactor trucks or simiolar equipment when used for transportation purposes..

GROUP 3: 2, 3, and 4 axles hauling 16 tons or more, water pulls, 5 axles or more combination units, water pulls, articulated dump trucks

GROUP 4: Oil distributors, lowboys

GROUP 5: Drivers who require special protective clothing while employed on hazardous waste work.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours

they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and

non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division

U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

JOB SITE POSTERS

NOTICE TO ALL EMPLOYEES

Working on Federal or Federally Financed Construction Projects

MINIMUM WAGES

You must be paid not less than the wage rate in the schedule posted with this Notice for the kind of work you perform.

OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 a week. There are some exceptions.

APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY

If you do not receive proper pay, contact the Contracting Officer listed below:

or you may contact the nearest office of the Wage and Hour Division, U.S. Department of Labor. The Wage and Hour Division has offices in several hundred communities throughout the country. They are listed in the U.S. Government section of most telephone directories under:
U.S. Department of Labor
Employment Standards Administration

WH Publication 1321
Revised January 1986
U.S. GOVERNMENT PRINTING OFFICE: 1986 209-866

U.S. Department of Labor
Employment Standards Administration
Wage and Hour Division

EXHIBIT VIII-U

E E O

EQUAL EMPLOYMENT OPPORTUNITY

The organization named herein receives Federal financial assistance from the U.S. Department of Housing & Urban Development.	Organization Name and Address:
In its activities so assisted, the organization is prohibited from discriminating against any employee or applicant from employment because of race, color, sex, national origin, religion, or handicap in connection:	
• employment, upgrading, demotion, or transfer	Requests for information and complaints of discrimination may be addressed to:
• recruitment or recruitment advertising	
• layoff or termination	
• rate of pay or compensation other forms of compensation	
• selection for training, including apprenticeship	or
This notice must be posted in conspicuous places available to employees and applicants for employments.	

U.S. Department of Housing and Urban Development, Washington, D.C. 20410
HUD 901 (5-80). Previous edition is obsolete

VIII-U-1

(Revised 4/01)

Job Safety and Health

It's the law!

OSHA
Occupational Safety and Health Administration
U.S. Department of Labor

EMPLOYEES:

- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in that inspection.
- You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the *OSH Act*.
- You have the right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violations.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records and records of your exposures to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.
- You must comply with all occupational safety and health standards issued under the *OSH Act* that apply to your own actions and conduct on the job.

EMPLOYERS:

- You must furnish your employees a place of employment free from recognized hazards.
- You must comply with the occupational safety and health standards issued under the *OSH Act*.

This free poster available from OSHA –
The Best Resource for Safety and Health

Free assistance in identifying and correcting hazards or complying with standards is available to employers, without citation or penalty, through OSHA-supported consultation programs in each state.

1-800-321-OSHA
www.osha.gov

OSHA 3165-12-2009

Seguridad y Salud en el Trabajo

¡Es la Ley!

OSHA
Administración de Seguridad y Salud Ocupacional
Departamento del Trabajo de los Estados Unidos

EMPLEADOS:

- Usted tiene el derecho de notificar a su empleador o a la OSHA sobre peligros en el lugar de trabajo. Usted también puede pedir que la OSHA no revele su nombre.
- Usted tiene el derecho de pedir a la OSHA que realize una inspección si usted piensa que en su trabajo existen condiciones peligrosas o poco saludables. Usted o su representante pueden participar en esa inspección.
- Usted tiene 30 días para presentar una queja ante la OSHA si su empleador llega a tomar represalias o discriminar en su contra por haber denunciado la condición de seguridad o salud o por ejercer los derechos consagrados bajo la Ley OSH.
- Usted tiene el derecho de ver las citaciones enviadas por la OSHA a su empleador. Su empleador debe colocar las citaciones en el lugar donde se encontraron las supuestas infracciones o cerca del mismo.
- Su empleador debe corregir los peligros en el lugar de trabajo para la fecha indicada en la citación y debe certificar que dichos peligros se hayan reducido o desaparecido.
- Usted tiene derecho de recibir copias de su historial o registro médico y el registro de su exposición a sustancias o condiciones tóxicas o dañinas.
- Su empleador debe colocar este aviso en su lugar de trabajo.
- Usted debe cumplir con todas las normas de seguridad y salud ocupacionales expedidas conforme a la Ley OSH que sean aplicables a sus propias acciones y conducta en el trabajo.

EMPLEADORES:

- Usted debe proporcionar a sus empleados un lugar de empleo libre de peligros conocidos.
- Usted debe cumplir con las normas de seguridad y salud ocupacionales expedidas conforme a la Ley OSH.

Los empleadores pueden obtener ayuda gratis para identificar y corregir las fuentes de peligro y para cumplir con las normas, sin citación ni multa, por medio de programas de consulta respaldados por la OSHA en cada estado del país.

1-800-321-OSHA
www.osha.gov

OSHA 3167-01-07R

Equal Employment Opportunity is THE LAW

Employers Holding Federal Contracts or Subcontracts

Applicants to and employees of companies with a Federal government contract or subcontract are protected under the following Federal authorities:

RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN

Executive Order 11246, as amended, prohibits job discrimination on the basis of race, color, religion, sex or national origin, and requires affirmative action to ensure equality of opportunity in all aspects of employment.

INDIVIDUALS WITH DISABILITIES

Section 503 of the Rehabilitation Act of 1973, as amended, prohibits job discrimination because of disability and requires affirmative action to employ and advance in employment qualified individuals with disabilities who, with reasonable accommodation, can perform the essential functions of a job.

VIETNAM ERA, SPECIAL DISABLED, RECENTLY SEPARATED, AND OTHER PROTECTED VETERANS

The Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended, 38 U.S.C., 4212, prohibits job discrimination and requires affirmative action to employ and advance in employment qualified Vietnam era veterans, qualified special disabled veterans, recently separated veterans, and other protected veterans. A recently separated veteran is any veteran during the three-year period beginning on the date of such veteran's discharge or release from active duty in the U.S. military, ground, naval or air service.

RETALIATION

Retaliation is prohibited against a person who files a charge of discrimination, participates in an OFCCP proceeding, or otherwise opposes discrimination under these Federal laws.

Any person who believes a contractor has violated its nondiscrimination or affirmative action obligations under the authorities above should contact immediately:

The Office of Federal Contract Compliance Programs (OFCCP), Employment Standards Administration, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, DC 20210, (202) 693-0101 or call an OFCCP regional or district office listed in most telephone directories under U.S. Government, Department of Labor. For individuals with hearing impairment, OFCCP's TTY number is (202) 693-1337.

Private Employment, State and Local Governments, Educational Institutions, Employment Agencies and Labor Organizations

Applicants to and employees of most private employers, state and local governments, educational institutions, employment agencies and labor organizations are protected under the following Federal laws:

RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN

Title VII of the Civil Rights Act of 1964, as amended, prohibits discrimination in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment, on the basis of race, color, religion, sex (including pregnancy and sexual harassment) or national origin. Religious discrimination includes failing to reasonably accommodate an employee's religious practices where the accommodation does not impose undue hardship.

DISABILITY

Title I and Title V of the Americans with Disabilities Act of 1990 (ADA), as amended, protect qualified applicants and employees with disabilities from discrimination in hiring, promotion, discharge, pay, job training, fringe benefits, classification, referral, and other aspects of employment on the basis of disability.

The law also requires that covered entities provide qualified applicants and employees with disabilities with reasonable accommodations, unless such accommodations would impose an undue hardship on the employer.

AGE

The Age Discrimination in Employment Act of 1967, as amended, protects applicants and employees 40 years of age or older from discrimination on the basis of age in hiring, promotion, discharge, compensation, terms, conditions or privileges of employment.

SEX (WAGES)

In addition to sex discrimination prohibited by Title VII of the Civil Rights Act of 1964, as amended, the Equal Pay Act of 1963, as amended, prohibits sex discrimination in payment of wages to women and men performing substantially equal work, in jobs that require equal skill, effort and responsibility under similar working conditions, in the same establishment.

RETALIATION

Retaliation is prohibited against a person who files a charge of discrimination, participates in a discrimination proceeding, or otherwise opposes discrimination under these Federal laws.

If you believe that you have been discriminated against under any of the above laws, and to ensure that you meet strict procedural timelines to preserve the ability of EEOC to investigate your complaint and to protect your right to file a private lawsuit, you should immediately contact:

The U.S. Equal Employment Opportunity Commission (EEOC), Washington, DC 20507 or an EEOC field office by calling toll free (1-800) 669-4000. For individuals with hearing impairments, EEOC's toll free TTY number is 1-800 669-6820.

Programs or Activities Receiving Federal Financial Assistance

RACE, COLOR, SEX, NATIONAL ORIGIN

In addition to the protection of Title VII of the Civil Rights Act of 1964, as amended, Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color or national origin in programs or activities receiving Federal financial assistance. Employment discrimination is covered by Title VI if the primary objective of the financial assistance is provision of employment, or where employment discrimination causes or may cause discrimination in providing services under such programs.

Title IX of the Education Amendments of 1972 prohibits employment discrimination on the basis of sex in educational programs or activities which receive Federal assistance.

INDIVIDUALS WITH DISABILITIES

Section, 504 of the Rehabilitation Act of 1973, as amended, prohibits employment discrimination on the basis of disability in any program or activity which receives Federal financial assistance in the federal government, public or private agency. Discrimination is prohibited in all aspects of employment against persons with disabilities who, with or without reasonable accommodation, can perform the essential functions of a job.

If you believe you have been discriminated against in a program of any institution which receives Federal assistance, you should contact immediately the Federal agency providing such assistance.

Publication OFCCP 1420
Revised August 2008

LA IGUALDAD DE OPORTUNIDADES DE EMPLEO ES LA LEY

Empleadores que tienen contratos o subcontratos con el Gobierno Federal
Los empleados o postulantes a empleos de compañías que tienen contratos o subcontratos del gobierno federal gozan de la protección otorgada por las siguientes instituciones federales:

RAZA, COLOR, RELIGIÓN, SEXO, NACIONALIDAD
El Decreto 11246 (Executive Order 11246), con sus modificaciones, prohíbe la discriminación laboral en razón de raza, color de piel, religión, sexo o nacionalidad, y requiere la acción afirmativa para garantizar la igualdad de oportunidades en todos los aspectos laborales.

PERSONAS CON DISCAPACIDADES

El Artículo 503 de la Ley de Rehabilitación de 1973(The Rehabilitation Act of 1973), con sus modificaciones, prohíbe la discriminación laboral por discapacidad y requiere la acción afirmativa de emplear y avanzar en el empleo de personas discapacitadas idóneas que, mediante una adaptación razonable, puedan llevar a cabo las funciones esenciales de un trabajo.

VETERANOS DE VIETNAM CON DISCAPACIDADES ESPECIALES, RECIENTEMENTE RETIRADOS Y OTROS VETERANOS BAJO PROTECCIÓN

La Ley de Asistencia a la Readaptación de Veteranos de Vietnam de 1974 (The Vietnam Era Vererans' Readjustment Assistance Act of 1974), y sus modificaciones, 38 U.S.C., 4212, prohíbe toda discriminación laboral y requiere la acción afirmativa de emplear y avanzar en el empleo de veteranos de Vietnam idóneos, veteranos idóneos con discapacidades especiales, veteranos recientemente retirados y otros veteranos bajo protección. Un veterano recientemente retirado es todo veterano durante el período de tres años a partir de la fecha en que fue dado de baja o dejó el servicio activo en el Ejército, la Marina o la Fuerza Aérea de los EE. UU.

REPRESALIA
Queda prohibida toda represalia contra una persona que presenta un cargo de discriminación, participa en un procedimiento del Programa OFCCP o, de alguna otra manera, se opone a la discriminación de conformidad con las leyes federales.

Toda persona que cree que un contratista ha violado sus obligaciones de no discriminación o acción afirmativa, según las fuentes anteriores, debe ponerse en contacto de inmediato con:

La Oficina de Programas de Cumplimiento de Contratos Federales (The Office of Federal Contract Compliance Programs-OFCCP), Employment Standards Administration, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, DC 20210, (202) 693-0101 o llamar a una oficina de la OFCCP regional o de distrito consignada en la mayor parte de los directorios telefónicos en U.S. Government, Department of Labor (Gobierno de los EE.UU., Departamento de Trabajo). Para personas con discapacidad auditiva, el número TTY de la OFCCP es (202) 693-1337.

Empleo privado, gobiernos estatales y locales, instituciones educativas, agencias de empleo y organizaciones laborales

Los empleados y postulantes a empleos de la mayor parte de los empleadores privados, gobiernos estatales y locales, instituciones educativas, agencias de empleo y organizaciones laborales gozan de la protección otorgada por las siguientes leyes federales:

RAZA, COLOR, RELIGIÓN, SEXO, NACIONALIDAD
La Ley de Derechos Civiles de 1964, Título VII (The Civil Rights Act of 1990), y sus modificaciones, prohíbe toda discriminación en relación con la contratación, ascenso, despido, remuneración, compensaciones adicionales, capacitación, clasificación, referencias, y otros aspectos laborales, en razón de la raza, el color de la piel, la religión, el sexo (incluidos embarazo y acoso sexual) o la nacionalidad. Por discriminación religiosa se entiende, entre otros, la falta de adaptación razonable para las prácticas religiosas de un empleado siempre que la adaptación no provoque una dificultad económica excesiva.

DISCAPACIDAD

La ley de Estadounidenses con Discapacidades de 1990 (The Americans with Disabilities Act of 1990-ADA), Títulos I y V, con sus modificaciones, protege a empleados y postulantes idóneos con discapacidades contra la discriminación en relación con la contratación, ascenso, despido, remuneración, capacitación, beneficios adicionales, clasificación, referencias y otros aspectos laborales en razón de la discapacidad.

La ley también requiere que las entidades contempladas provean las adaptaciones razonables que necesiten los empleados y postulantes con discapacidades, a menos que esas adaptaciones causen una dificultad económica excesiva al empleador.

EDAD
La Ley de Discriminación Laboral por Edad de 1967 (The Age Discrimination in Employment Act of 1967), con sus modificaciones, protege a los empleados y postulantes de 40 años o más contra la discriminación por edad en relación con la contratación, ascenso, despido, compensaciones, condiciones o privilegios laborales.

SEXO (SALARIOS)
Además de la discriminación sexual prohibida por la Ley de Derechos Civiles de 1964, Título VII, y sus modificaciones, la Ley de Igualdad en las Remuneraciones de 1963, con sus modificaciones, prohíbe la discriminación sexual en el pago de salarios a mujeres y hombres que básicamente realicen igual trabajo, en empleos que requieren igual capacidad, esfuerzo y responsabilidad, en condiciones laborales similares y en el mismo establecimiento.

REPRESALIA
Queda prohibida toda represalia contra una persona que presenta un cargo de discriminación, participa en un procedimiento de contra la discriminación o, de alguna otra manera, se opone a la discriminación de conformidad con las leyes federales.

Si cree que ha sufrido alguna discriminación, de conformidad con algunas de las leyes anteriores, y para garantizar que cumple con los estrictos cronogramas procesales a fin de preservar la capacidad de la EEOC para investigar su queja y para proteger su derecho a iniciar una demanda privada, debe ponerse en contacto de inmediato con:

La Comisión Federal de Igualdad de Oportunidades de Empleo de los EE.UU. (The US Equal Employment Opportunity Commission-EEOC), Washington, DC 20507 ó con una oficina de la EEOC telefónicamente a la línea gratuita (1-800) 669-4000. Para las personas con discapacidad auditiva, la línea gratuita TTY de la EEOC es 1-800 669-6820.

Programas o actividades que reciben apoyo financiero federal

RAZA, COLOR, SEXO, NACIONALIDAD
Además del Título VII de la Ley de Derechos Civiles de 1964, con sus modificaciones, el Título VI de la misma ley prohíbe la discriminación por raza, color de piel o nacionalidad en programas y actividades que reciben apoyo financiero federal. La discriminación laboral está contemplada en el Título VI si el objetivo principal del apoyo financiero es la provisión de empleo, o siempre que la discriminación laboral cause, o pueda causar, discriminación en la provisión de servicios en el marco de esos programas.

El Título IX de las Modificaciones de 1972 a la Ley de Educación (Education Amendments of 1972) prohíbe la discriminación laboral en razón de sexo en los programas o actividades educativas que reciben apoyo federal.

PERSONAS CON DISCAPACIDADES

El Artículo 504 de la Ley de Rehabilitación de 1973 , con sus modificaciones, prohíbe la discriminación laboral por discapacidad en todo programa o actividad que recibe apoyo financiero federal en el gobierno federal y las agencias públicas o privadas. Queda prohibida la discriminación en todos los aspectos laborales contra personas con discapacidades que puedan realizar las tareas esenciales relacionadas con ese puesto, sin perjuicio de que resulte o no necesario efectuar una adaptación razonable

Si cree que ha sufrido discriminación en relación con un programa de cualquier institución que reciba apoyo federal, debe contactarse de inmediato con la agencia federal que brinda ese apoyo.

Publicación OFCCP 1420
Se revisó en agosto de 2008

U. S. Department of Housing and Urban Development

EQUAL HOUSING OPPORTUNITY

We Do Business in Accordance With the Federal Fair Housing Law

(The Fair Housing Amendments Act of 1988)

It is illegal to Discriminate Against Any Person Because of Race, Color, Religion, Sex, Handicap, Familial Status, or National Origin

- In the sale or rental of housing or residential lots
- In advertising the sale or rental of housing
- In the financing of housing
- In the provision of real estate brokerage services
- In the appraisal of housing
- Blockbusting is also illegal

Anyone who feels he or she has been discriminated against may file a complaint of housing discrimination:
1-800-669-9777 (Toll Free)
1-800-927-9275 (TTY)

U.S. Department of Housing and Urban Development
Assistant Secretary for Fair Housing and Equal Opportunity
Washington, D.C. 20410

Previous editions are obsolete

form HUD-928.1 (2/2003)

U. S. Department of Housing and Urban Development

IGUALDAD DE OPORTUNIDAD EN LA VIVIENDA

Conducimos nuestros negocios de acuerdo a la Ley Federal de Vivienda Justa

(Acta de enmiendas de 1988 de la Ley Federal de Vivienda Justa)

Es ilegal discriminar contra cualquier persona por razon de su raza, color, religion, sexo, incapacidad fisica o mental, la presencia de niños menores de 18 años o de mujer embarazada en su familia o su origen nacional

- En la venta o renta de vivienda y terrenos residenciales
- En los anuncios de venta o renta de vivienda
- En la financiamiento de vivienda
- Amenazar o interferir con la persona para que no registre su queja
- En los servicios de corretaje que prestan vendedores de vivienda
- En la valoracion de vivienda
- Tambien es ilegal forzarle a vender o rentar su vivienda diciendole que gente de otra raza, religion o grupo etnico se estan mudando en su vecindario

Cualquier persona que sienta que fue discriminada debe de enviar su queja de discriminacion:

1-800-669-9777 (llamada gratis)
1-800-927-9275 (TDD llamada gratis)

U.S.Department of Housing
and Urban Development
Assistant Secretary for Fair Housing and
Equal Opportunity
Washington, D.C. 20410

Previous editions are obsolete

form HUD-928.1A (2/2003)

FORM OF CONTRACT

THIS CONTRACT, made the _____ day of _____, A.D., 2021, by and between _____, hereafter called the "Contractor", and the City of Davenport, Scott County, Iowa, hereinafter called the "City",

WITNESSETH, That the Contractor and the City for the consideration stated herein agree as follows:

ARTICLE I. SCOPE OF WORK - The Contractor shall perform everything required to be performed and shall provide and furnish all of the labor, materials, necessary tools, expendable equipment, and all utility and transportation services required to perform and complete in a workmanlike manner all the work required in connection with the construction of the **WPCP Gray Water Conversion Project**, all in strict accordance with the plans and specifications, including any and all addenda prepared by the Engineering Division of the Public Works Department of the City of Davenport, Iowa, which plans and specifications are made a part of this contract; and in strict compliance with the Contractor's proposal and the other contract documents herein mentioned which are a part of this contract; and the Contractor shall do everything required by this contract and the other documents constituting a part thereof.

ARTICLE II. THE CONTRACT PRICE - The City shall pay to the Contractor for the performance of this contract, subject to any additions or deductions provided therein, in current funds, the contract price of $ _____

_____

which consists of the following:

Horizontal drilling of approximately 260 feet of 2-inch water line, installation of concrete pad and pump skid, electrical and controls connections for pump skid and controls, installation of approximately 600 feet of 2-inch water line and pipe supports, and disconnecting and reconnecting water service line connections. Construction includes all labor, materials and equipment for installation of piping, excavation, backfill, grading, surface restoration, paving restoration and miscellaneous associated work, including erosion control and cleanup.

ARTICLE III. UNIT PRICES FOR CHANGES.

ARTICLE IV. PAYMENTS- Payments are to be made to the Contractor in accordance with and subject to the provisions embodied in the documents made a part of this contract.

ARTICLE V. TIME OF COMPLETION- Working days under this contract shall commence on the date specified in the written Notice to Proceed from the City to the contractor who shall diligently prosecute and substantially complete all work under this contract by **TBD.**

ARTICLE VI. LIQUIDATED DAMAGES – For each and every calendar day that elapses between the Contract Substantial Completion Date and the date on which the actual work is completed, the Contractor shall pay to the City as liquidated damages and not as a penalty, the sum of Two Thousand Dollars ($2,000.00). Substantial completion is defined as all new equipment and construction is complete and operational.

ARTICLE VII. DBE SUBCONTRACTING - The Contractor will subcontract with any DBE listed as having been used in the Contractor's bid on the "Subcontractor Contact Information" sheet for at least the dollar amount listed in the proposal. Failure to do so provides the City with the right to declare a material breach, terminate the contract, and pursue its remedies, both legal and administrative. The DBE so denied also has a third party-right of action against the Contractor alone for breach of contract, unless the substitution or variance has been approved by the City in writing as a contract modification. This provision in no way shall be interpreted as providing a third-party right of action against the City.

ARTICLE VIII. COMPONENT PARTS OF THIS CONTRACT - This contract consists of the following component parts, all of which are as fully a part of this contract as if herein set out verbatim, or, if not attached, as if hereto attached.

1) Contract with the City
2) Shop or Working Drawings for Project approved by the Engineer
3) Addenda (Nos. ____, ____, and ____) to Project Documents
4) Special Provisions (Sections I and III) including the DBE forms
5) Project Plans and Specifications
6) Notice to Bidders
7) Instructions to Bidders
8) Standard Detail Drawings of the City of Davenport
9) Standard Specifications of the City of Davenport
10) Iowa D.O.T., AASHTO, ANSI and ASTM Specifications referenced in the above documents
11) Contractor's Performance and Payment and Maintenance Bond
12) Contractor's Proposal

In the event that any provision in any of the foregoing component parts of this contract conflicts with any provision in any other of the component parts, the provision in the component part first enumerated shall govern over any other component part which follows it numerically, except as may be otherwise specifically stated.

ARTICLE IX. AMERICAN IRON AND STEEL - The Contractor acknowledges to and for the benefit of the City of Davenport ("Purchaser") and the State of Iowa (the "State") that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund and such law contains provisions commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement.

The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State.

Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

IN WITNESS WHEREOF, the parties hereto have caused this Instrument to be executed in three original counterparts the date and year first above written.

(SEAL) _____
(Contractor)

ATTEST: By: _____

_____ _____

_____ _____
(Title)

(SEAL) City of Davenport, Iowa

ATTEST: By: _____
Mike Matson
Mayor

_____
Jackie E. Holecek,
Deputy City Clerk

This Instrument approved by the City Council of the City of Davenport, Iowa, pursuant to Resolution Number _____ passed _____, 2021.

COMBINED
PERFORMANCE-PAYMENT
AND
MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we, the undersigned,

_____ as
Principal, (hereinafter called "Contractor") and

_____ as
Surety, (hereinafter called "Surety"), are held and firmly bound unto the City of Davenport, Iowa, as Obligee, (hereinafter called "City"), in the amount of

_____
Dollars ($) for the payment of which sum of money we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly, severally, and firmly by these presents.

WHEREAS, Contractor has by written contract dated _____, 2021, entered into a contract with City for the **WPCP Gray Water Conversion Project**, which agreement is by reference made a part hereof, and is hereinafter referred to as "the Contract", and

WHEREAS, the Contractor is required to furnish a performance, payment and maintenance bond in connection with said Contract pursuant to the terms and provisions as set forth herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that:

1. If Contractor shall in all respects well and truly keep and perform the said Contract on Contractor's part in accordance with the terms and provisions of all of the Contract documents comprising said Contract, and in the time and manner therein prescribed; and,

2. If the Contractor shall pay all persons, firms or corporations having contracts directly with the Contractor, or with subcontractors, all just claims due them for labor performed, materials furnished, or transportation supplied in the performance of the Contract on account of which this bond is given, when the same are not satisfied out of the portion of the Contract price which the City is required to retain until completion of the Contract (but the Contractor and his Sureties shall not be liable to said persons, firms, or corporations unless the claims of said claimants against said portion of the contract price have been established as provided by the laws of the State of Iowa); and,

3. If the Contractor shall keep the following items of construction in good operating condition as intended by their original design and the contract documents:

ALL ITEMS for: Two (2) years
which become out of repair due to defects in workmanship or material;

then this obligation shall be null and void, otherwise it shall remain in full force and effect.

Every surety on this bond shall be deemed and held, any contract to the contrary notwithstanding, to consent without notice;

1. To any extension of time beyond the contract completion date necessary for the Contractor to perform the Contract.

2. To any change in the plans, specifications or contract, when such change does not involve an increase of more than twenty percent of the total contract price, and shall then be released only to such excess increase.

3. To comply with all of the provisions of Chapter 573, Code of Iowa.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 2021.

_____
(CONTRACTOR) (SEAL)

_____
(WITNESS)

By:
_____

(TITLE)_____

_____
(SURETY) (SEAL)

_____
(WITNESS)

By:
_____

(TITLE)_____

_____

_____
(ADDRESS)

INSURANCE AND INDEMNIFICATION
CONTRACTORS

MEDIUM HAZARD

CONTRACTOR'S INSURANCE

The Contractor shall secure and maintain such primary insurance policies as will protect himself or his Subcontractors from claims for bodily injuries, death or property damage which may arise from operations under this contract whether such operations be by himself or by any Subcontractor or anyone employed by them directly or indirectly.

The following insurance policies are required unless other limits are specified in the "Advertisement for Bids" or "Special Provisions." The City is to be named as an additional insured under General Liability.

(1) **Commercial General Liability**

Each Occurrence	$1,000,000
General Aggregate	$2,000,000
Products Completed	$1,000,000

(2) **Commercial Automobile Liability**

Any Auto, Hired & Non-Owned	
Combined Single Limit	$1,000,000

(3) **Excess Liability Umbrella** $2,000,000

(4) **Statutory Worker's Compensation** with waiver of subrogation in favor of the City.

INSURANCE INCLUSIONS

The comprehensive general liability insurance shall include independent Contractors protective liability, products and completed operations broad form property damage coverage. The completed operations and products liability shall be maintained for two years after final payment. Property damage shall include coverage for explosion, collapse, and underground damage.

CONTRACTUAL LIABILITY

The insurance required above under "CONTRACTOR'S INSURANCE" on page 1, shall:

(1) be Primary insurance and non-contributory.

(2) include contractual liability insurance coverage for the Contractor's obligations under the INDEMNIFICATION paragraph on page 3.

CERTIFICATES OF INSURANCE

Certificates of Insurance, acceptable to the City indicating insurance required by the Contract is in force, shall be filed with the City prior to approval of the Contract by the City. The Contractor shall insure that coverages afforded under the policies will not be cancelled until at least thirty (30) days prior written notice has been given to the City. The Contractor will accept responsibility for damages and the City's defense in the event no insurance is in place and the City has not been notified.

PROPERTY INSURANCE

Unless otherwise provided, the Contractor shall purchase and maintain property insurance upon the contractor's entire work, supplies and materials at the site to the full insurable value thereof. This insurance shall include the interests of the City, the Contractor, Subcontractors and Sub-subcontractors in the work and shall insure against the perils of fire and extended coverage and shall include insurance for physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief and equipment breakdown. The Contractor shall effect and maintain similar property insurance on portions of the work stored off the site or in transit when such portions of the work are to be included in an Application for Payment. If the City is damaged by failure of the Contractor to purchase or maintain such insurance, then the Contractor shall bear all reasonable costs properly attributable thereto.

BUILDER'S RISK INSURANCE

The City of Davenport reserves the right to require "Builder's Risk" coverage dependent upon the scope of the project. If required, "Builder's Risk" policies and limits will be specified in the "Advertisement for Bids" or "Special Provision".

LOSS ADJUSTMENTS

Any loss that is insured under the PROPERTY INSURANCE paragraph above, is to be adjusted with the Contractor and made payable to the Contractor as trustee for the insured, as their interests may appear. The Contractor shall pay each Subcontractor a just share of any insurance moneys received by the Contractor and, by appropriate agreement written where legally required for validity, shall require each Subcontractor to make payments to his Sub-subcontractors in similar manner.

INDEMNIFICATION

To the fullest extent permitted by the law, the Contractor shall defend, indemnify, and hold harmless the City, its officials and its agents and employees from and against all claims, damages, losses and expenses, including but not limited to, all attorneys' fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense

(1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom; and

(2) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

In any and all claims against the City, its officials or any of its agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph shall not be limited in anyway by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

The obligations of the Contractor under this Paragraph shall not extend to the liability of the City, its agents or employees, arising out of

(1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications; or

(2) the giving of or the failure to give directions or instructions by the Project Manager or his representatives, providing such giving or failure to give is the primary cause of the injury or damage.

GENERAL CONTRACT CONDITIONS

DIVISION I
DEFINITIONS

The following terms as used in the contract documents shall have the following meanings:

1.1 CHANGE ORDER – A change order is a written order to the Contractor signed by the City and/or the Project Manager, ordering a change that has been found necessary or desirable to the work form that originally shown by the plans and specifications. Change orders duly executed by the Contractor constitute authorized modifications of the contract

1.2 CITY – The City of Davenport, Iowa.

1.3. CITY COUNCIL – The duly elected members of the City Council of the City of Davenport, Iowa.

1.4 THE CONTRACT – The documents that make up the Contract are set forth in the instrument identified as the "Form of Contract" of which these General Conditions are a part.

1.5 CONTRACT COMPLETION DATE – The contract completion date is the date on which the contractor no longer has any contract time left to complete the work.

1.6 CONTRACT PRICE – CONTRACT SUM – The Contract Price is the unit price(s) stated in the Form of Contract. The Contract Sum is the total amount payable by the City to the Contractor for the performance of the work under the Contract Documents after applying actual measurements of materials to unit prices and adding or deducting all approved Change Orders.

1.7 CONTRACTOR – The person, firm or corporation to whom the within contract is awarded by the City.

1.8 CONTRACT TIME – The total number of working days to complete construction of the work as specified in the Form of Contract.

1.9 DAYS – The term days as used in the contract shall mean calendar days unless the context clearly indicates working days.

1.10 EXTRA WORK – Extra work shall mean work not provided for in the Contract, as awarded, but deemed essential to the satisfactory completion of the contract within its intended scope and authorized by the Project Manager or is desired by the City in addition to that work called for in the Drawings and Specifications. Extra work shall not include additional materials, equipment and labor used due to natural variations in surface or subsurface conditions, except as specifically provided for elsewhere in the Contract Documents.

1.11 INSPECTOR - A person or firm employed by the City to see that the requirements of the specifications are fulfilled and make reports thereon.

1.12 NOTICE – Where in any of the Contract Documents there is any provision in respect to the giving of any notice, such notice shall be deemed to have been given (as to the City), when written notice shall be delivered to the Project Manager, or on the third delivery day after the Notice shall have been placed in the United States mails addressed to the said Project Manager at his office; as to the Contractor, when a written notice shall be delivered to the chief representative of the Contractor at the site of the project to be constructed under the contract or on the third delivery day after mailing such written notice in the United States mails addressed to the Contractor at the place stated in the papers prepared by him to accompany his proposal as the address of his permanent place of business; as to the surety on the performance bond on the third day after the written notice shall have been placed in the United States mails addressed to the surety at the home office of such surety.

1.13 PROJECT MANAGER – The Project Manager means the person designated in the Special Conditions who shall be the City's representative during the period of time work is performed under this Contract. The Project Manager shall have only those powers and duties contained in the Contract.

1.14 SUBCONTRACTOR –A person, firm or corporation other than the Contractor, supplying labor and materials or labor for work at the site of the Project.

1.15 WORK – The furnishing of all labor, material, equipment and other incidentals necessary or convenient to the successful completion of the contract and the carrying out of all the duties and obligations imposed by the contract.

1.16 WORKING DAY – **(A)** Any day on which weather or other conditions (not under control of the Contractor) will permit construction operations to proceed for not less than 6 hours in the performance of a controlling item of work. If such conditions permit operations to proceed for at least 4 hours but less than 6 hours, ½ of a working day will be counted. The days counted will normally exclude Saturdays, Sundays, and recognized legal holidays if the Contractor does not work, but will include Saturdays, Sundays and recognized legal holidays if the Contractor does work on a controlling item of work. Nonproductive work that does not require inspection may be done on Saturdays, Sundays and recognized legal holidays with no time charge. Working days will not be charged for the day before or after a holiday when the Contract Documents specifically prohibit work and the Contractor does not work. Working days will not be counted during periods of suspension of work ordered by the Project Manager except when the suspension is a result of a violation of terms of the Contract. Working days start on the date construction is scheduled to start**. (B)** A controlling item of work is any work item that must be completed prior to commencing work on a subsequent item of work. Equipment maintenance is an example of non-controlling or non-productive item of work.

DIVISION 2
CONTRACT DOCUMENTS

2.1 – THE CONTRACT – The Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations or agreements either written or oral. Except as provided by Paragraph 12.5, the Contract may be amended or modified only by a written Change Order signed by the Project Manager and/or the City and the Contractor. Nothing contained in the Contract Documents shall create any contractual relationship between the City and any Subcontractor or Sub-subcontractor.

2.2 – CORRELATION AND INTENT – The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonably inferable therefore as being necessary to produce the intended results. Words and abbreviations that have well known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

2.3 – SUCCESSORS AND ASSIGNMENT – The City and the Contractor each binds himself, his partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements, and obligations contained in the Contract Documents. No assignment by the Contractor of any principal construction contract or any part thereof or of the funds to be received there under by the Contractor, will be recognized unless such assignment has had the written approval of the City and the Surety has been given due notice of such assignment and has furnished written consent thereto. In addition to the usual recitals in assignment contracts, the following language must be set forth: "It is agreed that the funds to be paid to the assignee under this assignment are subject to a prior lien for services rendered or materials supplied for the performance of the work called for in said contract in favor of all persons, firms or corporations rendering such services or supplying such materials."

2.4 – "OR EQUAL" CLAUSE – Whenever in any of the Contract Documents any article, appliance, device or material is designated by the name of the manufacturer or vendor or by any proprietary name and such name is not followed by the words "or equal" do follow such designation, unless the context clearly requires a contrary construction. Any article or material equaling the standards fixed may be used in place of that specifically mentioned by the Specifications, providing that the material proposed is first submitted to and approved by the Project Manager. In the event of a dispute over the quality of an offered substitute, the decision of the Project Manager shall be final and binding. The City shall be bound to accept any substitute approved in writing by the Project Manager prior to receipt of bids.

2.5 – GOVERNING LAW – This contract shall be governed by any applicable federal laws and by the laws of the State of Iowa and the ordinances of the City of Davenport, Iowa.
2.6 – RIGHTS AND REMEDIES – The duties and obligations imposed by the Contract and the rights and remedies available there under shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

DIVISION 3
THE CITY

3.1 - SURVEYS – Unless otherwise specified, the necessary fieldwork such as surveying, staking, cuts and fills, will be done by the City. The Contractor shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

3.2 - ACCESS PROVIDED – The City will provide all right of way, permanent and temporary easements for construction as shown on the plans. Any additional easements required by the contractor shall be acquired by him at his expense. Any areas outside of the right of way and easements owned by the City, as shown on the plans, which are damaged or occupied by the Contractor, shall be paid for at the Contractor's expense.

3.3 - INFORMATION – Information or services under the City's control shall be furnished by the City upon request of the Contractor with reasonable promptness to avoid delay in the orderly progress of the work. The City shall not be responsible for the accuracy of information given to the Contractor, which was provided to the City by persons not under its control or direction.

3.4 COPIES PROVIDED – Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, all copies of Drawings and Specifications, reasonably necessary for the execution of the Work.

3.5 COORDINATION OF CONTRACT DOCUMENTS **(A)** In case of any discrepancy between the drawing and the figures written thereon, the figures, unless obviously incorrect, are to govern. In case of any discrepancy between the project drawings and specifications and standard drawings and specifications, the project drawings are to govern. In case of a discrepancy between the drawings and specifications, the drawings are to govern. In case of a discrepancy between the standard specifications and special provisions or between the drawings and the special provisions, the special provisions shall govern. **(B)** The Contractor shall not take advantage of any apparent error or omission in the plans or specifications or of any discrepancy between the plans or specifications. The Project Manager shall be permitted to make such corrections in interpretation as may be deemed necessary for the fulfillment of the intent of the plans and specifications.

3.6 INSTRUCTIONS – The City shall forward all instructions to the Contractor through the Project Manager.

3.7 CITY'S RIGHT TO STOP THE WORK – If the Contractor fails to correct defective work as required by Paragraph 13.3 or persistently fails to carry out the Work in accordance with the contract Documents, the Project Manager or the City by a written order signed by an agent specifically so empowered by the City in writing, may order the contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to stop the Work shall not give rise to any duty on the part of the city to exercise this right for the benefit of the Contractor or entity, except to the extent required by Paragraph 6.2.

3.8 CITY'S RIGHT TO CARRY OUT THE WORK – If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within seven days after receipt of written notice from the City to commence and continue correction of such default or neglect with diligence and promptness, he may, after seven days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy he may have, make good such deficiencies. In such case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for any additional services made necessary by such default, neglect or failure. Failure by the Contractor to execute such a Change Order shall not invalidate the order and the Project Manager shall note such refusal thereon. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the City.

3.9 SUSPENSION OF WORK FOR CONVENIENCE OF CITY - **(A)** The City shall have the right to take possession of or use any completed or partially completed part of the Work if its stability and integrity is not dependent upon the Contract. Prior to such possession or use, the Project Manager shall furnish the Contractor an itemized list of Work remaining to be performed or corrected on such portions by the City, provided that failure to list any item or work shall not relieve the Contractor of responsibility for compliance with the terms of the Contract. Such possession or use shall not be deemed an acceptance of any Work under the Contract. While the City has such possession or use, the

Contractor, notwithstanding the provisions of the clause of this Contract regarding protection of the Work, shall be relieved of the responsibility for the loss or damage to the Work resulting from the City's possession or use. However, the Contractor will be responsible for any damages that may be caused by defective work or failure to comply with the Contract Documents. If such prior possession or use by the City delays the progress of the Work or causes additional expense to the Contractor, an equitable adjustment in the Contract Sum or the Contract Time will be made and the Contract shall be modified in writing accordingly and the provisions of the Division 8 shall not be applicable. **(B)** Possession and use by the City shall not be construed to constitute an extension of the Contract time to complete the portion of the permanent construction to which it relates if the Contractor has failed to complete it in accordance with the terms of this Contract. Possession and use by the City shall not operate to release the Contractor or his sureties from any obligations under this Contract or the performance bond.

DIVISION 4
THE PROJECT MANAGER

4.1 CITY'S REPRESENTATIVE – The Project Manager will provide administration of the Contract on behalf of the City as herein provided. The Project Manager will be the City's representative during construction and until final payment is due. The City's instructions to the Contractor shall be forwarded through the Project Manager. The Project Manager will have authority to act on behalf of the City only to the extent provided in the Contract Documents; unless otherwise modified by written instrument in accordance with Paragraph 2.1.

4.2 PROJECT MANAGER NOT TO CONTROL CONSTRUCTION – The Project Manager will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and he will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Project Manager will not be responsible for or have control or charge over the acts or omissions of the Contractor, Subcontractor, or any other persons performing any of the Work.

4.3 PROJECT MANAGER'S ACCESS – The Project Manager shall at all times have access to the Work wherever it is in preparation and progress. The Contractor shall provide facilities for such access so the Project Manager may perform his functions under the Contract Documents.

4.4 PAYMENTS CERTIFIED – Based on the Project Manager's observations and an evaluation of the Contractor's progress in the Work, the Project Manager will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided herein.

4.5 INTERPRETER OF CONTRACT DOCUMENTS - **(A)** The Project Manager will be interpreter of the requirements of the Contract Documents and the judge of the performance there under for the City. The Project Manager will render interpretations necessary for the proper execution or progress of the Work, with reasonable promptness and in accordance with any time limit agreed upon. **(B)** Claims, disputes, and other matters in question between the Contractor and the Project Manager relating to the execution or progress of the Work or the interpretation of the Contract Documents shall be determined by the Project Manager, which he will render in writing within twenty days unless a longer time is agreed. The Project Manager's decision with regard to execution of progress of the Work or interpretation of the Contract Documents will be final.

4.6 AUTHORITY TO REJECT WORK - The Project Manager will have authority to reject Work that does not conform to the Contract Documents. Whenever, in his opinion, he considers it necessary or advisable for the implementation of the intent of the Contract Documents, he will have authority to require special inspection or testing of the Work whether or not such Work be then fabricated, installed or completed.

4.7 SHOP DRAWINGS APPROVED – The Project Manager will review and approve or take other appropriate action upon Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents. Such action shall be taken with reasonable promptness so as to cause no delay. The Project Manager's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

4.8 CHANGE ORDERS - The Project Manager will prepare Change Orders in accordance with Division 12, and will have authority to order minor changes in the Work as provided in Paragraph 12.5.

4.9 FINAL CERTIFICATE OF PAYMENT – The Project Manager will conduct inspections to determine the dates of Substantial Completion or Final Completion, will receive for the City written warranties and related documents required by the Contract and assembled by the Contractor, and will issue an application for final payment upon compliance with the requirements of Division 9.

4.10 AUTHORITY LIMITED – The duties, responsibilities and limitations of authority of the Project Manager as the City's representative during construction as set forth in the Contract Documents will not be modified or extended without written consent of the City. In case of the termination of the employment of the Project Manager, the City shall appoint a substitute Project Manager who shall have the same powers and responsibilities as the Project Manager defined in the Contract.

DIVISION 5
THE CONTRACTOR

5.1 – REVIEW OF CONTRACT DOCUMENTS – The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Project Manager any error, inconsistency or omission he may discover. The Contractor shall not be liable to the City for any damage resulting from any such errors, inconsistencies or omissions in the Contract Documents unless he proceeds with the Work or any part thereof with knowledge of an error, inconsistency or omission. The Contractor shall perform no portion of the Work at any time without Contract Documents or, where required, approved Shop Drawings, Product Data or Samples for such portion of the Work.

5.2 – SUPERVISION AND CONSTRUCTION PROCEDURES – **(A)** The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract. **(B)** The Contractor shall be responsible to the City for the acts and omissions of his employees, subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor. **(C)** The Contractor shall be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Project Manager in his administration of the contract, or by inspections, tests or approvals performed by persons other than the Contractor.

5.3 – SUPERINTENDENT – The Contractor shall give his personal superintendence to the Work or employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be confirmed in writing upon written request in each case.

5.4 – EMPLOYEES – The Contractor shall at all times enforce strict discipline and good order among his employees, and shall seek to avoid employing on the Work any unfit person or anyone not skilled in the Work assigned to him. The Contractor shall provide adequate sanitary facilities for his employees and his Subcontractor's employees.

5.5 – LABOR AND MATERIALS – Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

5.6 – WARRANTY – The Contractor warrants to the City and the Project Manager that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects, and in conformance with the Contract Documents. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Project Manager, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of paragraph 13.3 through 13.5.

5.7 – REMOVAL OF REJECTED MATERIALS – The Contractor shall promptly remove all rejected materials from the site of the Work.

5.8 – TAXES – Prices in bid should be free of all sales taxes. Pursuant to Iowa Code sections 422.42 (15) & (16), the Contractor shall be issued a tax exemption certificate to purchase construction materials that will be incorporated into real property for this project tax free.

5.9 – TAX STATEMENT – If the Contractor includes sales taxes in original bid prices, the Contractor shall pay all sales, consumer, use and other similar taxes for the Work or portions thereof provided by the Contract which are legally enacted at the time bids are received, whether or not yet effective. Upon final completion of this Contract and acceptance thereof by the City Council, the Contractor shall furnish the City, in duplicate on Form 35-002, a certified list of all sales taxes and/or use taxes paid by him in connection with the execution of this Contract. The Contractor shall also require each of his subcontractors to keep similar records and to furnish him a sufficient number of such certificates so that he may furnish duplicates thereof to the City. Forms for marking such certified statements may be obtained from the City. All of the above-mentioned certified statements must be filed with the Project Manager within thirty days after the City accepts the completed project.

5.10 – PERMITS, FEES AND NOTICES – **(A)** Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and for all other permits and governmental fees, licenses and inspections, necessary for the proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required at the time the bids are received. **(B)** The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work. **(C)** It is not the responsibility of the Contractor to make certain that the Contract Documents are in accordance with applicable laws, statutes, building codes and regulations. If the Contractor observes that any of the Contract Documents are at variance therewith in any respect, he shall promptly notify the Project Manager in writing, and any necessary changes shall be accomplished by appropriate Change Order. If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Project Manager, he shall assume full responsibility therefore and shall bear all costs attributable thereto.

5.11 – WORK PROGRESS – The progress of the Work shall be at a rate sufficient to complete the Contract within the time allowed. If it appears that the rate of progress is such that the Contract will not be completed within the time allowed, or if the Work is not being executed in a satisfactory and workmanlike manner, the Project Manager may order the Contractor to take such steps as he considers necessary to complete the Contract within the period of time specified or to prosecute the Work in a satisfactory manner. If the Contractor fails to comply with such order within two weeks after receipt of the order, he may be disqualified from receiving any additional bidding proposals, and the City shall have the right to declare the Contract in default and to complete the Work in accordance with paragraph 14.2. Failure of the City or the Project Manager to issue such order shall not alter the Contractor's responsibility under the Contract. The Contractor's sequence of operations shall be such as to cause as little inconvenience to the general public as possible.

5.12 – SHOP DRAWINGS – **(A)** The Contractor shall review, approve and submit, with reasonable promptness and in such sequence as to cause no delay in the Work or in the Work of the City or any separate contractor, all Shop Drawings, Product Data and Samples required by the Contract. By approving and submitting Shop Drawings, Product Data and Samples, the contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and the Contract. **(B)** The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract by the Project Manager's approval of Shop Drawings, Product Data or Samples unless the Contractor has specifically informed the Project Manager in writing of such deviation at the time of submission and the Project Manager has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Project Manager's approval thereof. **(C)** The contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Project Manager or previous submittals.

5.13 – CUTTING AND PATCHING OF WORK – The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work or to make its several parts fit together properly. The Contractor shall not damage or endanger any portion of the Work or the Work of the City or any separate contractors by cutting, patching or otherwise altering any Work, or by excavation. The Contractor shall not cut or otherwise alter the Work of the City or any separate contractor except with the written consent of such separate contractor. The Contractor shall not unreasonably withhold from the City or any separate contractor his consent to cutting or otherwise altering the Work.

5.14 – CLEANING UP – The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials and rubbish from and about the Project as well as all his tools, construction equipment, machinery and surplus materials. If the

Contractor fails to clean up at the completion of the Work the City may do so and the cost thereof shall be charged to the Contractor.

5.15 – COMMUNICATIONS – The Contractor shall forward all communications to the City through the Project Manager. Prior to commencement of the Work, the Contractor shall provide the Project Manager with a telephone number where the Contractor or his superintendent can be reached in an emergency at any time after commencement of the Work until the date of Final Completion.

5.16 – ROYALTIES AND PATENTS – The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the City harmless from loss on account therefore, except that the City shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Project Manager.

5.17 – USE OF JOB SITE – The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety. The Contractor shall enforce any instructions regarding signs, advertisements, fires and smoke given him by the City.

5.18 – SUBLETTING OR ASSIGNING OF CONTRACT – **(A)** The City will not recognize any subcontractor on the Work as having any prime contractor responsibility. **(B)** Should the Contractor elect to assign this Contract, the assignment shall be approved by the Contractor's bonding company, and shall then be presented for consideration by the City. Assignment can only be consummated after approval by the City. The City's decision on whether to consent to an assignment shall be conclusive and no appeal by the Contractor shall be permitted.

5.19 – SITE INVESTIGATION – The Contractor acknowledges that he has investigated and satisfied himself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The Contractor further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the City, as well as from information presented by the drawings and specifications made a part of this Contract. Any failure by the Contractor to acquaint himself with the available information will not relieve him from responsibility for any understanding or representations concerning conditions made by any of its officers or agents or the Project Manager prior to the execution of this contract, unless such understanding or representations by the officers and agents are expressly stated in the Contract. The City assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the City.

DIVISION 6
WORK BY CITY OR SEPARATE CONTRACTORS

6.1 – CITY'S RIGHTS – The City reserves the right to perform work related to the Project with its own forces and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract. If the Contractor claims that delay or additional cost is involved because of such action by the City, he shall make such claim as provided elsewhere in the Contract Documents.

6.2 – COORDINATION – The City will provide for the coordination of the Work of its own forces and of each separate contractor with the Work of the Contractor, who shall cooperate therewith as provided in Paragraph 6.3.

6.3 – ACCESS – The Contractor shall afford the City and separate contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall connect and coordinate his work with theirs as required by the Contract Documents.

6.4 – DEFECTS – If any part of the Contractor's Work depends on proper execution or results upon the work of the City or any separate contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Project Manager any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acceptance of the City's or separate contractors'

work as fit and proper to receive his Work, except as to defects that may substantially become apparent in such work by others. Any costs caused by defective or ill-timed work shall be borne by the party responsible therefore.

6.5 – DAMAGES TO WORK – Should the Contractor cause or allegedly cause damage to the work or property of the City, or to other work on the site, the contractor shall promptly remedy such damage as provided in Paragraph 10.6.

6.6 – DUTY TO DEFEND – Should the Contractor wrongfully cause or allegedly cause damage to the work or property of any separate contractor, the Contractor shall upon due notice promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues or initiates an arbitration proceeding against the City on account of any damage alleged to have been caused by the Contractor, the City shall notify the Contractor who shall defend such proceedings at his expense, and if any judgment or award against the City arises there from, the Contractor shall pay or satisfy it and shall reimburse the City for all attorneys' fees and court or arbitration costs which the City has incurred. If the Contractor prevails, the City shall pay any expenses not recovered from the separate contractor incurred as a result of any negligent act on the part of the City's officers, agents or Project Manager.

6.7 – CITY'S RIGHT TO CLEAN UP – If a dispute arises between the Contractor and separate contractors as to their responsibility for the cleaning up as required by Paragraph 5.14, the City may clean up and charge the cost thereof to the contractors responsible therefore as the Project Manager shall determine to be just.

DIVISION 7
MISCELLANEOUS PROVISIONS

7.1 – ARBITRATION – Any controversy of claim arising out of or relating to this Contract, or the breach thereof which cannot be resolved by mutual agreement, may be settled by arbitration only if the times, places, arbitrators, and various rules or arbitration conduct can be mutually agreed upon in writing and approved by the Contractor and City in writing, any other paragraph, law or rule notwithstanding.

7.2 – INSPECTION AND TESTING - **(A)** All work (which term includes but is not restricted to materials, workmanship, and manufacture and fabrication of components) shall be subject to inspection and test by the Project Manager at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of providing quality control measures to assure that the Work strictly complies with the Contract requirements. No inspection or test by the Project Manager shall be construed as constituting or implying acceptance. Inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, not in any way affect the continuing rights of the City after acceptance of the completed Work. **(B)** The Contractor shall, without charge, replace any material or correct any workmanship found by the Project Manager not to conform to the Contract requirements, unless in the public interest the City consents to accept such material or workmanship with an appropriate adjustment in Contract Sum. The Contractor shall promptly segregate and remove rejected material from the premises. **(C)** If the contractor does not promptly replace rejected material or correct rejected workmanship, the City 1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or 2) may terminate the Contractor's right to proceed in accordance with Division 14 of this contract entitled "Termination." **(D)** The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Project Manager. All inspection and test by the Project Manager shall be performed in such manner as not unnecessarily to delay the Work. Special, full size, and performance tests shall be performed as described in this Contract. The City reserves the right to charge to the Contractor any additional cost of inspection or test when material or workmanship is not ready at the time specified by the Contractor for inspection or test or when re-inspection or retest is necessitated by prior rejection. **(E)** The City may employ an Inspector, working under the Project Manager, for the inspection of the Work while such Work is in progress to ascertain that the completed Work will comply in all respects with the standards and requirements set forth in the Specifications. **(F)** The Inspector is authorized to carry out orders of the Project Manager. In the event of a dispute between the Inspector and the Contractor, the Project Manager shall resolve the matter. **(G)** Under no circumstances is an Inspector authorized in any manner to alter, vary or waive any requirement of the Contract. Neither affirmative approval nor silence shall operate to relieve the Contractor from the responsibility of strictly complying with the Contract requirements. Conclusive approval of materials and workmanship may be given by the Project Manager if requested by the Contractor.

7.3 – PREFERENCE FOR IOWA PRODUCTS AND LABOR – The Contractor shall give preference to products and provisions grown and coal products within the State of Iowa, and to Iowa domestic labor in the construction of the work over foreign products and labor and shall otherwise comply with the provisions of Chapter 73 of the Code of Iowa.

7.4 – SUBCONTRACTORS – **(A)** The Contractor shall, as soon as practicable after signing of the Contract, notify the Project Manager in writing of the names of subcontractors proposed for the Work. **(B)** The City reserves the right to object to the use of any proposed subcontractor who: 1) Is currently in violation of any law, ordinance or regulation governing affirmative action programs; 2) Has defaulted on any prior project with the city and such default has not been cured to City's satisfaction; 3) Does not possess the necessary licenses or skills to perform the Work.

7.5 – JURISDICTION – The Scott County, Iowa, District Court shall have exclusive jurisdiction of all litigation between the Contractor and the City.

DIVISION 8
TIME

8.1 – COMMENCEMENT OF THE WORK – The Contractor shall commence the Work on the date specified in a notice to proceed, in the absence of a notice to proceed within ten days following the date of approval of the contract bond and insurance by the City. The first working day shall be the date specified in the notice to proceed or the date the Contractor actually commences the Work, whichever is earlier. The Contractor shall carry the Work forward expeditiously with adequate workers, equipment, and materials so that it will achieve Final Completion within the Contract Time.

8.2 – TIME IS OF THE ESSENCE – All time limits stated in the Contract Documents are of the essence in the Contract.

8.3 – LIQUIDATED DAMAGES – **(A)** The Contractor shall pay to the City as liquidated damages and not as a penalty the sum of money set forth in the Form of Contract for each working day between the contract time and the date of final completion, including general cleanup and the removal of all equipment and obstructions from the site of the Work. Such liquidated damages shall be payable to reimburse or compensate at least in part, the City for: 1) the administration of the Work covered by such Contract and any other contract or contracts beyond the contract Completion Date, but not the additional engineering expenses directly attributable to the Work and incurred because of the delay; 2) expenditures resulting from the inability of the City and the general public to use the improvement being constructed from and after such Contract Completion Date until the actual date of completion; 3) other miscellaneous obligations and expenditures incurred by the City directly as a result of the failure to complete the Work covered by such Contract on or before the Contract Completion Date. It is agreed that these damages are difficult of precise measurement at the inception of the contract and the sum stated herein is the best possible estimate of the damages that will accrue because of delay. **(B)** The assessment of liquidated damages for failure to complete the Work by the Contract Completion Date shall not constitute a waiver of the City's right to collect engineering expenses directly attributable to the Work and incurred because of the delay in completion. **(C)** The total amount so payable by the Contractor as liquidated damages may be deducted from any monies due and payable to the Contractor by the City or so much thereof as is not deducted shall be chargeable to and will be payable promptly by such Contractor or his bonding company to the City.

8.4 – DELAYS AND EXTENSIONS OF TIME – **(A)** If the Contractor is delayed at any time in the progress of the work by: 1) any act or neglect of the City or the Project Manager; 2) by any employee of either the City or the Project Manager; 3) by any separate contractor employed by the City; 4) by changes ordered in the Work; 5) by labor disputes; 6) fire; 7) unusual delay in transportation; 8) adverse weather conditions not reasonably anticipatable; 9) unavoidable casualties; 10) any causes beyond the Contractor's control; 11) by delay authorized by the City pending arbitration; 12) or by any other cause which the Project Manager determines my justify the delay, then working days shall not be charged for such reasonable time as the Project Manager may determine. **(B)** However, before the working days will not be charged to the contractor, the delay and subsequent failure to perform must be beyond the control of the Contractor. If the failure to perform is caused by the failure of a subcontractor to perform or to make progress and if such failure arises out of causes beyond the control of both the Contractor and subcontractor and without fault or negligence of either of them, the Contractor shall not be deemed to be in fault unless: 1) the supplies or services to be furnished by the subcontractor were obtained from other sources; 2) the Project Manager shall have ordered the contractor in writing to procure such supplies or services from other sources; and 3) the Contractor shall have failed to comply reasonably with such order.

8.5 – CLAIMS FOR ADDITIONAL WORKING DAYS – **(A)** The Project Manager shall prepare a weekly report of the working days charged. This report shall be signed by the Project Manager and the Contractor. If the contractor chooses to protest the charging of any working day, he shall file with the Project Manager written protest specifying his reasons

within ten days after the last day of any week for which a day was charged that is disputed. The Project Manager shall review these documents and shall make the final decision on the number of working days to be charged. **(B)** Any claim for additional contract time shall be made in writing to the Project Manager not more than seven days after occurrence of the event giving rise to the claim; otherwise it shall be waived. In the case of a continuing delay only one claim is necessary. The Contractor shall provide an estimate of the probable effect of such claim on the progress of the Work. The Project Manager shall promptly investigate the Contractor's claim for additional contract time and if justified, he shall notify the Contractor in writing and an equitable adjustment shall be made and the Contract modified pursuant to Division 12. **(C)** If weather conditions become such that construction work must be suspended until springtime, the Contractor will be sent a written notice to continue work, which will specify a date to resume work and will show the number of working days remaining to complete the job. The written notice to continue work will be sent to the Contractor at least ten days before the specified date to proceed. However, working days will be charged beginning on the day work actually starts, if it is before the notice date. Resumption dates are normally specified for around March 15th or as weather permits.

8.6 – DELAY FOR INTERPRETATIONS – If no agreement is made stating the dates upon which interpretations as provided in Paragraph 4.5 shall be furnished, then no claim for additional contract time shall be allowed on account of failure to furnish such interpretations until twenty days after written request is made for them, and not then unless such claim is reasonable.

8.7 – NO DAMAGES FOR DELAY – Paragraph 8.4 precludes the recovery of damages for delay for reasons (d) through (1) under any other provision of the Contract Documents. Paragraph 8.4 also precluded the recovery of damages for delay for reason (A) through (C) unless a single delay extends for more than fifteen days or aggregate delays from two or more work stoppages total more than twenty-one days and then only for the excess days in either case. Paragraph 8.6 precludes the recovery for damages for delays under the circumstances enumerated therein. In addition, no damages for delays can be recovered for reasons 8.4 (A) through 8.4 (C) to the extent the delay would have occurred in any event due to any other cause, including the negligence of the Contractor; or, for which an adjustment is provided or excluded under any other provision of this Contract. There shall be no allocation of fault during concurrent delays.

8.8 – PROCEDURE FOR APPEAL OF THE PROJECT MANAGER'S DECISION – **(A)** If the Project Manager determines the claim of the contractor does not justify additional time to complete the project or lesser time than the Contractor requested, he shall so notify the Contractor in writing within twenty days from submission of the claim. If the Project Manager fails to respond to any claim within the time allocated, the claim shall automatically be deemed denied by the Project Manager. **(B)** The decision of the Project Manager shall be final and binding upon the Contractor unless the Contractor appeals the decision of the Project Manager to the City Council. Such appeal shall be taken within twenty days from the Project Manager's decision and full statement of the facts surrounding the claim and the additional working days requested. The City Council shall fix a date, time and place to hear the matter, which date shall not be less than thirty days from receipt of the request for review. If the Matter is not heard within thirty days or a decision not rendered by the City Council within fifteen days of the hearing, the claim shall automatically be deemed denied by the City Council. **(C)** The decision of the City Council shall be final and binding upon the Contractor unless within six months from the date of the decision of the City Council, the City and the Contractor agree in writing to arbitration or the Contractor files suit in the Scott County, Iowa, District Court.

8.9 – CHANGE ORDER REQUIRED – Any approved claim for additional contract time under the provisions of this Division shall be granted by change order.

8.10 – EXTENSIONS OF TIME – Except for an extension of the contract time, the Project Manager may, upon written request and for good cause shown by the Contractor, grant an extension of time to perform any act required by the Contract. The request for an extension of time must be made within the time to initially perform the act. An extension of time must be in writing and signed by the Project Manager.

DIVISION 9
PAYMENTS AND COMPLETION

9.1 – PAYMENT FOR WORK PERFORMED – The Contractor will receive and accept as full payment for all items of acceptable Work performed which are covered by definite unit prices or lump sum amounts specified in the Form of Contract, the rate specified therein, or in the case of work under a change order, the amount stated in the change order.

9.2 – APPLICATION FOR PAYMENTS – Application for payments shall be made by the Project Manager on forms provided by the City.

9.3 – MEASUREMENT OF QUANTITIES – The Work completed under the Contract shall be measured according to United States standard measures. Payment will be based on the actual quantity of work performed under the various classifications of Work in the Contract.

9.4 – SCOPE OF PAYMENT – The Contractor shall accept the compensation herein provided as full payment for furnishing all materials, labor, tools, and equipment and for performing all work under the Contract or any extension thereof allowed under Division 12; also, for all costs arising from the action of the elements or other natural causes, agreements, and performances, non-performance or delays involving other contractors and third parties, or injunctions or lawsuits resulting there from, or from any unforeseen difficulties not otherwise provided for in the specifications and which
may be encountered during prosecution of the Work and up to the time of acceptance thereof, except damage to the Work due to acts of war. Nothing herein shall in and of itself be construed to prejudice or deny any claim filed under provisions of Division 15.

9.5 – MATERIAL DELIVERED TO WORK SITE – Unless otherwise provided in the Contract Documents, payments may be made on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site or at some other location agreed upon in writing, if approved in advance by the Project Manager. Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Project Manager to establish to the City's title to such materials or equipment or otherwise protect the City's interest, including applicable insurance and transportation to the site for those materials and equipment stored off the site.

9.6 – TITLE – The contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the City either by incorporation in the construction or upon the receipt of payment by the Contractor. This paragraph shall not negate or abridge the Contractor's obligations with regard to protection of the Work in Division 10 or to any warranties required by the Contract.

9.7 – PAYMENTS - **(A)** If the Work extends over a period of more than one month, the Contractor will receive monthly progress payments from the City based on the Project Manager's estimate of work completed in an acceptable manner. The City's monthly payments shall be partial payments on the contract sum and the monthly payment by the City does not constitute acceptance of the work upon which the estimates are based. **(B)** Work completed in an acceptable manner during the month shall be paid for by the City within thirty-five days from the last day of the month. **(C)** The City shall retain from each monthly payment five percent of that amount which is determined to be due by the Project Manager. Interest shall be paid at the rate of ten percent per annum on delayed monthly progress payments.

9.8 – PROJECT MANAGER'S REPRESENTATIONS – Submission of an application of payment signed by the Project Manager will constitute a representation by the Project Manager to the City, based on his observations at the site that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial or Final Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in an attachment to the estimate) and that the Contractor is entitled to payment in the amount certified.

9.9 – PAYMENTS TO SUBCONTRACTORS – The City shall not have any obligation to pay or to see to the payment of any monies to any Subcontractor or suppliers.

9.10 – PAYMENT NOT ACCEPTANCE OF DEFECTIVE WORK - No estimate made for a progress payment, nor any progress payment, nor any partial or entire use of occupancy of the Project by the City shall constitute acceptance of any Work not in accordance with the Contract Documents.

9.11 – PAYMENTS WITHHELD – **(A)** The Project Manager may decline to submit an application for payment and may withhold his estimate in whole or in part, to the extent necessary reasonably to protect the City, if in his opinion his is unable to make representations to the City as provided in Subparagraph 9.8 and thus submit the application, he will notify the Contractor. The Project Manager may also decline to submit an application for payment or, because of

subsequently discovered evidence or subsequent observations, he may nullify the whole or any part of any estimate authorizing payment previously issued, to such extent as may be necessary in his opinion to protect the City from loss because of: 1) defective work not remedied; 2) damage to the City or another contractor; 3) reasonable evidence that the Work will not be completed within the Contract Time but only to the extent of liquidated damages; 4)persistent failure to carry out the Work in accordance with the Contract Documents. When the above grounds are removed, payment shall be made for amounts withheld because of them.

9.12 – FAILURE OF PAYMENT – If the Project Manager does not prepare an application for payment as provided for in Paragraph 9.7B, through no fault of the Contractor, the Contractor may, upon seven additional days written notice to the City, stop the Work until payment of the amount owing has been received. The Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, which shall be effected by appropriate Change Order in accordance with Division 12.

9.13 – SUBSTANTIAL COMPLETION – **(A)** The Date of Substantial Completion of the Work or designated portion thereof is the Date Certified by the Project Manager when construction is sufficiently complete, in accordance with the Contract Documents, so the City can occupy or utilize the Work or designated portion thereof for the use for which it is intended, as expressed in the Contract Documents. **(B)** When the contractor considers that the Work or a designated portion thereof is substantially complete, the Contractor shall request the Project Manager to make an inspection. If the Project Manager determines that the Work is substantially complete, the Project Manager shall prepare a Certificate of Substantial Completion and prepare a list of work items, which shall be completed or corrected. The failure to include any item on the list does not alter the responsibility of the Contractor to complete all Work in accordance with the contract documents. The Certificate of Substantial Completion shall state the responsibility of the City and Contractor for security, maintenance, heat, utilities, damage to the work, and insurance. Warranties required by the contract documents shall commence on the date of Substantial Completion unless otherwise provided in the Certificate of Substantial Completion. **(C)** If after the Work has been substantially complete, and work towards Final Completion thereof cannot proceed for a period of more than sixty days through no fault of the Contractor, and the Project Manager so certifies, the City may make Final Payment for that portion of the work fully completed and accepted, provided the Contractor enters into a supplemental contract on the same terms and conditions as far as applicable for the Work remaining to be done and such other necessary matter, as determined by the Project Manager. The Contractor's bondsman must consent to the Contract and agree that the bond shall remain in full force and effect.

9.14 – FINAL COMPLETION – **(A)** The Date of Final Completion is the date of the letter from the Project Manager to the Contractor indicating all of the Work is completed to the satisfaction of the City. **(B)** When the Contractor considers that all of the Work is in accordance with the contract documents, the contractor shall request the Project Manager to make an inspection. When all Work items are in accordance with the contract documents, the Project Manager shall promptly notify the Contractor by letter and issue a pay estimate for the Contract sum less a 5% retainage.

9.15 – ACCEPTANCE – **(A)** The Date of Acceptance of the Work is the Date of either: 1) the letter of Final Completion from the Project Manager to the Contractor when the letter clearly states acceptance is being given, or 2) the date of the City Council meeting when the Council approves a Resolution accepting the Work. **(B)** The Contractor shall within ten (10) days of the City's acceptance of the Work cause to be published in the Quad-City Times a notice stating that the City has accepted the Work and that all subcontractors and suppliers of labor, materials, services, or transportation may file an itemized, sworn, written claim with the City for the unpaid portion of their work, if any. Also, the Contractor shall furnish the City with the tax statements required in Paragraph 5.9.

9.16 – FINAL PAYMENT – Final Payment which shall be payment of the 5% retainage shall be made in accordance with the provisions of Chapter 573, Code of Iowa.

DIVISION 10

10.1 – SAFETY PRECAUTIONS AND PROGRAMS – The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.

10.2 – CONTRACTOR'S OBLIGATION – **(A)** The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to: 1) all employees on the Work and all other persons who may be affected thereby; 2) all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of the Subcontractors or Sub-subcontractors; and 3) other property at the site or adjacent thereto, including trees, shrubs, lawns, walks,

pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

10.3 – COMPLIANCE WITH APPLICABLE LAWS – The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

10.4 – CONTRACTOR TO ERECT SAFETY DEVICES – The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

10.5 – EXPLOSIVES – When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

10.6 – REMEDY DAMAGE OR LOSS – The Contractor shall promptly remedy all damage or loss caused in whole or in part by the Contractor, any sub-contractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under Paragraph 10.2 (B) and (C), except damage or loss attributable to the acts or omissions of the City or Project Manager or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligations under Paragraph 11.9.

10.7 – PERSON DESIGNATED AS SAFETY ENGINEER – The contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the City and the Project Manager.

10.8 – LOADING WORK – The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.

10.9 – EMERGENCIES – In any emergency affecting the safety of persons or property, the contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of the time claimed by the Contractor on account of emergency work shall be determined as provided in Divisions 12 and 15.

10.10 – PUBLIC RIGHT OF WAY OCCUPANCY - **(A)** – If it is necessary to partially or completely close any street for the purpose of construction or excavation, the contractor shall: 1) seventy-two hours prior to partially or completely closing a street notify the City Transportation Department of the closing; 2) twenty-four hours prior to completely closing a street, notify local residents of the closing in order to allow them to arrange other temporary ingress and egress to their property and to remove automobiles, etc. from their parking area; 3) for the purpose of this paragraph, "partially close" means closing one or more of the driving lanes; 4) when the street is to be open, the Transportation Department shall be notified on the same day. **(B)** In either case of partially or completely closing the streets, the Contractor shall reopen the streets immediately upon completion of his work. **(C)** The Contractor shall be responsible for proper barricading, indicating that all or part of the street is closing to through traffic, and shall have direction and detour signs at the end of the street under construction. The signing shall conform to the traffic control plans in the Contract and/or as directed by the Transportation Department of the City. All barricades, warning signs, and devices are to be supplied, erected, maintained, and be the responsibility of the Contractor. The barricades, signs and devices shall conform to the Manual on Uniform Traffic Control Devices. Proper safety measure shall also be utilized and furnished by the Contractor at all times, including all necessary warning signs, flares, barricades, flagmen, etc.

DIVISION 11
INSURANCE AND INDEMNIFICATION

11.1 – CONTRACTOR'S INSURANCE – The Contractor shall secure and maintain such primary insurance policies as will protect himself or his Sub-contractors from claims for bodily injuries, death or property damage which may arise from operations under this Contract whether such operations be by himself or by any Sub-contractor or anyone employed by them directly or indirectly. The following insurance policies are required unless other limits are specified in the Bid "Attachments" tab or "Advertisement for Bids":

(A) Statutory Worker's Compensation

(B) General Liability

a. General Aggregate	$ 1,000,000
b. Products Completed	$ 1,000,000
c. Each Occurrence	$ 1,000,000

(C) Automobile Liability

a. Any Auto, Hired & Non Owned	
b. Combined Single Limit	$1,000,000

(D) Excess Liability

a. Umbrella Form	$2,000,000

11.2 - INSURANCE INCLUSIONS – The general liability insurance shall include products liability, products and completed operations and broad form property damage coverage. The completed operations and products liability shall be maintained for two years after final payment. Property damage shall include coverage for explosion, collapse, and underground damage.

11.3 – CONTRACTUAL LIABILITY – The insurance required by Subparagraph 11.1 shall: **(A)** be primary insurance and if the City has insurance that is applicable to a loss, such insurance shall be on an excess or contingent basis. **(B)** include contractual liability insurance coverage for the contractor's obligations under Paragraph 11.8.

11.4 – CERTIFICATES OF INSURANCE – Certificates of Insurance acceptable to the City indicating insurance required by the Contract shall be filed with the City prior to approval of the Contract by the City. These Certificates shall contain a provision that coverage afforded under the policies will not be cancelled until at least thirty days prior written notice has been given to the City.

11.5 – PROPERTY INSURANCE – Unless otherwise provided, the Contractor shall purchase and maintain property insurance upon the entire Work at the site to the full insurable value thereof. This insurance shall include the interests of the City, the Contractor, Subcontractors and Sub-subcontractors in the Work and shall insure against the perils of fire and extended coverage and shall include "builder's risk" insurance for physical loss or damage including, without duplication of coverage, theft, vandalism and malicious mischief. If the City is damaged by failure of the Contractor to purchase or maintain such insurance, then the Contractor shall bear all reasonable costs properly attributable thereto. The Contractor shall effect and maintain similar property insurance on portions of the Work stored off the site or in transit when such portions of the Work are to be included in an Application for Payment.

11.6 – BOILER INSURANCE – The City shall purchase and maintain such boiler and machinery insurance as may be required by the Contractor Documents. This insurance shall include the interest of the City, the Contractor, Subcontractor and Sub-subcontractors in the Work.

11.7 – LOSS ADJUSTMENTS – Any loss insured under Subparagraph 11.5 is to be adjusted with the Contractor and made payable to the Contractor as trustee for the insured, as their interests may appear. The Contractor shall pay each Subcontractor a just share of any insurance monies received by the Contractor, and by appropriate agreement written where legally required for validity, shall require each Subcontractor to make payments to his Sub-subcontractors in similar manner.

11.8 – INDEMNIFICATION – **(A)** To the fullest extent permitted by the law, the Contractor shall defend, indemnify, and hold harmless the City, its officials and its agents and employees from and against all claims, damages, losses and expenses, including but not limited to all attorneys' fees, arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense, 1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than use resulting there from, and 2) is caused in whole or in part by any negligent act or omission of the Contractor, any Sub-contractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity, which would otherwise exist as to any party or person, described in this Paragraph. **(B)** In any and all claims against the City, its officials or any of its agents or by any employee of the Contractor, and Subcontractor, anyone directly or indirectly employed by any of them may be liable, the indemnification obligation under this Paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers; or workmen's compensation acts, disability

benefit acts or other employee benefit acts. **(C)** The obligations of the Contractor under this Paragraph shall not extend to the liability of the City, its agents or employees, arising out of 1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or 2) the giving of or the failure to give directions or instructions by the Project Manager or his representatives providing such giving or failure to give is the primary cause of the injury or damage.

DIVISION 12
CHANGES IN WORK

12.1 – CHANGE ORDERS – The Contract Price, the Contract Sum and the Contract Time may be changed by Change Order. A Change Order signed by the Project Manager and the contractor and approved by the City indicates conclusive agreement therewith, including the adjustment in the Contract Price, Contract Sum or the Contract Time. A Change Order signed by the Project Manager and Contractor, and subsequently approved by the City, may not be the subject matter of any claim, suit, or arbitration.

12.2 – CITY'S AUTHORITY – The City, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Price, the Contract Sum or the Contract Time being adjusted accordingly. All such changes in the Work shall be authorized by written Change Order, and shall be performed under the applicable conditions of the Contract Documents. Change Orders shall be prepared by the Project Manager and presented to the Contractor for his signature. If signed by the Contractor, the Project Manager shall sign the Change Order and then submit it to the City for final approval.

12.3 – COST OR CREDIT DETERMINATIONS – **(A)** The cost or credit to the City resulting from a change in the Work shall be determined by one of the following ways: 1) by unit prices contained in the Contractor's original bid and incorporated in the Contract Documents; 2) by a supplemental schedule of prices contained in the Contractor's original bid and incorporated in the Construction Document; 3) by an acceptable unit price proposal from the Contractor; 4) by an acceptable lump sum proposal from the Contractor; 5) by force account basis. The order to preference shall be listed. The applicability 1) or 2) shall foreclose the use of 3), 4) or 5).

12.4 – FORCE ACCOUNT BASIS – **(A)** Extra work performed on the force-account basis will be paid for in the following manner: For laborers, timekeepers, foremen and superintendents, the Contractor shall receive the rate of wage shown on previous payrolls for the time they are actually engaged in the Extra Work, to which shall be added an amount equal to fifteen percent thereof, plus the amount of social security tax imposed by law upon the Contractor because of such force-account work, plus the cost of worker's compensation, public liability insurance, and employment security contributions. The fifteen percent shall cover compensation for the furnishing of the necessary small tools for the Work together with all other overhead items of expense. The wage of the superintendent, timekeeper, or foreman who is employed partly on force-account work and partly on other work shall be prorated between the two classes of work according to the number of men shown by the payrolls as employed on each class of work. **(B)** For materials used on force-account work, the Contractor shall receive the actual cost of materials delivered on the work, including the freight and handling charges as shown by original receipted bills, to which cost shall be added a sum equal to fifteen percent thereof. **(C)** For machinery, tools or equipment, and fuel and lubricants therefore, except small hand tools, which may be used, the Project Manager shall allow the Contractor a reasonable rental rate to be agreed by the Contractor before such work is begun. No profit percentage shall be added to the rate. **(D)** Compensation as herein provided shall be accepted by the Contractor as payment in full for extra work done on a force-account basis. It will be assumed that such payment includes the use of tools and equipment for which no rate is allowed, overhead, and profit.

12.5 – MINOR CHANGES IN THE WORK – The Project Manager shall have authority to order minor changes in the Work not involving an adjustment in the Contract Price or Contract Sum or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes may be effected by either oral or written order, and shall be binding on the City and the Contractor. The Project Manager shall also have the authority to issue change orders consisting of additions, deletions, or other revisions affecting the Contract Sum and Contract Time, providing such change does not exceed $10,000. Such a Change Order shall be prepared by the Project Manager, and submitted to the Contractor for his signature. If approved and signed by the Contractor and the Project Manager, the Change Order shall be binding upon the City and the Contractor and may not be the subject matter of any claim, suit or arbitration.

DIVISION 13
UNCOVERING AND CORRECTION OF WORK

13.1 – UNCOVERING OF WORK FOR INSPECTION – If any portion of the Work should be covered prior to the Project Manager or Inspector having an opportunity to inspect it, it must, if required by the Project Manager, be uncovered for his observations. The costs of uncovering and restoring the work shall be the Contractor's expense.

13.2 – UNCOVERING WORK NOT INSPECTED – If the Project Manager or inspector authorizes any portion of the Work to be covered which they did not inspect prior to being covered they may request to see such Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the cost of uncovering and restoring the Work shall, by appropriate Change Order, be charged to the City. If such Work be found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it be found that this condition was caused by the City or a separate contractor as provided in Division 6, in which even the City shall be responsible for the payment of such costs.

13.3 – CORRRECTION OF WORK – The Contractor shall promptly correct all Work rejected by the Project Manager as defective or as failing to conform to the Contract Documents whether observed before or after Final Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for the Project manager's additional services made necessary thereby.

13.4 – WARRANTY WORK – If, within one year from the date of acceptance any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the City to do so unless the City has previously given the Contractor a written acceptance of such condition. This obligation shall survive termination of the Contract. The City shall give such notice promptly after discovery of the condition. If the Work is covered by a bond, the City shall also notify the Contractor's bonding company.

13.5 – FAILURE TO CORRECT – If the Contractor fails to correct defective or non-conforming Work as provided in Paragraph 5.6, 13.3 and 13.4, the City may correct it in accordance with Paragraph 3.8. If the Work is covered by a bond, the City shall have the right to require the Work be done by the Contractor's bonding company.

13.6 – ACCEPTING DEFECTIVE WORK – If the City prefers to accept defective or non-conforming Work, it may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable. Such adjustment shall be effected. Whether or not final payment has been made.

DIVISION 14
TERMINATION OF THE CONTRACT

14.1 – TERMINATION BY THE CONTRACTOR – If the Work is stopped for a period of thirty days under an order of any Court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with the Contractor, or if the Work should be stopped for a period of thirty days by the contractor because the Project Manager has not prepared an Application for Payment as provided in Paragraph 9.2 or because the City has not made payment thereon as provided in Paragraph 9.7, then the Contractor may, upon seven additional days' written notice to the City, terminate the Contract and recover from the City payment for all Work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment and machinery, including reasonable profit and damages.

14.2 – TERMINATION BY THE CITY – If the contractor is adjudged a bankrupt, or if he makes a general assignment for the benefit of his creditors, or if a receiver is appointed on account of his insolvency, or if he persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, fails to start the Work on time or fails to prosecute the Work so as to be able to finish on time, or if he fails to make prompt payment to Subcontractors or for materials or labor, or persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a substantial violation of a provision of the Contract Documents, then the City, may without prejudice to any right or remedy and after giving the Contractor and his surety, if any, seven days' written notice, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever method it may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

14.3 – COSTS OF FINISHING WORK – If the unpaid balance of the Contract Sum exceeds the costs of finishing the work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor or his bonding company shall pay the difference to the City.

14.4 – TERMINATION FOR THE CONVENIENCE OF THE CITY- **(A)** The performance of work under these Contract Documents may be terminated by the City in accordance with this paragraph in whole, or from time to time in part, whenever the City Council shall determine that such termination is in the best interests of the City. Any such termination shall be effected by delivery to the Contractor of a notice of termination specifying: 1) what work is to terminate; 2) when the termination is to become effective; 3) the action to be taken with regard to subcontractors; 4) the action to be taken with regard to materials on hand but not incorporated into the Work; 5) the manner in which remaining work will be handled. **(B)** The Contractor shall submit to the Project Manager any termination claim he may have within three months of the notice of termination. The Contractor shall be entitled to payment for all Work performed up to the date of termination based upon the unit prices in the Form of Contract, plus the expenses incurred in terminating the Contract, less payments made, and less any credits received from Subcontractors and suppliers. **(C)** In the event the Project Manager and the Contractor are unable to agree upon an amount, the Contractor may proceed under the provisions of Paragraph 15.4.

14.5 – REMOVAL OF EQUIPMENT – In the case of termination of this Contract before completion from any cause whatever, the Contractor, if notified to do so by the City, shall promptly remove any part or all of his equipment and supplies from the property of the City, failing which the City shall have the right to remove such equipment and supplies at the expense of the Contractor.

DIVISION 15
CLAIMS

15.1 – CLAIMS FOR ADDITIONAL COST – WORK - **(A)** If the Contractor wishes to make a claim for an increase in the Contract Sum, he shall give the City through the Project Manager written notice thereof within ten days after the occurrence of the event giving rise to such claim (or such shorter time as will provide the City with the opportunity to investigate the event and make a record of the circumstances surrounding same). This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Paragraph 10.9. No such claim shall be valid and is waived by the Contractor unless so made. The fact that the City, its officials, agents or employees or the Project Manager have actual knowledge of the event shall not relieve the Contractor of this requirement. **(B)** The Project Manager shall promptly investigate the Contractor's claim, and upon completion of the investigation, notify the Contractor to proceed with the Work. If the claim is justified, he shall notify the Contractor in writing and an equitable adjustment shall be made and the contractor modified in writing pursuant to Division 12. **(C)** The Contractor shall afford the Project Manager notice and opportunity to keep strict account of actual costs incurred as defined for force-account construction for the work giving rise to the claim. If the Contractor fails to do so, he thereby agrees to waive the claim for extra compensation for such work. The fact that the Project Manager has kept an accounting of the costs shall not be construed as establishing the validity of the claim.

15.2 – CLAIMS FOR ADDITIONAL COST – ORDERS – If the Contractor claims that additional cost is involved because of (1) any written interpretation pursuant to Subparagraph 4.5; 2) any order by the City to stop the Work pursuant to Paragraph 3.7 where the Contractor was not at fault; 3) any written order for a minor change in the Work issued pursuant to Paragraph 12.5; 4) failure of payment by the City pursuant to Paragraph 9.12; or 5) any other conduct on the part of the Project Manager or City, the Contractor shall make such claim as provided in Subparagraph 15.1.

15.3 – DIFFERING SITE CONDITIONS – **(A)** In order to preserve any claim for differing site conditions, the Contractor shall promptly, and before such conditions are disturbed, but in no event later than seven days after discovery, notify the Project manager in writing of: 1) such subsurface or latent physical conditions at the site the Contractor feels differ materially from those indicated in this Contract or, 2) such unknown physical conditions at the site which in the opinion of the Contractor are of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract; and 3) the delay, if any, and the additional cost, if any, the Contractor expects because of the different conditions. The Project Manager shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for performance of any part of the Work under this Contract, whether or not changed as a result of such conditions, he shall notify the Contractor in writing and an equitable adjustment shall be made and the Contract modified in writing accordingly in accordance with Division 12.

(B) No claim of the Contractor under this paragraph shall be allowed and shall be deemed waived by the Contractor unless the contractor has given the notice required in (A) above regardless of the fact that the City's agents or employees or the Project Manager may be aware of the alleged different conditions. **(C)** No claim of the Contractor under this paragraph shall be allowed and shall be deemed waived by the Contractor if the differing site condition has been disturbed before examination and investigation by the Project Manager.

15.4 – PROCEDURE FOR APPEALING THE PROJECT MANAGER'S DECISION – **(A)** – If the Project Manager determines that any claim of the Contractor does not justify an increase in the Contract Sum, he shall so notify the Contractor in writing within twenty days. If the Project Manager fails to respond to any claim within the time allotted, the claim shall automatically be deemed denied by the Project Manager. **(B)** The decision of the Project Manager shall be final and binding upon the Contractor unless the Contractor appeals the decision of the Project manager to the City Council. Such appeal shall be taken within twenty days from the Project Manager's decision by filing with the City Clerk a request for review of the Project Manager's decision and full statement of the facts surrounding the claim and the amount of the claim. The City Council shall fix a date, time, and place to hear the matter, which date shall be not less than thirty days from receipt of the request for review. If the matter is not heard within thirty days or a decision not rendered by the City Council within fifteen days of the hearing, the claim shall automatically be deemed denied by the City Council. **(C)** The decision of the City Council shall be final and binding upon the Contractor unless within one month from the date of the decision of the City Council or such additional time as the City may agree upon, the City and the contractor agree in writing to arbitration or the Contractor files suit in the Scott County District Court.

15.5 – PROCEDURE FOR DETERMINING COSTS – If the City and the Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined by the provisions of Paragraph 12.3.

15.6 – SUBMISSION OF CLAIM – **(A)** If the Project Manager or the City Council determines that a claim should be denied and if the Contractor desires further appeal of the matter, he shall submit to the Project Manager an itemized statement of each month's additional expenditures no later than thirty days after the last day of the month such expenditures are incurred. Failure to submit the statement required herein shall constitute a waiver of the expenses incurred during that month. **(B)** No increase in the claim for additional costs of construction will be allowed if made more than thirty days after submission of the initial claim and Contractor agrees to waive those costs. **(C)** The amount of the claims submitted pursuant to the provisions of this paragraph shall establish the maximum allowable claim of the Contractor in any further proceedings to determine the validity and amount of the contested claim.

15.7 – AUDIT OF CLAIMS – The City may, at reasonable times and places, audit the books and records of the Contractor who has submitted a claim pursuant to the provisions of Division 15 to the extent that such books and records relate to the cost and pricing data used in said claim. If the Contractor makes such a claim, he shall maintain his books and records until such time as the claim is finally resolved. If any records are lost or destroyed which would have substantiated the Contractor's claim, the claim shall be deemed waived by the Contractor.

15.8 – CONTRACTOR TO CONTINUE WORK – Nothing contained in this division shall be construed to permit the Contractor from continuing to prosecute the Work so as to complete the Project within the allotted time.

15.9 – INTEREST – No claim for interest may be allowed which exceeds ten percent per annum.

15.10 – WAIVER OF CLAIMS – The Contractor waives all claims, and no claim shall be allowed regardless of its nature unless made within thirty days after the final completion on the contract time plus any days charged under Paragraph 8.3, whichever occurs first.

COMMUNICATION DISCLOSURE

Be advised that any conversations (in reference to this bid) between bidders and any City employee, City official or City Project Manager, outside of the Purchasing Division, during the entire competitive bidding process is strictly prohibited. Such actions will result in removal of the vendor from the bidder's list and rejection of the vendor's bid. The ONLY official position of the City is that position which is stated in writing and issued by the Purchasing Division. No other means of communication, whether written or oral, shall be construed as a formal or official response statement.

CITY OF DAVENPORT
CONTRACTOR EVALUATION REPORT

☐ **INTERMEDIATE EVALUATION**
☐ **FINAL EVALUATION**

PROJECT _____ **CONTRACT AWARDED $** _____

PROJECT MANAGER _____ **FINAL CONTRACT $** _____

PROJECT INSPECTOR _____ **CHANGE ORDER %** _____

CONTRACTOR _____ If change order percentage is > 7%, detail in comments

PRIME ☐ **SUBCONTRACTOR** ☐

The Contractor Evaluation Report is to be completed for every contractor and subcontractor. Comments below should list both positive items and areas of improvement on the project. Include details of issues, change orders, liquidated damages, etc. If required, document comments on additional sheets and add to the document.

ORGANIZATION/MANAGEMENT:	**RATING***	**POINT RANGE**	**COMMENTS REQUIRED**
A. Superintendent in charge with authority.		0-5	≤ 3
B. Coordination with suppliers, other contractors and utilities.		0-5	≤ 3
C. Adequate and competent labor force.		0-5	≤ 3
D. Processing paperwork.		0-5	≤ 3
E. Attitude and cooperation.		0-10	≤ 5
WORK PERFORMANCE:			
F. Completion on schedule.		0-20	≤ 10
G. Compliance of work.		0-10	≤ 5
H. Quality of the finished product.		0-15	≤ 10
SAFETY PRACTICES:			
I. Administration and general project safety.		0-5	≤ 3
J. Signing and traffic control.		0-10	≤ 5
EQUIPMENT:			
K. Equipment on the project.		0-10	≤ 5

* Instructions for completing form on back

COMMENTS:

DISTRIBUTION: Original - Project File
Copy - Prime Contractor
- Subcontractor (If Evaluated)
- Purchasing Division
- File

PROJECT MANAGER_____**DATE**_____

REVIEWED BY_____ **DATE**_____

CONTRACTOR EVALUATION REPORT--DETERMINING FACTORS FOR RATING POINTS

Evaluate contractor based on the following guidelines. The full range of values should be used. Intermediate values in the range may be used. Place the points in the appropriate box on the front of this form. For items that do not apply to a particular contractor or subcontractor, no points should be allowed.

PROJECT ORGANIZATION AND MANAGEMENT:

A. Superintendent in charge with authority.
- 5 Contractor has knowledgeable superintendent on project, start to finish, with authority to solve problems and schedule the work.
- 3 Contractor superintendent available most of the time, with limited authority.
- 0 Contractor failed to properly designate authority for project supervision or superintendent is routinely unavailable on the project site.

B. Coordination with suppliers, other contractors, and utilities.
- 5 All coordinating done at proper time by contractor.
- 3 Some coordinating necessary by contracting authority with timely notification in all instances.
- 0 Lack of timely coordination.

C. Adequate and competent labor force.
- 5 Contractor has adequate number of people; labor force is knowledgeable of proper procedures and consistently does complying work with limited supervision.
- 3 Number of people is adequate, some training is needed, supervision of routine items is necessary occasionally.
- 0 Insufficient number or inadequate training or lack of proper supervision for many portions of the project.

D. Processing paperwork.
- 5 All paperwork completed and submitted in a timely manner throughout project. Pay item disputes/CO's are resolved with no delay to progress of the work.
- 3 Minor delays in finalizing out the project, some disputes/CO's have delayed resolution, but most of paperwork is consistent and timely.
- 1 Pattern of unnecessary delays in paperwork; contractor needs to improve in more than one area.
- 0 Contractor was unable to provide all required paperwork.

E. Attitude and cooperation.
- 10 Quick response to concerns of the contracting authority, extra effort made by contractor's personnel in public relations, problems are resolved amicably.
- 5 Periodic delays in responding to engineer/inspector, public concern. Most problems resolved amicably.
- 0 Pattern of slow response of concerns, or poor public relations effort.

WORK PERFORMANCE

F. Completion on schedule.
- 20 Work completed in less than 90% of working days.
- 15 All project work is completed within contract time period (including number of working days).
- 10 Completion date met, some problems with working days or intermediate dates.
- 5 Contract time period is exceeded by at least 10% of working days.
- 0 Contract time period is exceeded by at least 50% of working days.

G. Compliance of work.
- 10 All work complies with the plan and specifications and no price adjustments are assessed.
- 5 Minor noncompliances, with some delays in resolution or some repeated violations. No individual price adjustments exceed 5%.
- 0 Price adjustments exceed 5% of individual prices or corrective work required on much of the project.

H. Quality of the finished product.
- 15 Excellent appearance of all portions of the work. No deducts for deficient work. Only one final check necessary on each portion of the work.
- 10 Adequate appearance of the work with some non-uniformity. No more than 5% of the items have deficient work in the finished product.
- 5 Poor appearance of work, or more than 5% of the items have deficient work, or repeated final checks necessary.
- 0 Much of the project is borderline acceptable or life of finished project has been shortened due to poor workmanship.

SAFETY PRACTICES

I. Administration and general project safety.
- 5 Active safety officers. Timely inspection and reports without prompting. No noncomplying equipment. Safety concerns are addressed and corrected promptly. All personnel trained and following good safety practices.
- 3 Safety is adequate. Minor problems with paperwork, equipment, training or practices.
- 0 Documented need for improvement that did not occur by completion of the project, or any failure to immediately repair/correct unsafe equipment, or any repeat violation of a safety rule or practice.

J. Signing and traffic control.
- 10 Signing is properly placed and maintained at all times. Signing material is above average. Contractor makes documented routine and night checks of signs. Flaggers and pilot car meet standards at all times. No noncompliances for signing or traffic control.
- 7 Some minor problems with sign placement or maintenance, or lack of consistent documented routine and night sign checks, or some instances of failure to meet standards in flagging or pilot car operation.
- 4 One or more major problems with signing or traffic control, or failure to document signing, or any repeat noncompliance on a safety item.
- 0 Contractor showed repeated total disregard of signing and traffic control.

EQUIPMENT

K. Equipment on the project.
- 10 Equipment sufficient for timely completion of the work. Good repair and upkeep. No work delays due to equipment problems.
- 5 Only minor work delays due to equipment problems. Reasonable efforts made to obtain needed equipment. No repeat use of noncomplying equipment.
- 0 Lack of equipment necessary to adequately perform the work, or excessive down-time of available equipment so work is delayed, or repeat use of noncomplying equipment.

SPECIAL PROVISIONS

Nondiscrimination in Employment by Contractors/Subcontractors and Suppliers

Contractor's Agreement

During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, creed, religion, sex, national origin or ancestry, age, marital status, physical or mental disability, or political beliefs and affiliations. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, religion, sex, national origin or ancestry, age, marital status, physical or mental disability, or political beliefs and affiliations. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause."

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, creed, religion, sex, national origin or ancestry, age, marital status, physical or mental disability, or political beliefs and affiliations."

(3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the labor union or workers' representative of the Contractors' commitments under the Davenport Affirmative Action Plan, and shall post copies of the notice in conspicuous places available to employees and applicants for employment."

(4) The Contractor will comply with all provisions of the Davenport Affirmative Action Plan and procedures developed by the City's Compliance Officer in pursuit of that plan."

(5) The Contractor will furnish all information and reports required by the Davenport Affirmative Action Plan and procedures developed by the City's Compliance Officer in pursuit of that plan, and will permit access to his/her books and accounts by the contracting department and the Compliance Officer for purposes of investigation to ascertain compliance with the City's Affirmative Action Plan."

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any implementing procedures or orders, this contract may be cancelled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further City contracts in accordance with procedures authorized in The Davenport Affirmative Action Plan and such other sanctions may be imposed and remedies invoked as provided in the Davenport Affirmative Action Plan, or as otherwise provided by law."

(7) The Contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order in the amount of $5,000 or more, so that such provisions will be binding upon each

subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the City of Davenport to enter into such litigation to protect the interests of the City of Davenport."

PLANS LIST

WPCP GRAY WATER CONVERSION PROJECT
DAVENPORT, IOWA

Work shall conform with latest revisions of the following drawings (bound separately) and Standard Drawings which constitute the "plans" and are an integral part of the Contract Documents:

TITLE	DWG NO.
GENERAL	
TITLE SHEET & INDEX	G.01
DETAILS	G.02-G.04
CIVIL SHEETS	
OVERALL SITE PLAN	C.01
GENERAL PIPE ROUTING	C.02
GRAY WATER PIPE PLAN & PROFILE	C.03
RAW SEWAGE PUMP STATION	C.04
CONTROL BUILDING SERVICE	C.05
GRAY WATER PUMP	C.06
THICKENER CONTROL STRUCTURE	C.07
WEST TUNNEL	C.08
GRIT FACILITY CONVERSION	C.09
TRAVELING BAR SCREEN	C.10
DIGESTER BUILDING	C.11
SLUDGE BUILDING	X.01
ELECTRICAL SHEETS	
CONTROL BUILDING ELECTRICAL PLAN	E.01
ELECTRICAL PHOTOS	E.02

DETAILED SPECIFICATIONS

SECTION 01010

GENERAL PROVISIONS

PART 1 - GENERAL

1.01 FORM

A. Detailed specifications are in outline form and include incomplete sentences. Omission of words or phrases is intentional. Supply omitted words or phrases by inference.

1.02 INTENT

A. To set forth requirements of performance, type of construction desired and standards of materials and construction.

B. To require Contractor to furnish and install materials and perform all work and services described in Contract Documents, unless otherwise specifically indicated.

C. To require Contractor to perform complete work in spite of omission of specific reference to any minor component part.

D. To provide for new materials and equipment unless otherwise indicated.

1.03 INTERPRETATION

A. Report any errors or ambiguities in specifications to Engineer as soon as detected; Engineer will answer questions regarding and interpret intended meaning of specifications; his interpretation shall be accepted as final.

1.04 WORK INCLUDED

A. Furnish labor, materials, and equipment to construct WPCP Gray Water Conversion project as set out in Notice of Hearing and Letting.

1.05 STARTING AND COMPLETION DATES

A. Commence work within 10 calendar days after date set forth in written Notice to Proceed. Complete within time set forth in Notice of Hearing and Letting.

B. Provide adequate personnel and equipment to perform work within time or before completion date set out in Notice of Hearing and Letting.

C. Order all material and equipment immediately after award of contract. Notify Owner and Engineer of scheduled delivery dates for all materials and equipment. Promptly act to accomplish one of the following if Owner and Engineer, in consultation with Contractor, determine delivery dates to be unsatisfactory:
   1. Substitute alternate materials and equipment with approval of Owner and Engineer.
   2. Expedite delivery of materials and equipment.

D. Extensions of contract period will be given consideration upon written request of Contractor. Request must include clear, concise reasons for requesting extension and provide data and relevant information to support reasons for extension.
   1. Owner expects work to be complete and ready for final acceptance within completion time prior to completion date specified.
   2. No extension of contract period will be granted for problems caused by deliveries of materials or equipment.
   3. The phrase "complete and ready for final acceptance" is interpreted to mean all items of construction, surface restoration and clean-up have been accomplished to the satisfaction of the Owner and Engineer prior to the completion date for the contract. So-called "punch list" items are included in this definition and must be completed prior to the completion date for the contract.

1.06 PLANS AND SPECIFICATIONS

A. Engineer will furnish 3 sets of plans and specifications after award of contract. Contractor shall compensate Engineer for printing costs for additional copies required. Electronic copies in PDF format can be made available.

B. Subcontractors and suppliers will be furnished copies of plans and specifications only at request of Contractor.

C. Provide one set of plans and specifications for each foreman or superintendent in charge of each crew on job.

1.07 STANDARDS AND CODES

A. Do work in accordance with best present day construction practices.

B. Unless specifically noted to contrary, conform with and test in accordance with applicable sections of latest revisions of codes and standards of following:
   1. Air Moving and Conditioning Association (AMCA).
   2. American Association of State Highway and Transportation Officials (AASHTO).
   3. American Concrete Institute (ACI).
   4. American Gas Association (AGA).
   5. American Gear Manufacturers Association (AGMA).
   6. American Institute of Steel Construction (AISC).

7. American National Standards Institute (ANSI).
8. American Plywood Association (APA).
9. American Society of Civil Engineers (ASCE).
10. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).
11. American Society of Mechanical Engineers (ASME).
12. American Society for Testing and Materials (ASTM).
13. American Standards Association (ASA).
14. American Water Works Association (AWWA).
15. American Welding Society (AWS).
16. Anti-friction Bearing Manufacturers Association (AFBMA).
17. Architectural Woodwork Quality Standards (AWI).
18. California Redwood Association (CRA).
19. Factory Mutual Corporation (FM).
20. Federal Specifications (FS).
21. Hoist Manufacturer's Institute (HMI).
22. Hydraulic Institute (HI).
23. Industrial Fasteners institute (IFI).
24. Industrial Risk Insurers (IRI).
25. Institute of Electrical and Electronic Engineers (IEEE).
26. Insulated Power Cable Engineers Association (IPCEA).
27. Internal Combustion Engine Institute (ICEI).
28. Iowa Department of Transportation (IDOT); latest edition of standard specifications and addenda.
29. Iowa Occupational Safety and Health Act of 1972 (Chapter 88, Code of Iowa 2013 (IOSHA).
30. Manual of Accident Prevention in Construction by Associated General Contractors of America, Inc. (AGC).
31. Mining Enforcement and Safety Administration (MESA).
32. National Association of Architectural Metal Manufacturers (NAAMM).
33. National Electrical Manufacturers Association (NEMA).
34. National Electrical Safety Code (NESC).
35. National Fire Protection Association, Inc. (NFPA).
36. National Fire Protection Associations' National Electrical Code (NEC).
37. National Fluid Power Association (NFPA).
38. National Institute for Occupational Safety and Health (NIOSH).
39. National Lumber Manufacturers Association (NLMA).
40. National Safety Council (NSC).
41. National Woodwork Manufacturers Association (NWMA).
42. Occupational Safety and Health Act of 1970 (Public Law 91-596) (OSHA).
43. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA).
44. Society of Automotive Engineers (SAE).
45. Steel Door Institute (SDI).
46. Steel Structures Painting Council (SSPC).
47. Underwriters' Laboratories, Inc. (UL).

48. West Coast Lumber Inspection Bureau (WCLB).
49. Western Wood Products Association (WWPA).
50. Standards and codes of the State of Iowa and applicable local standards and codes of the City of Davenport.
51. Other standards and codes which may be applicable to acceptable standards of the industry for equipment, materials, and installation under the contracts.

1.08 MATERIALS TESTS

A. Includes all materials tests or tests specified hereinafter.

B. Employ approved testing laboratory to show that construction materials comply with specifications.

C. Provide samples of materials required for laboratory tests and pay cost of all tests including transportation charges on samples.

D. Incorporate no materials in work until laboratory tests have been furnished which show materials comply with specifications.

E. All materials subject to testing, inspection, and rejection at the site by Engineer or their designated representative.

F. Pay all costs of retesting when test results indicate non-compliance with contract requirements.

G. Laboratory tests specified herein include the following:
   1. Aluminum-alloy: certify that properties conform to specifications.
   2. Galvanizing: certify that zinc coatings conform to specifications for all equipment.
   3. Cement: bin sample for entire requirement, ASTM C150.
   4. Concrete aggregates: one sample of each, ASTM C33.
   5. Two concrete compression cylinders from trial batch for each proposed mix, ASTM C39; test one at 7 days, one at 28 days; test cylinders during construction as defined in Section 03300 - Cast-in-Place Concrete.
   6. Reinforcing steel: certify that steel conforms to ASTM A615 for grade specified.
   7. Ductile iron pipe: certify that pipe conforms to ANSI/AWWA C151/A21.51.
   8. Polyvinylchloride pipe: certify that pipe conforms to ASTM D1785, ASTM D1248 and AWWA C900.
   9. Other pipe: certify that pipe conforms to applicable specifications.

H. Concrete Components:
   1. Test or verify in writing make up of concrete in each concrete truck load delivered and poured at site.
   2. Verify gallons of water per sack of cement.
   3. Verify sacks of cement per cubic yard of concrete.

4. Verify admixtures used per ASTM designations listed in Section 03300 - Cast-in-Place Concrete.
5. Test for inches of slump per ASTM C143 and C172.
6. Test for percent air content per ASTM C231 or C173 and C172.

I. Reinforcing steel: furnish original and 1 copy of certified test report by manufacturer.

J. Welded wire fabric: furnish original and 1 copy of certified test report by manufacturer.

K. Provide sampling and testing of excavated materials to determine moisture-density relations of soils and perform moisture and density tests during construction as specified hereinafter.

L. See Section 01300 - Submittals, for other requirements.

1.09 FIELD TESTS

A. Notify Engineer when installation is considered complete, in operating condition and ready for testing.

B. Test piping and valves as specified hereinafter.

C. Test all fill materials for density and moisture content as directed by Engineer, tests conducted by independent testing laboratory; moisture-density tests required for granular fill, structure backfill and trench backfill.

D. Moisture-density test locations and depths subject to approval of Engineer.

E. See Section 02200 - Sitework, for testing requirements.

F. If performance guarantees or requirements are not met during tests, make necessary corrections, repairs or replacements; demonstrate to Engineer that work meets performance guarantees or requirements.

G. See Section 03300 - Cast-in-Place Concrete, for testing requirements for placement of concrete.

H. Contractor responsible to pay all costs for all field tests including transportation charge on samples and providing concrete and soil samples. Field tests include soil moisture and density tests and concrete compression, air, temperature and slump tests.

1.10 DEFECTIVE EQUIPMENT

A. Owner retains right to operate equipment until defects are corrected and guarantees satisfied.

B. Owner reserves right to operate rejected equipment or other work until replaced, without cost for depreciation, use or wear.

C. Remove equipment or other work from operation for examination, adjustment or change at times approved by Engineer.

1.11 RESPONSIBILITY OF CONTRACTOR

A. Protection of his work.

B. Protection of all property from injury or loss resulting from his operations.

C. Replace or repair objects sustaining damage, injury or loss to satisfaction of Owner and Engineer.

D. Without limiting GENERAL REQUIREMENTS of Contract Documents, protect fences, sidewalks, street, pavements, alleys, pipe, conduit, utilities, trees, shrubs and structures.

E. Cooperate with Owner, Engineer and representative of utilities in locating underground utility lines and structures. Incorrect, inaccurate or inadequate information concerning location of utilities or structures shall not relieve Contractor of responsibility for damage thereto caused by his operations.

F. Keep cleanup current with construction operations.

G. Comply with all federal, State of Iowa and Scott County, Iowa, laws and ordinances.

H. Provide and maintain sanitary facilities for construction personnel for duration of work; remove upon completion of work.

I. Notify Engineer 48 hours prior to expected time for operations requiring construction observation services.

J. Cooperate with independent testing firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.

K. Building permit is required. No building permit fees will be assessed. Contractor responsible for obtaining building permit.

J. Contractor shall review construction project site before beginning of construction to review existing conditions and other ongoing projects to ascertain potential impacts on project. All potential issues impacting project shall be submitted by the contractor in writing to the Contracting Authority within 72 hours of contractor's site visit.

1.12 BARRICADES AND LIGHTS

A. Erect and maintain barricades and lights and/or provide watchmen for protection and warning of pedestrians; all barricades, lights and/or watchmen at expense of Contractor.

B. Location and arrangement: conform to ordinances and laws; meet approval of Owner and Engineer.

C. Install snow fence as specified.

1.13 PRECONSTRUCTION CONFERENCE

A. Soon after award of contract and prior to the start of construction, attend a preconstruction conference with representative of the Owner to define the requirements for contract administration and construction operation.

B. Contact the Engineer who will determine the time, date, and place of the conference.

1.14 FINAL REVIEW AND ACCEPTANCE

A. Notify Engineer when installation is considered to be complete and ready for final review.

B. Owner will accept work and make final payment to Contractor.
   1. When Engineer has certified that he has reviewed the work of Contractor and stated that the work is complete and in substantial conformance with specifications.
   2. When Contractor has filed with Owner and Engineer documents called for in specifications.
   3. When all governmental agencies involved have indicated, in writing, that work is complete and acceptable.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01040

SPECIAL CONSTRUCTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Procedures outlined below are not intended to fully cover all special procedures or emergencies which may arise during construction but are offered as an aid to Contractor in planning work; Contractor will cooperate with Owner and Engineer to minimize inconvenience, construction delays and interruptions to continuous operation of existing wastewater treatment facility, sewer lines, and other existing utilities.

B. Determine location of underground utilities and piping before starting work; locations of underground appurtenances shown are approximate and not guaranteed by Owner or Engineer.

C. Remove and replace all signs which interfere with construction operations; replace damaged signs at no cost to Owner.

D. Arrange with operating utilities for relocation or temporary removal of utilities in conflict with construction and for services needed during construction.

E. Submit complete schedule after award of contract for planning, controlling, and completing construction of project. Include list of promised delivery dates for major equipment items. Schedule project on basis of promised delivery dates for major equipment items.
   1. Contractor will be expected to provide adequate personnel and equipment to perform work within specified time of construction.
   2. If delays in delivery of major equipment become apparent, notify Owner and Engineer promptly; take action to accomplish one of the following:
      a. Substitute alternate equipment with approval of Owner and Engineer.
      b. Expedite delivery of equipment.
   3. Extensions of contract period will be given consideration upon written request of Contractor; request must include valid supporting data and bona fide reasons for requesting extension; inclement weather is not justification for extending contract period; Owner expects work to be complete and ready for final acceptance within completion time specified.

1.02 COOPERATION WITH OTHERS

A. Cooperate with state and federal regulatory agencies in matters under their jurisdiction over construction operations.

B. Cooperate with local governmental agencies; secure necessary building permits and arrange for inspections at proper times. Building permit fees will be waived by City.

C. Advise all utilities prior to excavating; arrange for field locates of utilities by utility representatives.

1.03 DEMOLITION AND REMOVAL

A. Items of demolition and removal shown on plans or specified elsewhere are set out to assist Contractor in determining scope of work; items shown may not be complete; demolish or remove items shown on plans, described in specifications or as may be necessary for expediting work.

B. Remove items in workmanlike manner; cut reinforcing steel flush with concrete; blasting not permitted without written approval from Owner and Engineer.

C. Remove waste, rubble, and debris from site; dispose of in accordance with all State and Federal regulations.

1.04 FACILITY OPERATIONS

A. Prepare detailed construction procedure schedule after award of contract.

B. Work with Owner and Engineer to establish workable construction schedule after award of contract.

C. Existing facilities must remain in continuous operation during construction except as required to make connections to new facilities. There are processing limits that will not allow a pump, as an example, to be out of service for extended periods of time or at particular days or times of the week.

D. Schedule required interruptions to plant utilities or facilities with Owner and Engineer. Plant or processing emergencies will supersede any scheduled interruptions.

E. Provide Owner 48-hour notice of any request for interruption of operation; coordinate with Wastewater Treatment Facility Superintendent and Engineer.

F. Continuous operation of Owner's facilities is of critical importance. Schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified.

G. Perform work continuously during critical connections and changeovers, and as required to prevent interruption of Owner's operations.

H. When necessary, plan, design, and provide various temporary services, utilities, connections, temporary piping and heating, access, and similar items to maintain continuous operations of Owner's facility.

I. Do not close lines, open or close valves, or take other action which would affect the operation of existing systems, except as specifically required by the Contract Documents and after authorization by Owner and Engineer. Such authorization will be considered within 48 hours after receipt of Contractor's written request.

1.05 UNSTABLE SOILS

A. Soil borings from previous projects indicated areas of fill material that are wet, lean clay and sandy lean clay with gravel soils may be encountered at site. Provide material and equipment required to install structures and piping through all soils encountered.

B. Excavation of all soils encountered is incidental to construction except rock and rubble excavation as defined in Section 02200 - Sitework.

C. Contractor responsible for dewatering excavation as provided in Section 02200 - Sitework to ensure stable bottom of trench and structures to allow normal bedding material to support pipe and structures; use of stabilizing material or additional bedding rock in lieu of or as substitute for dewatering permitted at Contractor's option at no additional cost.

D. Owner will only pay for excavation bottom stabilization after contractor has provided dewatering by providing a stable bottom using customary practices for dewatering by use of dewatering pumps, well points, and/or deep wells.

1.06 EROSION CONTROL

A. This project does not propose to disturb 1 or more total acres. Appropriate erosion control measures shall be instituted to ensure contaminated runoff is contained in the general areas disturbed during work. Measures include general good housekeeping practices, protecting stockpiles from erosion, not undertaking ground disturbance before forecasted wet weather events, and appropriate Best Management Practices listed in the current Statewide Urban Design and Specifications (SUDAS).

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01150

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 SCOPE

A. No separate payment will be made for work covered in the specifications except as set forth below. Include all other work in lump sum bid for constructing WPCP Gray Water Conversion project.

B. If items, not included in lump sum bid for constructing WPCP Gray Water Conversion project are required during construction, contract price shall be adjusted on basis of unit price negotiated between Engineer and Contractor and approved by Owner.

C. See GENERAL CONDITIONS for additional requirements.

1.02 QUANTITY VARIATIONS

A. No separate payment will be made for changes in quantities of items included in lump sum bid for construction of WPCP Gray Water Conversion project except as set forth below.

B. If quantities of items are changed from those upon which bid is based, contract price shall be adjusted on basis of unit price negotiated between Engineer and Contractor and approved by Owner. Soil quantities shall not be adjusted unless design contours are changed or additional excavation is ordered by the Engineer.

1.03 FAILURE TO SUBMIT MANUALS, PARTS LISTS, SPARE PARTS, AND TOOLS

A. Failure to submit manuals, parts lists, spare parts and tools as defined in Section 01300 - Submittals within 40 days after return of shop drawings to Contractor will result in payment retention of $2,000 for each equipment item up to an aggregate sum of $50,000; retained payments will be relinquished after appropriate manuals, parts lists and tools are received and reviewed by Engineer.

1.04 SCHEDULE OF VALUES

A. Submit to Engineer Schedule of Values allocated to various portions of work as required by General Conditions.

B. Upon request of Engineer, support values with data which will substantiate their correctness.

C. Schedule of Values shall be used only as basis for Contractor's application for progress payment.

D. Type schedule on 8-1/2" x 11" white paper; Contractor's standard forms and automated printout will be considered for approval by Engineer upon Contractor's request. Identify schedule with:
   1. Title of project and location.
   2. Engineer and Engineer's project number (222107).
   3. Name and address of Contractor.
   4. Contract designation.
   5. Date of submission.

E. Schedule shall list installed value of component parts of work in sufficient detail to serve as basis for computing values for progress payments during construction.

F. Follow table of contents of specifications as format for listing component items.
   1. Identify each line item with number and title of respective specification section.

G. For each specification division, list subvalues of major materials, equipment, or operation under division.

H. Provide separate listing of items of General Requirements (Division 1), such as bonds, insurance premiums, job mobilization, field supervision and layout, construction facilities and temporary controls, contingency allowance, construction schedule, O&M data, record drawings, and submittals.

I. For various portions of work:
   1. Each item shall include directly proportional amount of Contractor's overhead and profit.
   2. For items on which progress payments will be requested for stored materials, break down value into:
      a. Cost of materials, delivered and unloaded, with taxes paid.
      b. Total installed value including Contractor's overhead and profit.

J. Sum of values listed in schedule shall equal total contract sum.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.01 INFORMATION FOR ENGINEER

A. After award of contract submit following information and drawings for Engineer's review. Total number of reviewed copies required for distribution: 2 plus copies required by Contractor.
   1. Certified materials tests as described in Section 01010 - General Provisions.
   2. Certified outline, general arrangement, assembly, installation, foundation arrangement and anchor bolt detail drawings for all major equipment listed in proposal and for other equipment where specified.
   3. Manufacturer's specifications and catalog data for all items of equipment including electrical controls, plumbing fixtures, valves, pipe, fittings, castings and appurtenances and other special items.
   4. Certified performance data and operating characteristics for pumps prior to delivery to job site from shop tests performed on pumps furnished in accordance with Hydraulic Institute.
   5. Schematic diagrams of all control circuits.
   6. Detailed wiring diagrams.
   7. Such other information as Engineer may request and information as specified with equipment.

B. Within 15 days after award of contract, provide construction schedule, showing dates of starting and completing various portions of work and dollar value of each portion of work.

C. Within 30 days after initiation of construction, provide written schedules of estimated monthly payments for contractor and subcontractors; revise schedules whenever variations exceed 10%.

D. Provide two copies of the following information:
   1. Contract price breakdown of lump sum bid for use in preparation of periodic payment estimates.
   2. Purchase orders and subcontracts without prices.
   3. Shipping papers for all materials.
   4. All materials test reports.
   5. Concrete mix designs; submit 8 days before proposed mix is to be used.

1.02 SHOP DRAWINGS

A. Intent of Engineer's review: to assist Contractor in interpreting plans and specifications.

B. Contractor's responsibility: to check drawings prior to submission for coordination and conformance with contract; do not submit without checking.

C. Equipment checking is only for general conformance with design concept of project and general compliance with information given in contract documents. Any action shown is subject to requirements of plans and specifications. Contractor is responsible for dimensions which must be confirmed and correlated at job site; fabrication processes and techniques of construction; coordination of work with that of all other trades; and satisfactory performance of work.

D. Prior to submission of shop drawings and catalog data to Engineer: affix Contractor's stamp with signature of responsible person to show that material submitted has been checked and approved by Contractor. Shop drawings submitted without appropriate stamp and signature will be returned unreviewed.

E. Do not install or otherwise incorporate any equipment on project until shop drawings, if required, have been reviewed and so designated by Engineer.

F. Contractor's responsibility for errors and omissions in submittals is not relieved by Engineer's review of submittals.

G. Whenever items of materials or equipment are specified by a manufacturer's name and type and "or equal" is not listed, Contractor shall provide specified equipment without substitution, unless prior approval of Engineer is obtained for any substitution.

H. Contractor shall abide by Engineer's decision when proposed substitute of material or equipment are deemed to be unacceptable and in such an event Contractor shall furnish items of equipment or materials specified.

I. Engineer reserves right to consider such factors as overall project arrangement, overall project cost, and similar factors in determining whether proposed substitutions will be acceptable.

1.03 INSTRUCTION MANUALS, PARTS LISTS, AND TOOLS

A. Furnish 4 complete sets of manufacturer's instructions for installation, operation and maintenance of equipment furnished; include assembly drawings and parts lists with exploded views of equipment parts and identification symbols or part numbers for all replaceable parts and assemblies, recommended spare parts list, lubricant guide, preventative maintenance and troubleshooting procedures; submit manuals to Engineer within 30 days after return of shop drawings by Engineer to Contractor; manuals subject to Engineer's review. Provide also 1 set on CD or DVD in PDF format.

B. Furnish special tools, jigs and fixtures necessary for installation, operation, lubrication, repair, preventative maintenance, or trouble shooting of equipment.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01310

CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.01 DESCRIPTION

A. Prepare and submit to Engineer for review, estimated construction progress schedule.

B. No work shall be performed between 5:00 P.M. and 7:30 A.M., nor on legal holidays without permission of Owner.

C. Night work may be established by Contractor as regular procedure with permission of Owner. Such permission, however, may be revoked at any time by Owner if Contractor fails to maintain adequate equipment and supervision for proper prosecution and control of work at night.

1.02 FORM OF SCHEDULE

A. Prepare schedule in form of horizontal bar chart.
   1. Provide separate horizontal bar for each trade, activity or operation.
   2. Horizontal time scale: identify first work day of each week.
   3. Scale and spacings to allow space for notations and future revisions.

B. Format of listings: chronological order of start of each item of work.

C. Identification of listings: by major specification section numbers.

1.03 CONTENT OF SCHEDULE

A. Construction Progress Schedule:
   1. Show complete sequence of construction by activity.
   2. Coordinate progress schedule with submittal schedule.
   3. Show dates for beginning and completion of each major element of construction and installation dates for major items of equipment. Elements shall include, but not be limited to:
      a. Material and equipment order, manufacturer, delivery, installation, and checkout, including allowance items.
      b. Performance tests and supervisory services activity.
      c. Piping and wiring installation.
      d. Concrete pour sequence.
      e. Backfilling, grading, seeding, sodding, landscaping.
      f. Electrical work activity.

g. Plumbing work activity.
h. Subcontractor's items of work
i. Final cleanup.
j. Allowance for inclement weather.
k. Demolition
l. Cast-in place concrete placement.

4. Show projected percentages of completion for each item as of first day of each month.

1.04 SCHEDULE REVISIONS

A. Revise construction progress schedule every 60 days to reflect changes in progress of work.

B. Indicate progress of each activity at date of schedule revision.

C. Show changes occurring since previous revised submittal.
1. Major changes in scope.
2. Activities modified since previous submittal.
3. Revised projections of progress and completion.
4. Other identifiable changes.

D. Provide narrative report defining:
1. Problem areas, anticipated delays, and impact on schedule.
2. Corrective action recommended and its effect.

E. Submit to Engineer.

1.05 DELAYS AND RECOVERY

A. If, at any time during project, Contractor fails to complete activity by its latest scheduled completion date, Contractor shall, within 3 working days, submit to Engineer written statements as to how and when work force will be reorganized to return contract to current construction schedule.

B. Whenever it becomes apparent from progress evaluation and updated schedule data that milestone completion dates or contract completion dates will not be met, Contractor shall take some or all of the following actions.
1. Increase construction staffing in such quantities and crafts as shall substantially eliminate backlog of work.
2. Increase number of working hours per shift, shifts per work day, work days per week, amount of construction equipment or combination of foregoing sufficient to substantially eliminate backlog of work.

3. Reschedule work items to achieve concurrency of accomplishment.

C. Addition of equipment or construction forces, increasing working hours or any other method, manner or procedure to return to current construction progress schedule not considered justification for amending contract documents or treated as acceleration.

1.06 SUBMITTAL REQUIREMENTS

A. For initial submittal of construction schedule and subsequent revisions thereof, furnish 4 copies of schedule to Engineer.

B. Failure to submit construction schedule on timely basis as previously noted shall be considered cause for withholding progress payments otherwise due under contract.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01400

SPECIAL INSPECTIONS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This section includes inspection and testing requirements to comply with special inspection requirements of the International Building Code (IBC), current edition.

B. The Owner will designate the Engineer or a special inspector with testing agency prior to project award.

1.02 PAYMENT

A. The Owner will hire and pay for services of the Engineer or a special inspector and independent testing laboratory.

B. The Contractor shall pay for all testing described in the individual sections of the contract specifications.

1.03 SPECIAL INSPECTOR RESPONSIBILITIES

A. Observe the work assigned for conformance with the approved plans and specifications.

B. Submit inspection reports to the building official, the Engineer of Record, and the Owner.

C. Bring non-conforming items to the immediate attention of the Contractor for correction. If uncorrected, report non-conforming items to the Engineer of Record and the Building Official.

D. Submit a final signed report stating whether the work requiring special inspection was, to the best of their knowledge, in conformance with the approved plans and specifications and the applicable workmanship provision of the IBC.

1.04 TESTING AGENCY RESPONSIBILITIES

A. Test the work assigned for conformance with the approved plans and specifications.

B. Submit reports of the test results to the Building Official, the Engineer of Record, and the Owner.

C. Bring non-conforming items to the immediate attention of the Contractor for corrections. If uncorrected, report non-conforming items to the Engineer of Record and the Building Official.

D. Submit a final signed report stating whether the work requiring special inspections was, to the best of their knowledge, in conformance with the plans and specifications.

1.05 CONTRACTOR RESPONSIBILITIES

A. Post the Special Inspection and Testing Schedule within the office at the project site.

B. Provide not less than 24-hour notification to the parties designated on the schedule for inspection and testing.

C. Provide the special inspector and testing agent access to the approved plans and specifications at the project site.

D. Retain at the project site, all reports submitted by the special inspector and testing agent.

E. Correct in a timely manner, all deficiencies identified by the special inspector and testing agent.

F. Provide the special inspector and testing agent safe access to the work requiring observation or testing.

1.06 FABRICATOR RESPONSIBILITIES

A. Submit a Certificate of Compliance to the Building Official and the Engineer of Record that all work was performed in accordance with the approved plans and specifications.

1.07 SPECIAL INSPECTION AND TESTING SCHEDULE

A. Concrete Formwork:
   1. Conform to Section 03100.
   2. Special Inspector:
      a. Inspect all formwork prior to placing concrete.

B. Concrete Reinforcement:
   1. Conform to Section 03200.
   2. Special Inspector:
      a. Inspect placement of all reinforcing steel prior to placing concrete.

C. Cast-in-Place Concrete:
   1. Conform to Section 03300.
   2. Special Inspector:
      a. Inspect placement of concrete.
   3. Testing Agency:
      a. Test all concrete in accordance with Section 03300.

D. Bolts Installed in Concrete:
   1. Conform to Section 03300 and Section 05120 - Structural Steel.
   2. Special Inspector:
      a. Inspect installation of all bolts prior to placing concrete.
      b. Inspect placement of concrete around all bolts.

E. Plumbing and Associated Pipe Work:
   1. Conform to Section 15400.
   2. Special Inspector:
      a. Verify all joints and fittings are free of leaks.
      b. Verify all disconnections have been properly sleeved or capped and are free of leaks.
      c. Verify pipe insulation has been properly repaired.
      d. Verify all pipe is properly supported along all installed runs.
      e. Verify established gray water connections feed water to all associated pump seal water systems.

F. Sitework
   1. Conform to Section 02200, 02610, 02930 and plans.
   2. Special Inspector:
      a. Verify proposed water service line is installed at correct depth and alignment.
      b. Verify water line disconnection and capping are completed before backfilling is completed.
      c. Verify all seeded areas have minimum 70% establishment.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01410

TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Employ and pay for services of testing laboratory approved by Owner to perform specified services and testing as described in specifications.
   1. Employment of laboratory shall, in no way, relieve Contractor's obligations to perform work of contract.

B. Related requirements in other parts of Project Manual:
   1. Inspections and testing required by laws, ordinances, rules, regulations, orders, or approvals of public authorities: Conditions of Contract.

1.02 QUALIFICATION OF LABORATORY

A. Meet basic requirements of ASTM E329-77 - Standard Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.

B. Authorized to operate in state in which project located.

C. Testing equipment:
   1. Calibrated at reasonable intervals by devices of accuracy traceable to either:
      a. National Bureau of Standards.
      b. Accepted values of natural physical constants.

1.03 LABORATORY DUTIES

A. Cooperate with Engineer and Contractor; provide qualified personnel to perform work after due notice to proceed.

B. Perform specified inspections, secure samples, and test materials.
   1. Comply with specified standards.
   2. Ascertain compliance of materials with contract documents.

C. Promptly notify Engineer and Contractor of observed irregularities or deficiencies of work, equipment, or material.

D. Promptly submit written report of each test and inspection; one copy each to Engineer, Owner, material supplier, and Contractor, and one copy to record documents file. Each report shall include:
   1. Date issued.
   2. Project title and number.
   3. Testing laboratory name, address, and telephone number.
   4. Name and signature of laboratory inspector.
   5. Date and time of sampling or inspection.
   6. Record of temperature and weather conditions if test performed in field.
   7. Date of test.
   8. Identification of product and specification section.
   9. Location of sample or test in project.
   10. Type of inspection or test.
   11. Results of tests and compliance with contract documents.
   12. Interpretation of test results, when requested by Engineer.

E. Perform additional tests as required by Engineer or Contractor.

1.04 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

A. Laboratory not authorized to:
   1. Release, revoke, alter or enlarge on requirements of contract documents.
   2. Approve or accept any portion of work.
   3. Perform duties of Contractor.

1.05 CONTRACTOR RESPONSIBILITIES

A. Cooperate with laboratory personnel and provide access to work.

B. Provide to laboratory preliminary design mix proposed to be used for concrete and other material mixes which require control by testing laboratory.

C. Furnish copies of product test reports.

D. Furnish incidental labor and facilities.
   1. Provide access to work to be tested.
   2. Obtain and handle samples at project site or source of product to be tested.
   3. Facilitate inspections and tests.
   4. Store and cure test samples.

E. Notify laboratory and Engineer sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

F. Make arrangements with laboratory and pay for additional samples and tests required for Contractor's convenience.

G. Employ and pay for services of testing laboratory to perform additional inspections, sampling, and testing required when initial tests indicate work does not comply with contract documents.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES AND UTILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Provide and maintain temporary facilities and utilities required for construction; remove on completion of work.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

A. National Fire Protection Association (NFPA):
   1. National Electric Code (NEC), NFPA No. 70, and Iowa amendments.

B. Comply with federal, state, and local codes and regulations, and with utility company requirements.

PART 2 - PRODUCTS

2.03 TELEPHONE SERVICE

A. Provide telephone at which Contractor can be reached by Owner or Engineer at all times during the working day.
   1. Provide Owner and Engineer with at least 2 telephone numbers where Contractor's representative can be reached on weekends, evenings, and holidays in the event of an emergency.

2.04 WATER FOR CONSTRUCTION AND TESTING

A. Water is available at project site from area yard hydrants but should be considered as non-potable. There will be no cost for water usage by Contractor.

2.05 SANITARY FACILITIES

A. Provide temporary sanitary toilet facilities conforming to state and local health and sanitation requirements, in sufficient number for use by Contractor's employees.

B. Maintain in sanitary condition and properly supply with toilet paper.

2.06 TEMPORARY SITE WORK

A. Provide and maintain temporary site drainage and stormwater controls.

B. Exercise caution to minimize increase in suspended solids and turbidity in surface waters within and adjacent to construction area. Do not deposit spoils in surface waters. Control and minimize sediment runoff and excavation erosion to surface waters.

2.07 DAMAGE TO EXISTING PROPERTY

A. Contractor responsible for replacing or repairing damage to existing buildings, sidewalks, roads, parking lot surfacing, and other existing assets.

2.08 SECURITY

A. Security not provided by Owner.

B. Contractor shall be held responsible for loss or injury to persons or property where his work is involved, and shall provide security and take precautionary measures to protect Contractor's and Owner's interests.

2.09 TEMPORARY PARKING/SITE ACCESS

A. Parking on construction site in designated areas may be provided as approved by Engineer and Owner. Site access is from Railroad Street at rear of the WPCP site or Concord Avenue at the front of the WPCP. Staging area is noted on the plan set.

B. Make arrangements for additional parking area for employee's vehicles if required.

C. Costs involved in obtaining this parking area shall be borne by Contractor.

2.10 TEMPORARY FENCING

A. Provide temporary fencing sufficient to prevent trespass by public and any non-construction personnel into construction areas.

B. Materials shall be sufficiently durable to be effective for duration of construction period.

PART 3 - EXECUTION

3.01 GENERAL

A. Comply with applicable requirements specified herein.

B. Maintain and operate systems to ensure continuous service.

C. Modify and extend systems as work progress requires.

3.02 REMOVAL

A. Completely remove temporary materials, equipment, signs, and structures when no longer required.

B. In unfinished areas, clean and repair damage caused by temporary installations or use of temporary facilities, restore drainage, and evenly grade, seed, or plant as necessary to provide appearance equal to or better than original.

C. In finished areas, restore existing or permanent facilities used for temporary services to specified, or to original, condition.

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. Material and equipment incorporated into work:
   1. Conform to applicable specifications and standards.
   2. Comply with size, make, type, and quality specified or as specifically approved by shop drawings, Engineer, or other, submittal.

B. Do not use material or equipment for any purpose other than for which it is designed or specified.

1.02 SUBSTITUTIONS

A. Substitutions:
   1. Contractor's requests for changes in equipment and materials from those required by Contract Documents are considered "requests for substitutions" and subject to Contractor's representations and review provisions of Contract Documents when one of the following conditions are satisfied:
      a. Where request directly related to "or equal" clause or other language of same effect in specifications.
      b. Where required equipment or material cannot be provided within Contract Time, but not as result of Contractor's failure to pursue work promptly or coordinate various activities properly.
      c. Where required equipment or material cannot be provided in manner compatible with other materials of work, or cannot be properly coordinated therewith.
   2. Contractor's options:
      a. Compatibility of options: Where more than one choice available as options for Contractor's selection of equipment or material, select option compatible with other equipment and materials already selected.
      b. Standards, codes, and regulations: Where compliance with imposed standard, code or regulation required, select from among products which comply with requirements of those standards, codes, and regulations.
      c. "Or Equal": For material or equipment specified by naming one or more equipment manufacturer and "or equal," Contractor shall submit request for substitution for any equipment or manufacturer not specifically named. Submit in accordance with GENERAL CONDITIONS, paragraph 1.15, and these General Requirements.

d. Two or more manufacturers: For equipment of material specified by naming several manufacturers, select any one of manufacturers named. Do not provide or offer to provide unnamed manufacturer or equipment.
e. Single manufacturer or material: For equipment or material specified by naming only one manufacturer or material, there is no option.

B. Conditions which are not substitutions:
1. Requirements for substitutions do not apply to Contractor options on materials and equipment provided in specifications.
2. Revisions to Contract Documents, where requested by Owner or Engineer, are "changes" not "substitutions."
3. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities do not constitute substitutions or basis for change orders, except as provided for in Contract Documents.

1.03 REUSE OF EXISTING MATERIAL

A. Except as specifically indicated or specified, do not use materials and equipment removed from existing structures in new work.

B. For material and equipment specifically indicated or specified to be reused in work:
1. Use special care in removal, handling, storage, and reinstallation to ensure proper function in completed work.
2. Arrange and pay for transportation, storage, and handling of products which require off-site storage, restoration, or renovation.
3. Off-site storage areas and buildings shall conform to requirements of this section.

1.04 MANUFACTURER'S INSTRUCTIONS

A. Installation of equipment and materials shall comply with manufacturer's instructions. Obtain and distribute printed copies of such instructions to parties involved in installation, including 2 copies to Engineer.
1. Maintain one set of complete instructions at job site during installation and until completion of work.

B. Handle, install, connect, clean, condition, and adjust materials and equipment in accordance with manufacturer's written instructions and in conformity with specifications.
1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult Engineer for further instructions.
2. Do not proceed with work without written instructions.

1.05 TRANSPORTATION AND HANDLING

A. Arrange deliveries of materials and equipment in accordance with Construction Progress Schedule, coordinate to avoid conflict with work and conditions at site.
   1. Deliver materials and equipment in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
   2. Protect bright machined surfaces, such as shafts and valve faces, with heavy coat of grease prior to shipment.
   3. Immediately upon delivery, inspect shipments to ensure compliance with Contract Documents and approved submittals, and products have been protected and are undamaged.

B. Provide equipment and personnel to handle materials and equipment by methods recommended by manufacturer to prevent soiling or damage to materials or equipment, or packaging.

1.06 STORAGE, PROTECTION, AND MAINTENANCE

A. On-site storage areas and buildings shall conform to requirements of Section 01500 - Temporary Construction Facilities and Utilities.

B. Owner assumes no responsibility for materials and equipment stored in buildings or on site or at another location approved in writing. Contractor assumes full responsibility for damage due to storage of materials and equipment.

C. Interior storage:
   1. Store materials and equipment in accordance with manufacturer's instructions, with seals and labels intact and legible.
   2. Store materials and equipment subject to damage by elements in weathertight enclosures.
   3. Maintain temperature and humidity within ranges required by manufacturer's instructions.

D. Exterior storage:
   1. Store fabricated materials and equipment above ground, on blocking or skids, to prevent soiling or staining. Cover materials and equipment subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation.
   2. Store loose granular materials in well-drained area on solid surfaces to prevent mixing with foreign matter.
   3. Materials such as pipe, reinforcing and structural steel, and equipment shall be stored on pallets or racks, off ground.

E. Inspection and maintenance:
   1. Arrange storage in manner providing easy access for inspection, maintenance, and inventory.
   2. Make periodic inspections of stored materials and equipment to ensure materials and equipment maintained under specified conditions and free from damage or deterioration, and coverings in place and in condition to provide required protection.
   3. Perform maintenance on stored materials and equipment in accordance with manufacturer's written instructions and in presence of Owner or Engineer.
      a. Notify Engineer 24 hours before performance of maintenance.
      b. Submit report of completed maintenance and condition of coverings to Engineer with each Application for Payment.
      c. Failure to perform maintenance, to notify Engineer of intent to perform maintenance or to submit maintenance report may result in rejection of material or equipment.

F. Contractor shall assume responsibility for protection of completed construction and repair and restore damage to completed work equal to original condition.

G. Wheeling of loads over floors, with or without plank protection, not permitted in anything except rubber-tired wheelbarrows, buggies, trucks, or dollies. This applies to finished floors and exposed concrete floors, as well as those covered with composition tile or other applied surfacing.

H. Where structural concrete is also finished surface, avoid marking or damaging surface.

1.07 INSTALLATION, INSTRUCTIONAL, AND POST STARTUP SERVICES

A. General:
   1. This article covers on-site services of supplier's or manufacturer's representatives provided by Contractor during construction, equipment startup, and training of Owner's personnel for equipment or plant operation as specifically required in specification section for equipment or system.
   2. Include and pay costs for supplier's or manufacturer's services, including, but not limited to, those specified.

B. Installation services:
   1. Where installation services called for in specifications, provide competent and experienced technical representatives of manufacturers of equipment and systems to resolve assembly or installation procedures attributable to, or associated with, equipment furnished.
   2. After equipment installed, representatives shall perform initial equipment and system adjustment and calibration to conform to specifications and manufacturer's requirements and instructions.

C. Instructional services:
   1. Where training called for in specifications, provide competent and experienced technical representative of supplier to provide detailed instructions to Owner's personnel for operation of equipment. Training services shall include pre-startup and equipment startup, classroom, and on-site equipment instruction, as stated in specifications. The WPCP has a classroom for training in the Administration Building.
   2. Coordinate pre-startup training periods with Engineer and supplier's representative.
      a. Notify Engineer at least 48 hours before training sessions are to begin so Engineer can make arrangements with Owner's operating personnel.
      b. Reschedule canceled training sessions 48 hours in advance.
   3. Similar types of equipment differing in model, size or manufacturer shall require equal service time as stated in Part 1 of specific specification section.
   4. Complete pre-startup training 2 days prior to actual system startup.
   5. Operation and maintenance data shall constitute basis of instruction.
      a. Review data contents with personnel in full detail to explain aspects of operations and maintenance.

D. Post startup services:
   1. After equipment/system in operation for at least 6 months, but no longer than 11 months, each equipment manufacturer or authorized equipment representative shall make final inspection where so required in specifications. Final inspection will provide assistance to Owner's operating personnel in making adjustments or calibrations required to ensure equipment or system operating in conformance with design, manufacturer, and specifications.

1.08 SPECIAL TOOLS AND LUBRICATING EQUIPMENT

A. Furnish, in accordance with manufacturer's recommendations, special tools required for checking, testing, parts replacement, and maintenance. Special tools are those specially designed or adapted for use on parts of equipment, and not customarily and routinely carried by maintenance mechanics.

B. Deliver to Owner when unit placed into operation and after operating personnel have been properly instructed in operation, repair, and maintenance of equipment.

C. Tools and lubricating equipment shall be of quality compatible to equipment manufacturer has furnished.

D. Refer also to requirements of Section 11000.

1.09 LUBRICATION

A. Where lubrication required for proper operation of equipment, incorporate necessary and proper provisions in equipment in accordance with manufacturer's requirements. Where possible, lubrication shall be automated and positive.

B. Where oil is used, reservoir shall be of sufficient capacity to supply unit for 24-hour period.

1.10 GUARDS

A. Provide necessary guards to meet federal, state, and local requirements. Construct guards of expanded metal where possible.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Maintain at site 1 record copy of:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change orders and other modifications to Contract.
   5. Engineer field orders, written instructions, or clarifications.
   6. Approved submittals.
   7. Field test records.
   8. Construction photographs.
   9. All associated permits.
   10. Certificates of inspection and approvals.

1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Store documents and samples in Contractor's vehicle or other pre-approved location on site.
   1. Provide secure storage of documents and samples.

B. Maintain documents in clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

C. Make documents and samples available at all times for inspection by Engineer.

D. Failure to properly maintain record documents may be reason to delay a portion (up to 5%) of progress payments until records comply with Contract Documents.

1.03 RECORD DOCUMENTS

A. Maintain record set of Drawings and Specifications legibly changed to transfer approved modifications in completed work that differ from Contract Documents.

B. Label each document "PROJECT RECORD" in neat, large printed letters.

C. Record information concurrently with construction progress.
   1. Do not conceal any work until required information recorded.
   2. Record changes made by Written Agreement, Field Order, Change Order or Work Directive Change.

D. Drawings:
   1. General:
      a. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
      b. Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.
      c. Field changes.
      d. Details not on original drawings.
      e. Location and identification of exposed interior piping.
   2. Electrical:
      a. Horizontal and vertical locations and size of underground cable, conduit, and duct runs dimensioned from established building lines.
      b. Plan locations and size of interior concealed and exposed feeders.
      c. Size and location of access panels.
      d. Departures from original drawings and electrical work revisions.

1.04 SUBMITTALS

A. At Substantial Completion:
   1. Deliver 1 marked up set of drawings to Engineer for use in preparation of record drawings.

B. Accompany submittals with transmittal letter in duplicate, containing:
   1. Date.
   2. Project title and number.
   3. Contractor's name and address.
   4. Title of record document.
   5. Signature of Contractor or authorized representative.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 02050

DEMOLITION AND MODIFICATIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section includes, but is not limited to:
   1. Removal and disposal of electrical equipment.
   2. Rerouting water line.
   3. Shutting off, capping, and abandonment of utilities and underground piping.
   4. Demolition and removal of structures and piping, including insulated piping.
   5. Modification of structures for new equipment.
   6. Modification and upgrades to equipment or process system.
   7. Disposal of debris and return of salvage to Owner.

1.02 DEFINITIONS

A. Demolition: remove existing structure as specified or noted.

B. Removal: remove existing structure or utility above and below grade as shown or noted.

C. Abandonment: remove existing utility from service. Fully disconnect from portions of utility remaining in service. Remove all portions of utility being abandoned from influence zones of structures or buried piping. Plug ends of buried piping being abandoned with concrete.

D. Influence Zone: area bound by 1.5 horizontal to 2 vertical slope extending outward from 1 foot beyond outer edges of foundation, pavement, or piping.

E. Modifications: changes to a structure to accommodate new equipment.

F. Modify: Provide all necessary material and labor to modify an existing item to the condition indicated or specified.

G. Relocate: Remove, protect, clean and reinstall equipment, including electrical, instrumentation, and all ancillary components required to make the equipment fully functional, to the new location identified on the Drawings.

H. Renovation: Altering a facility or one or more facility components in any way.

I. Salvage/Salvageable: Remove and deliver, to the specified location(s), the equipment, building materials, or other items so identified to be saved from destruction, damage, or waste; such property to remain that of Owner. Unless otherwise specified, title to items identified for demolition shall revert to Contractor.

1.03 SALVAGE, DISPOSITION, STORAGE, AND HANDLING

A. The Contractor shall salvage items, as indicated in the Contract drawings or as specified herein for the Owner's salvage, as a unit. Removal of salvaged equipment shall be done in a manner that protects adjacent equipment and piping. Clean, list, and tag for storage. Protect from damage and deliver to locations designated by the Engineer. Salvage each item with auxiliary systems or associated equipment required for operation.

B. Items indicated by the Owner for salvage will be identified in the field by the Engineer and Owner. The Contractor shall note that the first right of salvage shall belong to the Owner.

C. Demolition and Disposal:
   1. Remove and dispose of materials not designated for the Owner's salvage or reuse that are removed under the demolition work. Items include materials, piping, fittings, valves, electrical equipment, and other construction debris shall become the property of the Contractor and removed from the site as trash. Contractor shall dispose of trash and debris legally, off the site. Upon removal from site, Contractor shall have the rights of salvage of materials. Promptly remove material from site. Do not store or sell Contractor salvaged items or materials on-site.

1.04 QUALITY ASSURANCE

A. Protection of Existing Facilities: The Contractor shall diligently protect existing structures and property of the Owner while proceeding with work of this section and the entire Contract. All damage shall be repaired at once to the satisfaction of the Owner. All such repairs shall be at the expense of the Contractor and no claims for additional payment will be accepted.

1.05 JOB CONDITIONS

A. Prior to demolition or modifications of structures, accomplish following:
   1. Owner release of such structure.
   2. Electrical and mechanical services rerouted or shut off outside area of demolition.
   3. Salvage equipment scheduled for reuse in new work or scheduled to be delivered to Owner's storage facility.

4. Survey and record condition of existing facilities to remain in place that may be affected by demolition operations. After demolition operations are completed, survey conditions again and restore facilities to pre-demolition condition at no additional cost to Owner. Conduct surveys in presence of Engineer.

B. Operation:
   1. Maintain structural stability of structures adjacent to or affected by work of this contract.
   2. Maintain in service and protect from damage existing facilities, utilities, and equipment indicated to remain including adjacent work areas.

C. Utilities:
   1. Notify utilities prior to razing operations to permit them to disconnect, remove, and/or relocate any equipment serving existing facilities.

1.06 SUBMITTALS

A. Informational Submittals:
   1. Submit proposed Demolition/Renovation Plan, in accordance with requirements specified herein, for approval before such Work is started.
   2. Submit copies of any notifications, authorizations and permits required to perform the Work.

1.07 REGULATORY AND SAFETY REQUIREMENTS

A. When applicable, demolition Work shall be accomplished in strict accordance with 29 CFR 1926-Subpart T.

B. Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the General Conditions, Contractor's safety requirements shall conform to ANSI A10.6.

1.08. DEMOLITION/RENOVATION PLAN

A. Demolition/Renovation Plan shall provide for safe conduct of the Work and shall include:
   1. Detailed description of methods and equipment to be used for each operation;
   2. The Contractor's planned sequence of operations, including coordination with other work in progress;
   3. Procedures for removal and disposition of materials specified to be salvaged.
   4. Disconnection schedule of utility services.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL

A. Following is a summary list of demolition work by Structure No. and type. Work sequence and coordination shall be in accordance with Section 01040 and Section 01310. Refer to Contract drawings plans for more descriptive details.

Structure No.	Demolition Work	Plan Reference	Salvage Materials to Owner	Modifications
30	Remove water heater, sink, and backflow preventer and associated piping and drain line.	C.09	Sink	Secure remaining piping and install pressure gauge.
90	Remove of existing utility pad and abandoned electrical components.	C.06	None	Install new utility pad, new pump skid, new strainer, and associated piping and electric work.

1. Utility and underground piping to be abandoned:
   a. As shown on drawings.

3.02 DEMOLITION OPERATIONS

A. Remove existing structures identified completely including piping.

B. Plug or cap utility drains and other piping in accordance with specified abandonment procedures.

C. Patching:
1. Where removals leave holes and damaged surfaces exposed in the finished Work, patch, and repair to match adjacent finished surfaces as to texture and finish.
2. Where new Work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new Work.
3. Patching shall include filling holes and depressions left as a result of removals in existing masonry and concrete walls with an approved patching material, applied in accordance with the manufacturer's printed instructions.

D. Electrical:
1. Cut off concealed or embedded conduit, boxes, or other materials a minimum of 3/4" below final finished surface.
2. When removing designated equipment, conduit and wiring may require rework to maintain service to other equipment.

3. Rework existing circuits, or provide temporary circuits as necessary during renovation to maintain service to existing lighting and equipment not scheduled to be renovated. Existing equipment and circuiting shown are based upon limited field surveys. Verify existing conditions, make all necessary adjustments, and record the Work on the Record Drawings. This shall include, but is not limited to, swapping and other adjustments to branch circuits and relocation of branch circuit breakers within panelboards as required to accomplish the finished work.
4. Reuse of existing luminaires, devices, conduits, boxes, or equipment will be permitted only where specifically indicated.
5. Raceways and cabling not scheduled for reuse.
   a. Inaccessibly Concealed: Cut off and abandon in place.
   b. Exposed or Concealed Above Accessible Ceilings: Remove.
6. Raceways and Cabling Scheduled for Future Use: Cap/seal and tag.
7. Relocating Equipment: Extend existing wiring or run new wiring from the source.
8. Where the existing raceway is concealed, the outlet box shall be cleaned, and a blank cover plate installed.
9. Where the concealed raceway is uncovered remove raceway (or extended to new location if appropriate).

3.03 ABANDONMENT OPERATIONS

A. Abandon utilities and underground piping within limits noted.

B. Provide compatible cap for pressurized type piping. Provide thrust blocks for caps unless piping has fully restrained joints.

C. Provide concrete plugs for gravity type piping. Plug shall be Class B concrete in accordance with Section 03300 - Cast-in-Place Concrete. Plug shall be at least 2' thick.

3.04 DISPOSAL

A. Legally dispose of concrete rubble, debris, and other undesirable and unsalvageable material resulting from demolition operations off-site. Refer to Section 01040 - Special Construction.

B. Excavated excess soils can be disposed of as directed by the Owner.

3.05 CUTTING, FITTING AND PATCHING

A. Cut, fit, adjust, or patch Work and work of others, including excavation and backfill as required, to make Work complete.

B. Obtain prior written authorization of Engineer before commencing Work to cut or otherwise alter:
   1. Structural or reinforcing steel, structural column or beam, elevated slab, trusses, or other structural member.
   2. Weather-resistant or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Work of others.

C. Refinish surfaces to provide an even finish.
   1. Refinish continuous surfaces to nearest intersection.
   2. Refinish entire assemblies.
   3. Finish restored surfaces to such planes, shapes, and textures that no transition between existing work and the Work is evident in finished surfaces.

D. Restore existing work, Underground Facilities, and surfaces that are to remain in completed Work including concrete-embedded piping, conduit, and other utilities as specified and as shown on Drawings.

E. Make restorations with new materials and appropriate methods as specified for new Work of similar nature; if not specified, use recommended practice of manufacturer or appropriate trade association.

F. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces and fill voids.

G. Remove specimens of installed Work for testing when requested by Engineer.

END OF SECTION

SECTION 02200

SITEWORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes the following:
   1. Sitework for construction of WPCP Gray Water Conversion Project including construction of piping.
      a. Excavate and compact earth as specified hereinafter to provide finish grade as shown on plans.
      b. Provide necessary machine or hand finishing and shaping to existing grades and drainage slopes.
      c. Pile excavated material, suitable for backfill, in an orderly manner a sufficient distance back from edge of excavation to avoid slides or cave-ins; 2'-0" minimum clear distance.
      d. Remove and stockpile topsoil for later reuse. Store materials on-site.
      e. Remove and dispose of spoil and excess excavated material not suitable for trench, structural or embankment backfill at location directed by Engineer.
      f. Excavate in open cut at piping entrances to buildings, or as directed by Engineer.
      g. Water piping is to be moled or horizontally directionally drilled.
      h. Reference to percent maximum density shall mean a soil density not less than the stated percent of maximum density of optimum moisture content for soils as determined by ASTM D698, Moisture-Density Relations of Soils, using 5.5-lb. Rammer and 12-in Drop. (Standard Proctor method.)
      i. Do work in accordance with best present-day installation and construction practices.
      j. Do not damage trees and plantings except as noted on drawings or as directed by Engineer.
      k. Existing utilities within construction envelop are to be located in the field prior to any trenchless pipe installation.

B. Related work specified elsewhere:
   1. Section 01040 - Special Construction.
   2. Section 02610 - Buried Piping.
   3. Section 02930 - Lawns and Grasses.
   4. Section 03300 - Cast-in-Place Concrete.

1.02 DEFINITIONS

A. Earth: all materials, not classified as rock, including clay, silt, sand, gravel, hardpan, disintegrated shale, debris, loose stones, boulders less than 1/3 CY in volume, trees, stumps, roots, and rubbish.

B. Rock: boulders larger than 1/3 CY in volume or solid deposits so firmly cemented together that they cannot be removed without continuous use of pneumatic tools or blasting.

C. Rubble: buried concrete foundations, beams, walls, and other material which require continuous use of pneumatic tools or blasting.

D. Borrow: materials, in excess of excavated materials, needed to backfill embankments and around structures.

E. Removal of rock, rubble and miscellaneous debris above ground is incidental to construction.

F. Rock and rubble excavation will be paid for as Extra Work.

G. Relative Compaction:
   1. Ratio, in percent, of as-compacted field dry density to laboratory maximum dry density as determined in accordance with ASTM D698.
   2. Apply corrections for oversize material to either as-compacted field dry density or maximum dry density, as determined by Engineer.

H. Optimum Moisture Content:
   1. Determined in accordance with ASTM Standard specified to determine maximum dry density for relative compaction.
   2. Determine field moisture content on basis of fraction passing 3/4" sieve.

I. Relative Density: Calculated in accordance with ASTM D4254 based on maximum index density determined in accordance with ASTM D4253 and minimum index density determined in accordance with ASTM D4254.

J. Completed Course: A course or layer that is ready for next layer or next phase of Work.

K. Lift: Loose (uncompacted) layer of material.

L. Well-Graded:
   1. A mixture of particle sizes with no specific concentration or lack thereof of one or more sizes.
   2. Does not define numerical value that must be placed on coefficient of uniformity, coefficient of curvature, or other specific grain size distribution parameters.

3. Used to define material type that, when compacted, produces a strong and relatively incompressible soil mass free from detrimental voids.

M. Influence Area: Area within planes sloped downward and outward at 60° angle from horizontal measured from:
   1. 1 foot outside outermost edge at base of foundations or slabs.
   2. 1 foot outside outermost edge at surface of roadways or shoulder.
   3. 0.5 feet outside exterior at spring line of pipes or culverts.

N. Structural Fill: Fill materials as required under structures, pavements, and other facilities.

O. Embankment Material: Fill materials required to raise existing grade in areas other than under structures.

1.03 QUALITY ASSURANCE

A. Notify Engineer when:
   1. Piping is ready for backfilling, and whenever backfilling operations are resumed after a period of inactivity.
   2. Soft or loose subgrade materials are encountered wherever embankment or site fill is to be placed.
   3. Fill material appears to be deviating from Specifications.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Pipe bedding: sharp, clean, crushed stone; comply with following gradation:

	Pipe Diameter	
	Up to 18"	Over 18"
Sieve	% Passing	% Passing
1-1/2"		100
1"	100	95-100
3/4"	80-95	35-70
1/2"	50-60	25-50
3/8"	20-40	10-30
No. 4	0-5	0-5

   1. Engineer may authorize change in gradation subject to materials available locally at time of construction.
   2. Duct Banks: 3/4" maximum particle size.
   3. Conduit and Direct Buried Cable:
      a. Sand, clean or clean to silty, less than 12% passing No. 200 sieve.

b. Individual Particles: Free of sharp edges.
c. Maximum Size Particle: Pass a No. 4 sieve.
d. If more than 5% passes No. 200 sieve, the fraction that passes No. 40 sieve shall be non-plastic as determined in accordance with ASTM D4318.

B. Stabilizing material: sharp, clean, crushed stone; comply with following gradation:

Sieve	% Passing
2-1/2"	100
2"	90-100
1-1/2"	35-70
1"	0-15
1/2"	0-5

C. Granular subbase material: crushed stone meeting requirements of IDOT 4121.

D. Silt fencing: IDOT 4196.

E. Borrow material: excavated materials free from objectionable organic materials, rocks larger than 3" and suitable for normal embankment and subgrade construction; minimum laboratory dry weight: 100 lbs. per cubic foot; material subject to approval of Engineer.

F. Granular surfacing: IDOT Class A crushed stone.

G. Junctions of pipe lines: factory designed fittings or as shown on Standard Drawings.

H. Compacted granular backfill: 1" minus porous granular material; clean, washed crushed stone similar to IDOT 4131. Well graded from coarse to fine and containing sufficient fines to bind material when compacted, but with maximum 8% by weight passing No. 200 sieve.

I. Compacted sand subbase and backfill: Clean washed manufactured sand.

J. Compacted sand fill: Clean, washed manufactured sand.

K. Rip-rap: Conform to IDOT 4130.04 for Class D revetment stone. Material larger than 250 lbs. acceptable.

L. Rolled Erosion Control Products (RECP): double net straw blanket with degradable thread between lightweight photodegradable polypropylene top and bottom nets. Permissible shear stress 1.75 psf. North American Green S150, or equal.

M. Erosion Stone: Conform to IDOT 4130.01 and 4130.05; IDOT Gradation No. 34; maximum size: 9"; minimum size: 3"; 5% maximum mud balls; meet freeze and thaw test requirements for erosion stone: 15%, Method C.

N. Geotextile fabric under erosion stone and rip-rap: conform to IDOT 4196.01 B.3.

O. Geotextile fabric at pressure relief valves in tank walls and slabs: conform to IDOT 4196.01.B.2.

PART 3 - EXECUTION

3.01 GENERAL

A. Keep placement surfaces free of water, debris, and foreign material during placement and compaction of fill and backfill materials.

B. Place and spread fill and backfill materials in horizontal lifts of uniform thickness, in a manner that avoids segregation, and compact each lift to specified densities prior to placing succeeding lifts. Slope lifts only where necessary to conform to final grades or as necessary to keep placement surfaces drained of water.

C. During filling and backfilling, keep level of fill and backfill around each structure and buried tank even.

D. Do not place fill or backfill, if fill or backfill material is frozen, or if surface upon which fill or backfill is to be placed is frozen.

E. If pipe, conduit, duct bank, or cable is to be laid within fill or backfill:
   1. Fill or backfill to an elevation 2' above top of item to be laid.
   2. Excavate trench for installation of item.
   3. Install bedding, if applicable, as specified in Trench backfill.
   4. Install item.
   5. Backfill envelope zone and remaining trench, as specified in Trench Backfill, before resuming filling or backfilling specified in this section.

F. Tolerances:
   1. Final Lines and Grades: Within a tolerance of 0.1' unless dimensions or grades are shown or specified otherwise.
   2. Grade to establish and maintain slopes and drainage as shown. Reverse slopes are not permitted.

G. Settlement: Correct and repair any subsequent damage to structures, pavements, curbs, slabs, piping, and other facilities, caused by settlement of fill or backfill material.

3.02 CLEARING

A. Clear entire surface of all areas to be excavated or on which embankments are to be placed as necessary; fell all trees and grub all stumps and roots.

B. Haul trees, stumps, roots and brush to area landfill. Burning not permitted.

C. Remove existing fences as necessary within plant site and re-install unless otherwise specified or shown on drawings.

D. Dispose of waste material at disposal area obtained by Contractor.

3.03 TRENCH EXCAVATION

A. Keep width of trench as narrow as possible and still provide adequate room for backfilling and jointing.

B. Maximum width of trench at top of pipe: 2'-3" or outside diameter of pipe plus 12", whichever is greater.

C. Keep sides of trench as nearly vertical as practicable and still provide a safe and stable slope; maintain vertical walls of excavation below top of pipe.

D. Bottom of trench:
   1. Where ductile iron pipe or PVC pressure pipe is shown on plans, hand shape to provide uniform bearing and support for full length of pipe barrel against undisturbed earth as shown on plans.
      a. Provide suitable bell holes at each pipe joint after bottom of trench has been graded.
      b. Alternate to hand shaping trench bottom at Contractor's option: excavate to required depth by machine; use Type I bedding as shown on plans; use sharp, clean, crushed stone pipe bedding, with gradation as specified hereinbefore.
      c. Remove large clods, stones, and other foreign material from bottom of trench.
   2. Where reinforced concrete pipe is shown on plans, excavate to required depth by machine; use granular Type I as shown on plans; use sharp, clean, crushed stone pipe bedding with gradation as specified hereinbefore.
   3. Where plastic pipe is shown on plans except perforated subdrain and pvc pressure pipe, place pipe in bedding envelope; minimum 6" pipe bedding on all sides of pipe and minimum 12" pipe bedding above top of pipe.
   4. Compact pipe bedding by rodding or slicing with shovel.
   5. Pipe bedding cost is incidental to construction.
   6. Minimum pipe bedding thickness:
      a. Pipe 15" and smaller: 4".
      b. Pipe 18" to 36": 6".
      c. Pipe 42" and Larger: 8".
      d. Conduit: 3".
      e. Direct Buried Cable: 3".
      f. Duct Banks: 3".

E. When unstable material is encountered which may not provide a suitable foundation for pipe:
   1. Notify Engineer immediately.
   2. Engineer will investigate questionable material to determine its suitability for pipe foundation.
   3. If material is considered unsuitable for foundations, Engineer will specify and authorize remedial measures in writing.
   4. If removal of unsuitable material is authorized:
      a. Replace with stabilizing material as specified hereinbefore.
      b. Place pipe bedding on top of stabilizing material as specified hereinbefore.
      c. Authorized overexcavation and backfill will be paid for as Extra Work.
   5. See paragraph 1.05 Unstable Soils in Section 01040 - Special Construction.

3.04 TRENCHLESS CONSTRUCTION

A. Comply with Trenchless Construction Specification Section 3020 of the Statewide Urban Design and Specifications Program (SUDAS).

B. Installation methods allowed: directional drilling and other (moling).

3.05 ROCK EXCAVATION

A. Use pneumatic tools.

B. Dispose of excavated rock not suitable for backfill at disposal areas designated by Engineer.

3.06 RUBBLE EXCAVATION

A. Rubble, as specified and defined herein, may be encountered.

B. Removal and disposal: as specified for rock; disposal is incidental to cost of rubble excavation.

3.07 SHEETING, SHORING AND BRACING

A. Construct sheeting, shoring, and bracing where shown on plans or where required to hold walls of excavation, to provide safety for workmen, to protect existing utilities or structures or to permit construction in the dry.

B. Leave in place all temporary sheeting below top of footings or below 2' over top of pipe.

C. Leave sheeting and shoring in place above top of footings or above 2' over top of pipe when removal, in the opinion of Engineer, might damage piping or structures.

D. Contractor may be required to provide sheeting by regulatory agencies when not required by Owner or Engineer; sheeting, shoring and bracing cost is incidental to construction.

3.08 DEWATERING

A. Do all work in the dry; obtain Engineer's approval for methods of dewatering.

B. Grade as required to prevent surface water from flowing into excavations; promptly remove any water accumulated.

C. Lay no pipe in or pour no concrete on excessively wet soil.

D. Do not pump water into adjacent property without approval of Engineer.

E. If unstable condition due to groundwater is encountered during excavation: change method of dewatering; if soil cannot be stabilized by dewatering methods including sand point installation, notify Engineer.

F. Cost of dewatering is incidental to construction.

3.09 BACKFILL AND EMBANKMENT FOR STRUCTURES

A. Backfill after concrete has cured, and waterproofing, if specified, has been inspected by Engineer.

B. Backfill with material removed from excavation except as shown on plans and as specified hereinafter; use no debris, frozen earth, large clods or stones.

C. Provide sand and granular backfill and base under and around structures where shown on plans.

D. Under Facilities: Within influence area beneath structures, slabs, pavements, curbs, piping, conduits, duct banks, and other facilities, backfill with granular backfill, unless otherwise shown. Place granular backfill in lifts of 6" maximum thickness and compact each lift to minimum of 95% relative compaction for cohesive soil and 98% relative compaction for cohesionless soil as determined in accordance with ASTM D698.

E. Outside influence areas beneath structures, tanks, pavements, curbs, slabs, piping, and other facilities: Unless otherwise shown, place borrow material as follows:
   1. Allow for 6" thickness of topsoil where required.
   2. Maximum 8" thick lifts.
   3. Place and compact fill across full width of embankment.
   4. Compact backfill and embankment around structures to 90% maximum density for cohesive type soils and to 93% maximum density for cohesionless soils.

5. Dress completed embankment with allowance for topsoil, crest surfacing, and slope protection, where applicable.

F. Retain services of independent testing laboratory to conduct moisture-density compaction tests to insure conformance with compaction requirement and soil bearing pressure requirements under tanks and footings; provide 40 tests at locations as directed by Engineer. Net soil bearing capacity requirements: Refer to Drawing 99-S-1 and Appendix A - Soils Report.

G. Terminate at elevation shown on plans; dispose of excess excavation as directed by Engineer.

H. If settlement of any backfill occurs within period of guarantee and bond, refill, compact and level off.

I. Do not position construction equipment closer to Process Tank outer walls than a line drawn from base of footing wall at slope of 1' horizontal to 2' vertical; if construction equipment is set closer to wall, support using temporary braces.

3.10 TRENCH BACKFILL

A. Backfill trench immediately after Engineer has recorded location of connections and appurtenances and testing has been completed, or at Engineer's direction.

B. Allow no more than 100' of trench to be open at one time; construct appurtenances and backfill as work progresses.

C. Use no large stones, large clods, organic matter, rubbish, frozen or unsuitable materials in backfill.

D. Use compacted backfill, as specified below, for all pipe except subdrain.
   1. Hand place and carefully compact backfill over top of pipe.
   2. Backfill above 1' over top of pipe with excavated material in layers not to exceed 18"; moisten if required; compact to 95% maximum density with moisture content -1% to +4% of optimum.

E. Fill upper 6" portion of trench with topsoil where construction area is to be seeded or cultivated; shape roadways and ditches to original grades, replace surfacing material where trench is in streets, driveways or parking areas; in the event of excavated frozen ground, stockpile topsoil along route of sewer and respread after soil has thawed in spring; do not block natural drainageways; no additional payment will be made for handling frozen earth.

F. New line below existing water or gas main: backfill under existing water or gas main with pipe bedding material; compact to 95% maximum density; length of pipe bedding material backfill at elevation of existing utility: equal to depth of excavation below utility; pipe bedding material backfill is incidental to sewer construction.

G. Backfill above gravity PVC pipe:
   1. Backfill with pipe bedding material to minimum 12" above top of pipe; do not drop pipe bedding material from equipment bucket more than 2' above pipe; all pipe bedding material including backfill material is incidental to construction.
   2. Above pipe bedding material, backfill with excavated material, except frozen material, and other non-suitable material; do not drop backfill material from equipment bucket more than 2' above bottom of trench until backfill material is in place 4' above pipe bedding backfill material.
   3. Consolidate bottom 4' of trench backfill with hand tools and tampers; do not use vibratory plate or drop type compactor until above bottom 4' of trench backfill.

H. Place concrete encasement where directed by Engineer.
   1. Make pipe joint in same manner specified for pipe not encased.
   2. Pour concrete beneath and around pipe after jointing is complete.
   3. Use two temporary pipe supports under barrel per pipe length: one near bell and one near spigot.
   4. Provide ties and braces to prevent displacement or floatation during encasement.
   5. Use concrete encasement shown on drawings.

I. Retain services of independent testing laboratory to conduct moisture-density compaction tests to ensure conformance with compaction requirement; provide passing tests at locations as directed by Engineer.

J. If settlement of any trench occurs within period of guarantee and bond: refill, compact, level off and restore surfacing.

3.11 EXCAVATION

A. Strip vegetation and organic materials within construction limits and stockpile areas; dispose of as directed by Owner or Engineer.

B. Remove topsoil to minimum depth of 6" or as directed by Engineer.

C. Stockpile sufficient topsoil for reuse to finish earth surfaces within construction limits and stockpile areas; stockpile excess as directed by Engineer.

D. Grade and shape earth surfaces within construction limits to specified cross section; finish earth surfaces as specified hereinafter.

E. Grade and shape earth surfaces to drain; finish earth surfaces as specified hereinafter.

F. Uniformly spread excess on-site excavated materials and topsoil where shown on plans; excavated materials remain property of Owner.

3.12 EMBANKMENT AND STRUCTURAL FILL

A. Prepare site, place, and compact fill materials to required elevations and cross section.

B. Scarify, disc and roll foundation areas as necessary to provide proper bond with first layer of new fill.

C. Place no roots, brush, grass or other organic material in embankment or fill; place no material on embankment or fill when material or foundation is frozen.

D. Select material for each portion of embankment and fill with approval of Engineer; select materials to avoid sharp change in texture.

E. Use fill material free of lenses, pockets, streaks, or layers of materials differing from surrounding materials.

F. Cut bench in existing grade at toe of new embankment.

G. Construct embankment in horizontal layers not more than 9" in loose thickness.

H. Deposit each layer over full width of embankment as separate and distinct operation.

I. After layer is deposited, smooth to uniform depth by means of suitable motor patrol or bulldozer.

J. Compact selected materials in horizontal layers with tamping or sheepsfoot roller; use roller designed to provide at least 250 psi distributed on one row of knobs.

K. Compact layer by rolling with tamping type roller until full weight of roller is supported by tamping feet, but with not less than one pass per inch of loose thickness of layer.

L. Roller will be considered to be supported entirely on its tamping feet when feet do not penetrate more than 3" into material being compacted.

M. If soil is wet so that it will not sufficiently compact by one passage of roller per inch of loose thickness, provide one discing per 2" of loose thickness.

1. Cut and stir full depth of layer.
2. Allow interval of not longer than 2 hrs. between successive discings, or as directed by Engineer.
3. After discing is completed, compact layer by specified rolling.

N. If soil is dry so that it will not satisfactorily compact by rolling, moisten material before compaction; manipulate material to secure proper distribution of moisture before compaction.

O. Place fill and compact on all sides of structures to same level as fill operation progresses to protect structures against displacement or other damage.

P. Areas adjacent to structures which cannot be tamped with rollers: hand tamp with mechanical tamper to same degree of compaction as specified for other parts of embankment.

Q. Whenever operations are suspended during period rain is likely to occur, smooth and compact surface to shed water readily.

R. Provide 10 passing tests by independent testing laboratory at location determined by Engineer.

3.13 ROLLED EROSION CONTROL PRODUCT

A. Grade and smooth surface. Remove all rocks, clods, vegetation or other obstructions that will prevent direct contact between rolled erosion control product and the soil surface.

B. Prepare seed bed, seed and fertilize prior to placing rolled erosion control product.

C. Install in accordance with manufacturer's requirements and as shown on plans.

END OF SECTION

SECTION 02610

BURIED PIPING

PART 1 - GENERAL

1 .01 DESCRIPTION

A. This section describes buried piping shown or specified and required for complete piping systems including connections to treatment units, equipment and controls.

B. "Buried" refers to all piping and appurtenances buried beneath or buried outside buildings and structures; see Section 13570 - Inside Process Piping for piping located elsewhere.

C. Related work specified elsewhere:
   1. Section 02200 - Sitework.
   2. Section 03300 - Cast-in-Place Concrete.
   3. Section 13570 - Inside Process Piping.
   4. Section 15050 - Basic Materials and Methods.
   5. Section 15400 - Plumbing.

1.02 SUBMITTALS

A. Include following information as minimum:
   1. Identify pipe service and material to be used for each.
   2. Proposed adapters between dissimilar pipe.
   3. Pipe material, wall thickness, class and/or schedule number.
   4. Valve types, sizes, weights, dimensions, materials, locations, and pressure ratings.
   5. Valve operator types, sizes, weights, dimensions, and materials.
   6. Refer to Section 01300 - Submittals for other requirements.

PART 2 - PRODUCTS

2.01 PIPE MATERIALS

A. Pipe material, thickness, joints, and fittings to conform with BURIED PIPE SPECIFICATION TABLE included hereinafter.

B. Pipe material and valves permissible for each type service to conform with BURIED PIPING SCHEDULE included hereinafter; where more than one pipe material is listed for particular service, Contractor select and furnish one pipe material for that service unless Engineer approves otherwise (galvanic action may occur if certain pipe materials are intermixed).

C. Buried or exposed bolts, nuts and similar items: Cor-Blue T-bolt or stainless steel.

D. Label intended use for every pipe length and fitting supplied for construction to eliminate misuse in field.

BURIED PIPE SPECIFICATION TABLE

Pipe	Material	Thickness	Joints	Fittings
Copper Tubing (Cu)	ASTM B88, seamless soft annealed copper.	Type K (Heavy)	Dielectric unions for connections to ferrous piping or equipment.	Brass with pre-swaged ferrule and nut for each tube end.

BURIED PIPING SCHEDULE

Service	Design	Materials	Valves
Non-potable Water $>1"$	NPW	Copper	Curb Stops
Non-potable Water $\leq 1"$	NPW	Copper	Curb Stops

2.03 RESTRAINED JOINTS

A. Use restrained joints for pressure pipelines with working pressure greater than 15 psig.

B. Provide restrained joints where piping changes direction or dead ends.

2.04 CONNECTIONS BETWEEN DISSIMILAR PIPE

A. Provide special adapters for pressure piping, as required, with pressure rating not less than that for lowest rated pipe connected; submit details to Engineer for review.

B. Provide dielectric isolators between pipes of different metallic make up.

2.05 VALVES IN GENERAL

A. Valve types to conform with Buried Piping Schedule contained hereinbefore and as shown on plans.

B. Use valves of single manufacturer for each pipe service insofar as possible.

C. Provide all special tools required for packing and disassembling valves.

D. Valves designed specifically for burial and service intended.

E. Mechanical or push-on joints for iron pipe per ANSI A21.11.

F. Provide adapters if required to join pipe and valves.

2.09 CURB STOPS

A. Curb stops: ball-type, coated ball and resilient seats, copper-tubing sized; stainless steel rod extension to lid; connections: flare or compression for copper, pack-type or compression for plastic, use stainless steel insert on all plastic tubing; Hayes 4008, Mueller 15201, Ford B-22 Series.

B. Curb box: extension type curb box with arch pattern base, cast iron base and lid.

2.10 FITTINGS

A. Fittings: ANSI/AWWA C800, except as otherwise specified.

2.11 TRACER WIRE

A. Tracer wire: LLDPE insulation with minimum 45 mil thickness and 12-gauge copper wire; blue in color for water piping.

B. Splice kits: 3M - Scotchcast No. 3832, or equal.

C. Ground rods:
1. Provide uniform covering of electrolytic copper metallically bonded to steel rod.
2. Minimum diameter: 3/8".
3. Minimum length: 60".
4. Blackburn Catalog #3755 or equal.

D. Ground rod clamp: corrosion- resistant copper alloy ground rod clamp; Blackburn Catalog #G3 or equal.

E. Tracer wire box: Copperhead SnakePit LD14BTP-ADJ, or equal. Locate next to each curb box, yard hydrant and at entrance to structures and buildings.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION

A. Protect pipe joints and valves from injury while handling and storing.

B. Use no deformed, defective, gouged or otherwise impaired pipe joints or valves.

C. Clean bell and spigot surfaces of dirt and foreign matter before jointing pipe.

D. Make joints in strict accordance with manufacturers recommendations.

E. Rap and blow out piping and valves before and after installation.

F. See Section 02200 - Sitework for trench excavation and backfill.

3.02 PRESSURE PIPE INSTALLATION

A. Lay pipe in dry trench or through approved drilling extrusion media; minimum earth cover: 5'-6"; install to depths or grades shown on drawings.

B. Clean pipe interior of foreign material before lowering into trench or boring/drilling; keep clean at all times by closing open ends of pipe and fittings.

C. Before installation of metallic pipe, complete visual inspection; defective, damaged, or unsound pipe will be rejected.

D. Place in trench in sound, undamaged condition; do not injure pipe coating or lining; do not use end hooks to install or move pipe; use web slings.

E. Cut pipe in neat and workmanlike manner without damage to pipe.

F. Plug or cap and block all pipe ends or fittings left for future connections.

3.03 POTABLE WATER AND SEWER CONFLICTS

A. Maintain minimum 10' lateral separation between potable water piping and any gravity sewer piping.

B. Maintain minimum 18" vertical separation between bottom of potable water piping and top of gravity sewer piping with potable water above gravity sewer.

C. Adequately support existing water main to prevent settling or breakage.

3.04 VALVE INSTALLATION

A. Valves:
   1. Install with stems vertical and centered in valve box or stop box.
   2. Check all valve bolts when installed; tighten as necessary after valves are in operation and up to operating pressure.
   3. Support valves as required.
   4. Carefully tamp earth around each valve box to distance of 4' on all sides of box or to undisturbed trench face; if less than 4'; install as shown on drawings.

3.05 TRACER WIRE

A. Install tracer wire system on all piping; reconnect existing tracer wire systems on all piping disturbed or cut during construction.

B. Provide continuous tracer wire attached at midpoint of every pipe length with 2" wide 10 mil thickness polyethlyene pressure sensitive tape; do not splice tracer wire except as authorized by Engineer.
   1. Bring wire loop into tracer wire box and provide enough wire to allow for the wire to be brought above grade a minimum of 12" to allow connection of locating equipment.
   2. Use specified splice kits for all underground splices.
   3. Use Scotchcast terminating kits for wires terminated below ground level.
   4. Install ground rods with solid steel core at all terminal points of tracer system, or as directed by the Engineer.
   5. Ground rods shall not directly connect or touch water pipe or any other metal pipe or any separate grounding system.
   6. Connect tracer wire to ground rod with high strength, corrosion-resistant copper alloy ground rod clamp.
   7. Install tracer wire box at each water valve and curb box.

3.06 TESTS

A. Pressure piping:
   1. Test liquid piping systems with water before backfilling in accordance with ANSI/AWWA C600 and ANSI/AWWA C800 Appendix B; inspect all joints and valves for leakage after piping has been under pressure 2 hours.
   3. Valve off, or otherwise isolate instruments, controls or other piping accessories which would be damaged by test pressure.
   4. Provide test pumps, test plugs, pipe, and gauges, and make required piping connections.
   5. Retest piping showing leakage; replace or repair defective pipe, fittings and valves disclosed during tests to satisfaction of Engineer.

3.07 DISINFECTION

A. Disinfect potable water and water main piping.

B. Disinfect: provide minimum residual chlorine content of 50 ppm in water main; allow system to stand full of solution for 24 hours by use of one of the following methods:
   1. Inject a solution of calcium hypochlorite and water at a slow rate into water main.

C. Minimum free chlorine residual at pipe extremities: 10 ppm at end of test period; if requirement is not met, repeat disinfection procedure.

D. Operate all valves and hydrants in new main to assure full disinfection; repeat test procedure if necessary.

E. Thoroughly flush main after test until extremities indicate same chlorine residual as supply water. Highly chlorinated water shall be discharged into sanitary sewer system.

F. Within 24 hours after completion of disinfection and flushing, Owner will collect bacteriological samples and submit and pay for testing; sample must test "safe" before Owner will accept work.

G. Conform to AWWA 651.

H. Disinfect potable water, fire protection and water main piping specified under Section 13570 - Inside Process Piping, at same time.

END OF SECTION

SECTION 02930

LAWNS AND GRASSES

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes seeding at treatment plant site as shown on drawings and specified herein.
   1. Lawn grass seeding of all areas disturbed.
   2. Mulch over seeding on slopes exceeding 1 to 4.

B. Related work specified elsewhere:
   1. Section 02200 - Sitework.

1.02 STORAGE AND HANDLING

A. Deliver seed and fertilizer to site in producer's unopened, fully labeled packages.

B. Seed package label shall bear producer's guaranteed analysis for percentages of mixture, purity, germination and weed seed content.

C. Fertilizer package label shall bear analysis, trade name or trademark, and warranty of producer or furnish affidavit attesting to compliance.

D. Store packaged materials off ground and protect from moisture.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Topsoil:
   1. Use topsoil stripped from treatment plant site and stockpiled during excavation and grading operations as directed by Engineer; see Section 02200 - Sitework.

B. Fertilizer:
   1. Meet requirements of Iowa Department of Agriculture.
   2. Provide in granular form delivered to site in original containers; furnish proof of chemical analysis and weight to Engineer.
   3. Use of liquid fertilizer subject to approval by Engineer.

C. Lawn grass seed:
   1. Minimum percentage by weight of pure seed and germination listed below applies whether seed is used individually or mixed.

Kind of Seed	Purity (Minimum %)	Germination (Minimum %)
Permitted Kentucky Bluegrass Cultivars	95	85
Certified Bonnieblue Certified Victa Certified Windsow Certified Aquila Certified Parade Certified Park Certified Sodco Certified Nugget Certified Glade Certified Newport Certified Adelphia Certified Baron Certified Majestic Certified Galaxy		
Common Kentucky Bluegrass (in lieu of Cultivar)	85	80
Fescue, Creeping Red	98	85
Fescue, Kentucky 31	98	85
Permitted Varieties of Fine Leaf Perennial Ryegrass	95	90
Certified Yorktown Certified Epic Certified Pennfine Certified N.K. 200 Certified Eton Certified Derby Certified Manhattan		
Timothy	98	90
Ryegrass, Annual	98	90

D. Seed mixture and application rate:
   1. Lawn seed mixture:

Type of Seed	Application Rate lb./acre	lb./100 SF	lb./1,000 SF
Certified Kentucky Bluegrass Cultivar	37.5	8.61	0.86
Certified Kentucky Bluegrass Cultivar (not same variety as above)	37.5	8.61	0.86
Creeping Red Fescue	45.0	10.33	1.03
Certified Fine Leafed Perennial Ryegrass Cultivar	15.0	3.44	0.34
Certified Fine Leafed Perennial Ryegrass Cultivar (not same variety as above)	15.0	3.44	0.34
TOTALS	150.0	34.44	3.43

PART 3 - EXECUTION

3.01 TOPSOILING

A. Bring areas to be topsoiled to an elevation 6" below finish grade during grading operations, see Section 02200 - Sitework.

B. When contract operations have been completed to point where areas will not be disturbed, clean subgrade free of waste materials, scarify and pulverize to a depth of not less than 4" and remove surface irregularities.

C. Uniformly distribute topsoil to minimum depth of 6" after compaction.

D. Subgrade and topsoil must be damp and free from frost.

3.02 SOIL PREPARATION

A. Rake area free of stones and debris.

B. Thoroughly till topsoil by discing or harrowing to level out undulations and irregularities. Small areas may be raked as approved by Engineer.

C. Spread fertilizer for grass at rate listed below for each 1,000 SF:
   1. 5N-10P-5K: 30 lbs.
   2. 8N-6P-6K: 20 lbs.
   3. 6N-12P-2K: 25 lbs.
   4. 7N-7P-6K: 22 lbs.
   5. 10N-6P-4K: 15 lbs.
   6. 10N-5P-5K: 15 lbs.

D. Mix fertilizer into topsoil to minimum depth of 2" by discing or harrowing, disc areas to be seeded a second time, at right angles to first pass, prior to harrowing. Raking in fertilizer may be allowed by Engineer for small areas.

E. Compact areas to be seeded by roller weighing 85 to 100 lbs. per linear foot.

3.03 SEEDING (LAWN GRASS)

A. Sowing shall be done either between March 1 and May 31 or August 10 and September 30.

B. Rake surface to produce fine soil texture before seeding.

C. Uniformly distribute seed at rate as specified in Section 2.01; sow 50% in one direction; sow remainder at right angles to first pass.

D. Cover lightly by raking and compact soil by rolling.

E. Contractor is responsible for turning over to Owner a full stand of grass; any bare spots or area which does not attain a full stand during first growing season shall be replanted and redeveloped by the contractor as an incidental to the project.

3.04 MAINTENANCE

A. Protect and maintain lawns by watering until completed project is accepted by Owner.

B. When project is accepted by Owner, furnish complete written instructions for care of lawn to assure promotion of deep root growth, uniform color and quality, and which is reasonably free of weeds, disease or other visible imperfections.

END OF SECTION

SECTION 03100

CONCRETE FORMWORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes formwork for concrete specified under Section 03300 - Cast-in-Place Concrete.

B. Where 'ACI 347' is referred to herein, reference is to 'ACI Standard Recommended Practice for Concrete Formwork' adopted by the American Concrete Institute.

C. Related work specified elsewhere:
   1. Section 03200 - Concrete Reinforcement.
   2. Section 03300 - Cast-in-Place Concrete.

D. Anchors and inserts are specified elsewhere.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General:
   1. Contact surfaces of forms for concrete exposed: wood, plywood, hardboard, metal, form liner or other material which will produce surface finishes specified under Section 03300 - Cast-in-Place Concrete without adverse effect on concrete.
   2. Plywood: comply with PS 1-74; use maximum sheet sizes to keep joints to minimum.
   3. Hardboard: comply with FS LLL-H-35, Type 1, Class 2, hard pressed fiberboard treated for formwork use.
   4. Metal forms: smooth surfaces free from irregularities, dents and sags.
   5. Where used, form release agent must not stain or cause imperfections on concrete surface.

B. Chamfer strips: Polyvinylchloride, steel, good quality lumber carefully milled, free from protruding slivers and well sealed, or other nonabsorbent material.

C. Form Ties
   1. Form ties encased in concrete other than those specified in the following paragraphs shall be designed so that, after removal of the projecting part, no metal shall remain within 1-1/2" of the face of the concrete. The part of the tie to be removed shall be provided with a removable cone at least 1" diameter and 1-1/2" deep. Form ties in concrete exposed to view shall be the cone-washer type.
   2. Flat bar ties for panel forms shall have plastic or rubber inserts having a minimum depth of 1-1/2" and sufficient dimensions to permit proper patching of the tie hole.
   3. Ties for liquid containment structures shall have an integral waterstop that is tightly welded to the tie.
   4. Common wire shall not be used for form ties.
   5. Alternate form ties consisting of tapered through-bolts at least 1" in diameter at smallest end or through-bolts that utilize a removable tapered sleeve of the same minimum size may be used at the Contractor's option. Obtain Engineer's acceptance of system and spacing of ties prior to ordering or purchase of forming. Clean, fill and seal form tie hole with non-shrink cement grout. The Contractor shall be responsible for watertightness of the form ties and any repairs needed.

2.02 DESIGN AND FABRICATION

A. Design, engineer, and construct formwork to satisfy specified requirements and conditions shown on plans.

B. For concrete exposed to chemical attack, comply with recommendations contained in Chapter 4 of Environmental Engineering Concrete Structures - ACI 350.

C. Strength of forms, supports, and braces adequate to resist vertical and lateral loads; follow recommendations contained in Chapter 2 of ACI 347.

D. Provide positive means for adjusting shores and struts (wedges and jacks) so settlement can be taken up during concrete placement operations.

E. Allowable deflection of facing materials reflected in exposed concrete surfaces: not greater than 1/240 of span between structural members.

F. On exposed surfaces, pattern of joints between facing panels and marks left by form ties must be rhythmic and symmetrical.

G. Provide temporary openings near bottom of deep forms and other locations where necessary to facilitate observation and cleaning immediately prior to deposit of concrete.

H. Form design must include provisions for easy removal.

I. Provide 3/4" x 3/4" chamfers on external corners of columns, beams, slabs and walls which have two adjacent faces exposed.

J. Do not use earth cuts as forms for vertical surfaces without specific approval from Engineer.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Solidly back joints between facing panels and perimeter edges of facing panels to maintain proper alignment.

B. Forms must be sufficiently tight to prevent leakage of mortar; gasket, tape, caulk, or seal otherwise.

C. Cooperate with subcontractors in placement of anchors, bolts, inserts and other items embedded in concrete.

D. Leave section of forms adjacent to construction joint in place until concrete is deposited on other side of joint; retighten forms on completed section before next section is placed and carefully seal joint to prevent grout or paste leakage.

E. Securely brace shores and struts against lateral displacement.

F. Preparation of form surfaces:
   1. Remove loose concrete dust and other fine material from contact surface.
   2. Prior to placement of concrete, saturate board forms with joints opened by shrinkage of wood with water until wood swells and closes joints.
   3. Seal plywood and other wood surfaces not subject to shrinkage against absorption of moisture from concrete (field or factory applied).
   4. Apply coating for preventing of bond with concrete prior to placement of reinforcing steel; do not allow excess coating material to stand in puddles in forms or come in contact with concrete surfaces against which fresh concrete will be placed.
   5. Where painting of finished concrete is required, coatings applied to contact surface of forms must be compatible with type of paint to be used.
   6. Where as-cast finishes are required, do not use form coatings which will impart stain to concrete.

G. Prior to placement of reinforcing steel, request Engineer to inspect form surfaces; obtain permission from Engineer to start placement of reinforcing steel.

3.02 WORKMANSHIP

A. Form surfaces adjacent to concrete must conform to shape, line, and dimension shown with corners uniform, true and sharp, unless otherwise shown on plans.

B. Transition between curved and straight surfaces must be smooth, even and tangent; when such forms are in place request Engineer to inspect them before concrete is placed.

C. When forms are removed, concrete surfaces shall conform to size, shape and line shown on plans within tolerances listed under Chapter 3 of ACI 347.

3.03 OBSERVATION AND MAINTENANCE

A. Observe formwork continuously while concrete is being placed to ensure that there are no changes of elevation, plumbness or camber from as-designed conditions.

B. Stop placement if settlement is noted and adjust shores and struts to eliminate settlement.

C. If weakness in falsework is observed which will produce distortion or variation on concrete surfaces in excess of allowable tolerances, stop work and strengthen falsework; remove permanently damaged construction before proceeding with work.

3.04 REMOVAL OF FORMS

A. Remove in manner that will not mar, spall, or otherwise damage the concrete or other work.

B. Formwork not supporting weight of concrete: Formwork at locations such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing concrete at not less than 50°F. for 24 hours after its placement, provided all of the following criteria are met:
   1. Concrete has obtained strength required to not be damaged by form removal operations.
   2. Concrete curing and protection operations will be maintained in accordance with the requirements for those materials.
   3. Shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

C. Do not remove supporting forms and shoring for slabs, beams, channels, troughs, corbels, brackets, haunches, cantilevered or Y-shape elements, or other flexural members until concrete complies with all of the following criteria:
   1. No sooner than 14 days following concrete placement.
   2. Obtained a minimum compressive strength of 80% of the 28-day strength.

3. Of sufficient strength required to support its own weight and superimposed loads.

D. Remove the removable portion of form ties in a manner and at the period required to prevent damage to concrete.

E. Accomplish removal without prying against face of concrete or jarring structure; use wooden wedges only.

F. Remove supports in manner permitting concrete to assume load gradually and uniformly.

G. Perform reshoring for purpose of early form removal in manner that will not require large areas of new construction to support own weight.

H. When forms are removed before end of curing period, exposed concrete must be cured as specified under Section 03300 - Cast-in-Place Concrete.

I. Do not drop forms on floor.

J. Do not subject unsupported portions of structure to heavy construction or material loading.

3.05 REUSE OF FORMS

A. Reuse forms for exposed concrete only when in near new condition.

B. Do not reuse metal pans with bent flanges or dents until they have been straightened to near new condition.

C. Thoroughly clean and recoat forms before reuse; recondition if necessary.

D. Do not reuse forms if condition does not meet requirements set forth herein.

END OF SECTION

SECTION 03200

CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes reinforcing steel for concrete specified under Section 03300 - Cast-in-Place concrete.

B. Related work specified elsewhere:
   1. Section 03100 - Concrete Formwork.
   2. Section 03300 - Cast-in-Place Concrete.

1.02 SUBMITTALS

A. Submit complete shop drawings showing all dimensions necessary for fabrication and placement of reinforcing steel and accessories, without reference to contract drawings; include elevations of wall reinforcing and location of construction joints.

B. Do not start fabrication until receipt of reviewed drawings from Engineer.

C. See Section 01300 - Submittals for additional requirements.

1.03 MINIMUM REINFORCEMENT REQUIREMENTS

A. Bars:
   1. Reinforce footings as shown on drawings; where reinforcing is not shown include:
      a. #4 at 8" each way bars for spread wall footings.
      b. #5 at 8" each way bars top and bottom in trench footings up to 8" thick.
      c. #6 at 10" each way bars top and bottom in trench footings 10" thick and over.
   2. Reinforce top of wall footing under door and other openings with two #4 bars, minimum; 4'-0" longer than opening.
   3. Reinforce curbs as shown on drawings; where reinforcing is not shown, place one #4 bar top and bottom.

4. Reinforce walls as shown on drawings; where reinforcing is not shown, include:

Wall Thickness	Horizontal Bars	Vertical Bars	Location
6"	#4 @ 12"	#4 @ 12"	Center on Wall
8"	#4 @ 12"	#4 @ 12"	Center on Wall
10"	#4 @ 12"	#4 @ 12"	Each Face
12"	#5 @ 12"	#5 @ 12"	Each Face
16"	#5 @ 12"	#5 @ 12"	Each Face

5. At wall or floor openings, if reinforcing is not shown, include two #5 bars, each face, on all sides, 4'-0" longer than opening dimension.
6. Reinforce masonry load bearing and exterior concrete block walls as shown on drawings; where reinforcing is not shown, include #5 @ 24" vertical.

B. Mesh:
1. Reinforce slabs as shown on drawings; where reinforcing is not shown, include:
   a. 6" x 6" W2.1.x W2.1 mesh for following:
      1) 4" slabs on grade.
      2) Toppings.
   b. 6" x 6" W2.9 x W2.9 mesh for following:
      1) 6" or thicker slabs.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Bars:
1. ASTM A615, Grade 40 billet-steel with 40,000 psi minimum yield strength for #3 and smaller bars.
2. ASTM A615, Grade 60 billet-steel with 60,000 psi minimum yield strength for #4 and larger bars.

B. Prefabricated steel bar mats which meet specified bar requirements and spacings may be used in lieu of job placed individual bars.

C. Mesh: welded wire fabric; ASTM A185.

D. Shear connectors: welded wire truss; ASTM A82.

E. Spacers and chairs:
1. Type: as shown on plans.
2. Comply with ACI 315.
3. Chairs: corrosion resistant.

F. Tie wire: black annealed wire; 16 gauge, minimum.

G. Mechanical splices: threaded splice; Dayton Superior D-101, or equal.

2.02 FABRICATION

A. Carefully form bars to shapes and dimensions shown on plans; where not shown, comply with requirements of ACI 315.

B. Tolerances: comply with ACI 315 unless otherwise shown on plans.

C. Bend all bars cold.

D. Make bends for stirrups and ties around pin having diameter not less than two times thickness of bar.

E. Bend bars around pin having diameter not less than six times minimum thickness of bar; eight times minimum thickness for bars larger than 1".

F. Hooks: conform to requirements of ACI 318.

G. Where column bars are offset or dowels used for column splices, provide 1/2" clearance between bars or dowels and vertical bars of next lift.

H. Tag bars with metal, linen or rope fiber tags filled in by machine or waterproof ink; do not use paper tags.

PART 3 - EXECUTION

3.01 PLACEMENT

A. Design must comply with ACI 318 and details must conform to ACI 315, unless otherwise shown on plans.

B. Reinforcement: free from dirt, loose, flaky rust and scale, oil, grease, ice, or other coating which could reduce or destroy bond.

C. Bars:
   1. Accurately place and securely wire-tie bars in position before concrete is deposited; point wire-tie ends away from form.
   2. Support bars rigidly on spacers and chairs:
      a. Number, location and size: comply with Chapter 7 of ACI 315 unless otherwise shown; other methods of support will be permitted subject to Engineer's approval.
      b. List number of supports for each span on schedule or mark on placing plan.
      c. Chairs required for top layer of reinforcing in footings.

d. Use U or Z 1/4" reinforcing bar spacers between layers in walls at 5' oc each way.

3. Lap splices and butt-welded splices in accordance with Chapter 7 of ACI 318.
4. At walls without footing pads, rest bottom of reinforcing on concrete brick.
5. Reinforcement spacing shown on plans is in inches.

D. Minimum protection between face of steel and outer face of concrete must comply with following, unless otherwise shown on plans:
   1. 3" for footings and other principal structural members where concrete is cast against ground.
   2. 2" for wall or other formed surfaces exposed to sewage, effluent, chemical attack, weather or in contact with ground; 1-1/2" if bars are #5 or smaller.
   3. 1-1/2" or 1-1/2 time maximum size of coarse aggregate for beams, girders and columns; dimension is to ties where used.
   4. 1" for floor joists where clear distance between joists is not over 30".
   5. 3/4" for slabs and walls not exposed to weather or directly to ground.
   6. Protection of reinforcement must at least equal to diameter of bars being covered, except 3/4" protection is sufficient for bars in slabs, regardless of bar size.

E. Tolerances:
   1. Height of bottom bars above bottom of form: 1/4" plus or minus from established dimension.
   2. Lengthwise:
      a. Top or bottom bars: 2" $\pm$ from plan dimension (extend same amount into each support).
      b. Truss bars: 2" $\pm$ from plan dimension (applies to ends of bars and bend points).
   3. Bar spacing in walls and solid slabs: do not exceed two times thickness of slab or all unless otherwise shown on plans.
   4. Lateral spacing in joists or beams where spacing is established: plus or minus 1/4".
   5. Clearance between face of steel and face of concrete: plus or minus 1/4".
   6. Height of top bars (top of bar to top of beam or slab): plus or minus 1/4" (if necessary to lower bars over 1/4", check with Engineer for increase in size or number of bars).
   7. Stirrup or tie spacing: 2" $\pm$ for any one unit (end unit not more than 1" either way from position shown).

F. Mesh:
   1. End lap by one of following methods:
      a. Overlap one full mesh (tip to tip of wires) and tie with wire and 1'-6" oc.
      b. Overlap with end cross wire of one piece in contact with next-to-end wire of other piece; tie to keep fabric in place or prevent edge from curling up.

2. Side lap by one of following methods:
   a. Place selvage wire in middle of first mesh and wire tie at 5'-0" oc (stagger ties).
   b. Place selvage wire in contact with next-to-edge longitudinal wire; tie to keep fabric in place or prevent edge from curling up.
3. Place mesh 2-1/2" below top of slab on grade, unless otherwise shown on plans or specified.
4. Accurately place and rigidly support mesh on metallic supports, built-in concrete blocks or other suitable means; prevent displacement by foot traffic runways and compaction tools.
5. Positioning mesh in slab by lifting with hook from bottom of form through concrete not permitted.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes all cast-in-place concrete work shown on plans, including but not limited to:
   1. Foundations (footings and grade beams).
   2. Below grade walls.
   3. Tanks and similar structures.
   4. Columns.
   5. Interior walls at basement level.
   6. Interior slabs on grade.
   7. Bases for mechanical and electrical equipment.
   8. Concrete encasement.
   9. Grout for equipment leveling and where shown.
   10. Fill or fillet concrete for tanks and where shown.
   11. Sidewalks, driveways and pavement.

B. Related work specified elsewhere:
   1. Section 01010 - General Provisions.
   2. Section 02200 - Sitework.
   3. Section 03100 - Concrete Formwork.
   4. Section 03200 - Concrete Reinforcement.

1.02 QUALITY CRITERIA

A. Contractor must follow recommendations set forth in Chapter 4 of Environmental Engineering Concrete Structures - ACI 350R for concrete in contact with sewage or effluent or exposed to chemical attack.

1.03 STORAGE OF CEMENT AND AGGREGATES

A. Store cement in weathertight structure with floor raised not less than 1' from ground.

B. Do not use cement which has hardened or partially set; remove from site.

C. Store fine and coarse aggregate separately in manner to prevent segregation of sizes and avoid inclusion of dirt and other foreign materials.

D. Stockpile natural sand at least 24 hours before using.

1.04 DEPOSITING DURING COLD WEATHER

A. Do not place concrete without protection if temperature of surrounding air is below 40°F. and falling or if it may be subjected to freezing temperature during curing period.

B. From November 1st to May 1st, do not place concrete without protective materials readily available, on job site, in quantities sufficient to protect all concrete that has not cured for specified period. U.S. Weather Bureau predictions will be used as basis for requiring that protective measures be taken.

C. Do not use frozen materials or materials containing ice in concrete.

D. Do not place concrete over or in contact with frozen earth; forms, reinforcement and fillers must be free from frost.

E. Protection of concrete required:
   1. If temperature is expected to drop into 32°F. to 35°F. range during period:
      a. After curing membrane specified herein under PROTECTING AND CURING is installed, cover following with minimum 1" blanket insulation:
         1) Exposed surfaces of slabs on earth.
         2) Framed components (including beams and walls) formed with 1" thick wood.
         3) All metal formed items.
      b. Protect insulation with polyethylene sheets, Sisalkraft, tarpaulins, or equal.
   2. If temperature is below 35°F. when concrete is placed:
      a. Placement temperature of concrete must be 60°F. plus or minus 10°F.; methods and equipment for heating mixing water and aggregates must be agreeable to Engineer.
      b. Temperature of surrounding air must be maintained at minimum 50°F. during placement and for not less than 5 day thereafter; minimum 40°F. for next 2 days (3 days and 1 day respectively if high early strength cement is used).
      c. When heating is discontinued, lower temperatures gradually; maximum 1°F. per hour for first 24 hours; 2°F. per hour thereafter until outside temperature is reached.
   3. Any method of protection included in recommendations in Title 75-18 by ACI Committee 306 may be substituted for protection specified herein if temperature and moisture conditions recommended for type and service category of concrete being placed are maintained for recommended period of time; obtain permission of Engineer for substitute method before using.

F. Use of salts or chemicals for protection from freezing not permitted.

G. Remove and replace concrete damaged by freezing.

1.05 DEPOSITING DURING HOT WEATHER

A. Contractor must follow recommendations set forth in Hot Weather Concreting (Title 74-33 by ACI Committee 305) to minimize detrimental effects of hot weather on concrete placed on project; whenever air temperature is expected to exceed 75°F. during placement operations, Contractor must consult with Engineer concerning practices to be followed.

B. Temperature of concrete at time of deposit must be below 90°F.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Portland cement: ASTM C150, Type I or Type III. C_3A (Tricalcium aluminate) content must be less than 8% for concrete in direct contact with sewage or effluent or exposed to chemical attack.

B. Portland pozzolan cement: ASTM C595, Type IP or IP-A; pozzolan content must not exceed 25% by weight.

C. Fine aggregate:
   1. Meet requirements of ASTM C33, except where more rigid requirements are included herein.
   2. Gradation within requirements of ASTM C33, Par. 3; sieve analysis of aggregate must accompany mix design when submitted to Engineer for review.
   3. Natural sand:
      a. Clean, hard, strong, durable, uncoated grains.
      b. Coal and Lignite: 1.0%.
      c. Prove acceptability of aggregate by laboratory test conducted and certified by laboratory acceptable to Engineer on samples taken in accordance with ASTM C75.

D. Coarse aggregate:
   1. Meet requirements of ASTM C33, except where more rigid requirements are included herein.
   2. Clean, hard, strong, durable uncoated pieces.
   3. Gradation within requirements of ASTM C33, Table II:
      a. #467 or #57, 1-1/2" or 1" to No. 4, for footings and plain concrete.
      b. #57, 1" to No. 4, for slabs on grade and reinforced walls.

c. #57 or #67, 1" or 3/4" to No. 4, for slabs, beams, girders, columns, fillet and fill concrete.
d. #7, 1/2" to No. 4, for fill over steel stair treads and landings.

4. Limitation of deleterious substances:
   a. Clay lumps and friable particles: maximum 1.0%.
   b. Soft particles: maximum 2.0%.
   c. Coal and Lignite: maximum 0.25%.
5. Crushed limestone: meet IDOT specifications 4115.03 for abrasion and 4115.04 for Class 2 or 3 durability; not more than 1.0% of clay lumps and friable particles, 2.0% of soft particles and 0.25% of coal and lignite allowed; prove acceptability by submission of certified laboratory test report.

E. Admixtures:
1. Air-entraining agents: ASTM C260.
2. Water reducing agents: ASTM C494, Type A.
3. Retarding agents: ASTM C494, Type B.
4. Accelerating agents: ASTM C494, Type C.
5. Water reducing and retarding agents: ASTM C494, Type D.
6. Water reducing and accelerating agents: ASTM C494, Type E.
7. High range water reducing agents: ASTM C494, Type F.
8. High range water reducing and retarding agents: ASTM C494, Type G.
9. Fly ash and GGBFS: IDOT Section 4108. Fly ash to be Class C.
10. Shrinkage reducing admixture: ASTM C157; W.R. Grace, or equal.
11. Synthetic fibers: high volume monofilament polypropylene/polyethylene blend; 1-1/2" to 2" length; 78 ksi fiber tensile strength; minimum 1,300 ksi modules of elasticity; ASTM C1116; dosage rate 3.5 lbs./CY of concrete.

F. Water: clean and free from injurious amounts of oil, alkalies, acids, or organic matter.

G. Metal crack control joint: Heckmann No. 98, or equal.

H. Dowels:
1. ASTM A15; 1'-6" long, smooth round steel rods: diameter as shown on drawings.
2. Where preformed filler is required, completely coat one end with heavy grease and cover with expansion cap.

I. Preformed expansion or isolation joint filler:
1. Self-expanding cork, ASTM D1752, Type III.
2. 1/2" thick, unless otherwise shown on drawings.

J. Joint sealer:
   1. Thickol sealer: FS TT-S-00227E (two part) or FS TT-S-00230C (one part), Type I (self-leveling), Class B (resistant to 25% total movement), based on liquid polysulfide polymers.
   2. Pour-type urethane sealant: Sonneborn Sonolastic Paving Joint Sealant (two parts), or Sonomeric CT (one part), or equal.

K. Backing rod: round polyethylene rod; Dow Chemical Co., Ethafoam rod, or equal.

L. Waterstops:
   1. Polyvinylchloride with following characteristics when tested in accordance with ASTM test method listed:

Specific Gravity	1.32 plus or minus 0.05	ASTM D792
Hardness	76 plus or minus 3	ASTM D2240
Tensile Strength	2250 psi (minimum)	ASTM D638
Elongation	350% (minimum)	ASTM D638
Cold Brittleness	-35°F. or lower	ASTM D476

   2. Design: 6", ribbed with corrugations and center bulb, except where shown otherwise; Greenstreak Type 705, or equal.
   3. Expansive waterstop may be used for vertical construction joints and where shown on drawings; Volclay Waterstop-RX, Greenstreak Hydrotite, or equal.

M. Liquid applied curing and sealing compounds:
   1. For interior surfaces, except where floor hardness is specified: West Concrete Floor Sealer (West Chemical Products, Inc.), Kure-N-Seal (Sonneborn-Contech), L & M Cure (L & M Construction Chemicals, Inc.), or equal; do not use Kure-N-Seal on floors that will be subjected to petroleum drips and spills, such as motor vehicle traffic or parking.

N. Liquid applied floor hardener; fluosilicate based material; Sonneborn Lapidolith, A.C. Horn Hornolith, L & M Fluohard, or equal.

O. Abrasive aggregate:
   1. Silicon carbide or aluminum oxide.
   2. Any manufacturer's gradation which falls in range of 12 to 36 grit is acceptable.

P. Grout: ASTM C1107 Class B or C; mix according to recommendations of manufacturer; strength: not less than that of adjacent concrete; L&M Crystex, Master Builders Masterflow 928, or equal.

Q. Use Dur-O-Wall heavy duty trusses, or equal, for vertical trusses; use single truss full height and width according to wall thickness.

R. Bond Breaker
   1. Bond breaker tape shall be an adhesive-backed glazed butyl or polyethylene tape which will satisfactorily adhere to the premolded joint filler or concrete

surface as required. The tape shall be the same width as the joint unless otherwise noted.

2. Except where tape is specifically called for on the drawings, bond breaker for concrete shall be either bond breaker tape or a non-staining type bond prevention coating such as Williams Tilt-up Compound by Williams Distributors Inc.; Silcoseal 2000F, by SCA Construction Supply Division, Superior Concrete Accessories or equal.

S. Bonding Agent
   1. Epoxy bonding agent shall be a two-component, solvent-free, moisture insensitive, epoxy resin material conforming to ASTM C881 (1999), Type V. The bonding agent shall be Sikadur 32 Hi-Mod by Sika Corporation of Lyndhurst, NJ; Concresive Liquid (LPL) by Master Builders of Cleveland, OH or equal.
   2. Latex bonding agent shall be a non-reemulsifiable acrylic-polymer latex conforming to ASTM C1059, Type II.

2.02 QUALITY AND DESIGN OF MIXES

A. Design compressive strength:
   1. Pipe encasement, fill and fillet (Class B) concrete: 2,500 psi.
   2. All other (Class A) concrete: 4,000 psi.
   3. Maximum water to cement ratio 0.45 for concrete exposed to sewage, effluent or subject to chemical attack; maximum water to cement ratio 0.40 for concrete containing shrinkage reducing admixture.

B. Design of mix:
   1. Overdesign mixes in accordance with plant coefficient of variation. Overdesign must assure less than 1 chance in 10 that test will fall below design compressive strength and that 99 chances out of 100 no test will fall below 90% of design compressive strength.
   2. Complete design in advance of first placement; any existing mix design may be used if made or checked within previous six months by approved testing laboratory using aggregates from same source and same gradation as those used on this project.
   3. Comply with ACI 211.1 Recommended Practice for Selecting Proportions for Normal Weight Concrete and recommendations set forth in Chapter 3 of Environmental Engineering Concrete Structures - ACI 350R for concrete in contact with sewage or effluent or exposed to chemical attack.
   4. Slump:
      a. Footings and substructure walls: 3" plus or minus 1".
      b. Beams, columns, slabs and reinforced walls: 3" plus or minus 1".
      c. Heavy mass construction: 2" plus or minus 1".
   5. Submit mix design to Engineer for agreement before any concrete is placed; include design which contains fly ash or Pozzolan based admix and design which contains retarding type water reducing admix, with appropriate slump adjustments, if need is indicated.

6. Assign number to each mix design for future reference.

C. Admixtures:
   1. Air entraining agent:
      a. Add at mixer for all concrete.
      b. Concrete must contain 5.0% plus or minus 1.0% air by volume if maximum aggregate size is 1-1/2"; 6.0% plus or minus 1.0% if maximum aggregate size is 3/4" or 1", 7.0% plus or minus 1% if concrete contains shrinkage reducing admixture.
   2. Do not use calcium chloride or other salts as antifreeze or to accelerate set.
   3. Cement dispersing agent or concrete densifiers (water reducing and high range water reducing agents):
      a. Recommended to improve workability and control rate of hardening for controlling uniformity under varying temperature and weather conditions.
      b. Add water reducing and retarding type to mix if air temperature is above 80°F. and freshly placed concrete will be exposed to sun and/or hot drying wind.
      c. Fly ash or Pozzolan based admixture recommended for exposed interior finish concrete, including slabs on grade and floor fill.
      d. Fly ash or pozzolan based admixture required when using high range water reducing agents.
      e. Do no use melamine-based high range water reducing agents if concrete is exposed to freeze-thaw cycles.
      f. Do not use high range water reducing agents in beams, joists or elevated slabs.
      g. Use in accordance with manufacturer's recommendations.
   4. Synthetic fibers may be used in place of welded wire fabric where shown on plans.
   5. Shrinkage reducing admixtures may be used at Contractor's option.

2.03 BATCHING AND MIXING

A. Operations, equipment and location of facilities subject to approval of Engineer.

B. Measuring of materials:
   1. By weight such that proportions can be accurately controlled and easily checked.
   2. Weigh ingredients separately.
   3. Weigh cement for each batch if fractional sacks or bulk cement is used.
   4. Water measurement to 1 pint plus or minus for total per batch.

C. Mix one cubic yard batch for at least 1-1/2 minutes after all materials are in mixer; increase time by 15 seconds for each additional cubic yard or fraction thereof.

D. Ready-mixed concrete: comply with ASTM C94.

2.04 QUALITY CONTROL

A. Slump tests:
   1. Make test in accordance with ASTM C143 on sample taken in accordance with ASTM C172.
   2. Tests required:
      a. First load each day.
      b. Whenever other tests are being made.
      c. After any change in mix.
      d. When directed by Engineer.

B. Temperature tests:
   1. Required whenever outside temperature is within 10°F. of limiting temperatures specified herein under DEPOSITING DURING HOT (or COLD) WEATHER.
   2. Make tests at same time slump tests are taken.
   3. Use armored thermometer accurate to plus or minus 2°F.
   4. Place thermometer in freshly discharged concrete and leave it in place until reading becomes stable.

C. Air content tests:
   1. By pressure method (ASTM C231) or volumetric method (ASTM C173) on samples taken in accordance with ASTM (C172).
   2. Test first load of air entrained concrete and spot check by additional test on each day that air entrained concrete in placed.

D. Compression tests:
   1. Prepare cylinders in accordance with ASTM C31.
   2. Set of 3 cylinders required for every run of 50 CY or fraction thereof.
   3. Cure cylinders under laboratory conditions and test by procedure in ASTM C39.
   4. Prepare additional cylinders and cure under job conditions if air temperature is likely to fall below 40°F.
   5. Break cylinders at 7 and 28 days.
   6. If over 1 in 10 tests of laboratory specimens fall below design compressive strength specified, check design of mix and make necessary corrections before additional concrete is placed.
   7. When test specimens break below strength specified, Contractor may be required to test concrete affected by procedure in ASTM C42 (core tests) or load test portion of structure affected.
   8. Remove concrete not in accordance with specifications and replace without cost to Owner.

E. Record results of all test immediately in Log of Tests which must be maintained at job site; log must contain following information:
   1. Date and time test are made.
   2. Test results, if immediately available.

3. Exact location where tested concrete was placed in structure.
4. Weather conditions, including air temperature at time tests were made.
5. Plant and number of mixer truck that delivered concrete.
6. Name of person who made test.
7. Mix design number.

PART 3 - EXECUTION

3.01 PREPARATIONS FOR PLACEMENT

A. Verify with Engineer that reinforcing steel placement has been checked, and with subcontractors that wall pipes, anchor bolts, wall thimbles, pipe sleeves, drains, conduit and outlets have been placed in forms.

B. Remove foreign materials (chips, blocks, sawdust, ice and water) from forms.

C. Where placing against hardened concrete, clean contact surface thoroughly and remove all laitance, wet vertical surfaces and slush with neat cement grout just prior to placement of new concrete.

3.02 WATERSTOPS

A. PVC Waterstops
   1. Install PVC waterstops for all joints where waterstops are indicated on the drawings, unless specifically noted otherwise. Waterstops shall be continuous around all corners and intersections so that a continuous seal is provided. Splices shall be made by welding.
   2. PVC splices shall be made by welding in accordance with the manufacturer's recommendations, subject to acceptance of the Engineer. Only manufacturer's special approved tools shall be used for welding. The finished splices shall provide a cross-section that is dense and free of porosity.
   3. Each piece of the waterstop shall be of maximum practicable length to provide a minimum number of splices.
   4. To properly secure PVC waterstops in wall joints before concrete is placed, drill holes in waterstops approximately 1" from each edge or between the outermost ribs at each edge and center the waterstop in the joint. Tie both edges of the waterstop and fasten to reinforcing steel with black annealed steel tie wire as specified for tying reinforcing steel and secure in place so that the waterstop will be perpendicular to the joint and remain in the required position during concrete placement. The spacing of the waterstop ties shall match the spacing of the adjacent reinforcing, but need not be spaced closer than 12" on center.
   5. Horizontal waterstops in slabs shall be clamped in position by the bulkhead (unless previously set in concrete).
   6. Horizontal PVC waterstops in slabs shall have the edge of the waterstop lifted while placing concrete below the waterstop. Then the waterstop shall be

manually forced against and into the placed concrete and covered with fresh concrete, to ensure adequate encasement of the waterstop in concrete.

7. Waterstops shall be installed so that half of the width will be embedded on each side of the joint. Care shall be exercised to ensure that the waterstop is completely embedded in void-free concrete.
8. Waterstops shall be terminated 3" below the exposed top of walls. Expansion joint waterstop center bulbs shall be plugged with foam rubber, 1" deep, at point of termination.

B. Expansive Waterstops
   1. Install waterstops at joints where specifically noted on the drawings. Waterstops shall be continuous around all corners and intersections so that a continuous seal is provided.
   2. Each piece of the waterstop shall be of maximum practicable length to provide a minimum number of connections or splices. Connections and splices shall conform to the manufacturer's recommendations and as specified herein.
   3. Waterstops shall be terminated 3" below the exposed top of walls.
   4. Prepare the joint surfaces, install primers or adhesives, and install expansive waterstops in accordance with the manufacturer' instructions.

3.03 PLACING CONCRETE

A. Notify Engineer 1 day before each placement.

B. Do not add water to concrete between mixing and placing operations without specific agreement of Engineer and continuous inspection acceptable to Engineer; under no circumstances may added water cause concrete to slump greater than that established in design mix; verify with slump tests; maintain uniform consistency.

C. Conveying:
   1. Method must ensure uniform concrete at forms with minimum slump loss.
   2. Chutes must be steep enough to permit concrete of design consistency to flow to point of deposit or other means of conveying must be used.

D. Fill forms completely in one operation.

E. During placement operations, work concrete around reinforcement, embedded fixtures, and into corners of forms; thoroughly compact and exercise particular care to prevent surface voids and honeycomb on exposed surfaces.

F. Placement in deep narrow forms other than column forms:
   1. Discharge into hopper feeding into drop chute if free fall will be more than 3'.
   2. Drop vertical; do not push or pull bottom of chute from vertical position to distribute concrete; move chute.
   3. For concrete exposed, the following applies:

a. Place in maximum 20" deep layers and consolidate each layer with preceding layer before starting placement of next layer.
b. Do not allow concrete to flow laterally for more than 3'; move chute or place sufficient number of chutes in forms to assure top of concrete is kept level.
c. If placement rate is faster than 2' per hour, reduce slump proportionally as each 1/4 of form depth is filled so slump of top 1/4 will not exceed 3".
d. If plasticized concrete is used, the maximum lift thickness may be increased to 7' and the maximum free fall of concrete shall not exceed 15'; subparagraphs "b." and "c." above do not apply.

G. Place beams, girders, brackets, column caps and haunches integrally with floor system.

H. Allow minimum 2 hours after deposit of columns or walls before depositing beams, girders or slabs supported thereon.

I. Vibration of concrete:
1. Use internal type vibrator; insert and withdraw slowly.
2. Insert vibrator vertically to full depth of layer being placed, at regular intervals (18" to 30").
3. Do not use vibrator to cause concrete to flow from one location to another.
4. Avoid segregation in concrete due to over vibration.
5. Do not allow vibrator to come in contact with formwork surfaces for exposed concrete.

J. Stop placement only where directed, at point of no shear, and erect tight, plumb dams through forms.

3.04 JOINTS

A. Key construction joints; where reinforcing is interrupted, dowel joints; size and number of dowels as shown on drawings.

B. Place construction joints through framed slabs on center of span unless otherwise shown on drawings or approved by Engineer.

C. Wall construction joints must form symmetrical pattern on exposed surfaces, unless otherwise shown on drawings

D. Vertical construction joints are allowed at quarter points in walls; lap reinforcing steel as specified; install keyway and waterstop; submit location of proposed vertical construction joints prior to construction for Engineer's review.

E. Hold top of expansion or isolation joint filler maximum 1/2" below surface for joint sealer at exposed joints.

F. Control joints in slabs on grade:
   1. Saw cut joints to depth of 1/4 of slab thickness, unless otherwise specified; make cut not less than 8 hours or more than 24 hours after slab is placed.
   2. In lieu of saw cutting joint, Contractor may place metal crack control joint.
   3. Stop every other bar at joint.

G. Dowels:
   1. For expansion joints.
   2. Install in center of slab or at third points as shown on drawings, parallel to surface and perpendicular to joint.
   3. Completely coat one end with heavy grease at joints where preformed filler is required; expansion cap required over greased end of dowel.

H. Where applied floor coverings are scheduled, fill saw cut joints in interior slabs with dry mix of 1:9 cement and sand.

I. Fill all other interior saw cut joints, expansion and isolation joints with Thickol joint sealer in accordance with manufacturer's directions; prime edges of joint if recommended by manufacturer.

J. Waterstops:
   1. Required where shown on drawings and at joints subject to hydrostatic pressure.
   2. Heat splice joints in accordance with manufacturer's specifications.
   3. Install as detailed on drawings; wire to reinforcing.

3.05 FINISH ON FORMED SURFACES

A. Uniform finish required on exposed concrete surfaces.

B. Texture on formed surfaces must be indicative of form material used, except for following limitations and requirements:
   1. Small isolated air bubbles will be allowed.
   2. Width and projection of form marks on exposed concrete must not be greater than 1/16", except no projections allowed on inside channel or conduit walls and slabs; grind off projections as required.

C. Finish exposed top surface of formed members as closely as possible to finish on formed surfaces.

D. Repair defective concrete and damaged areas as follows:
   1. Cut back to solid concrete all weak concrete around holes and at honeycomb.
   2. Thoroughly wet area to be repaired and brush coat with neat cement grout.
   3. Fill large voids with cement mortar composed of 1 part cement, 2 parts fine aggregate and water; place in compacted layers to finish flush with adjacent surfaces.

4. On exposed concrete:
    a. Remove excess grout, after it is partially set, by working with float and rubbing with burlap; leave no visible filler or grout.
    b. Patched areas must match adjacent surface.

E. Where form ties are used, fill cutback holes as specified above for repairing defective concrete.

F. Smooth form finish all exposed concrete surfaces, completely remove fins.

G. Rough-Form Finish
1. No additional finishing is required.

H. Rubbed Finish
1. While the wall is still damp apply a thin coat of medium consistency neat cement slurry by means of bristle brushes to provide a bonding coat within all pits, air holes or blemishes in the parent concrete. Avoid coating large areas with the slurry at one time.
2. Before the slurry has dried or changed color, apply a dry (almost crumbly) grout proportioned by volume and consisting of 1 part cement to 1-1/2 parts of clean masonry sand having a fineness modulus of approximately 2.3 and complying with the gradation requirements of ASTM C33 for such a material. Grout shall be uniformly applied by means of damp pads of coarse burlap approximately 6" square used as a float. Scrub grout into the pits and air holes to provide a dense mortar in all imperfections.
3. Allow the mortar to partially harden for 1 or 2 hours depending upon the weather. If the air is hot and dry, keep the wall damp during this period using a fine, fog spray. When the grout has hardened sufficiently so it can be scraped from the surface with the edge of a steel trowel without damaging the grout in the small pits or holes, cut off all that can be removed with a trowel. (Note: Grout allowed to remain on the wall too long will harden and will be difficult to remove.)
4. Allow the surface to dry thoroughly and rub it vigorously with clean dry burlap to completely remove any dried grout. No visible film of grout shall remain after this rubbing. The entire cleaning operation for any area must be completed the day it is started. Do not leave grout on surfaces overnight. Allow sufficient time for grout to dry after it has been cutoff with the trowel so it can be wiped off clean with the burlap.
5. On the day following the repair of pits, air holes and blemishes, the walls shall again be wiped off clean with dry, used pieces of burlap containing old hardened mortar which will act as a mild abrasive. After this treatment, there shall be no built-up film remaining on the parent surface. If, however, such a film is present, a fine abrasive stone shall be used to remove all such material without breaking through the surface film of the original concrete. Such scrubbing shall be light and sufficient only to remove excess material without changing the texture of the concrete.

6. A thorough wash-down with stiff bristle brushes shall follow the final bagging or stoning operation. No extraneous materials shall remain on the surface of the wall. The wall shall be sprayed with a fine fog spray periodically to maintain a continually damp condition for at least 3 days after the application of the repair grout.

3.06 PROTECTING AND CURING

A. Protect exposed surfaces from premature drying.

B. Protect freshly placed concrete against wash by rain.

C. Keep concrete continuously wet for 7 consecutive days after placement, including weekends and holidays (3 days if Type III Portland cement is used); alternate cycles of wetting and drying not permitted; exercise special care when surrounding air is heated during cold weather operations.

D. Approved methods of curing:
   1. Cover with fabric mats and keep wet during curing period.
   2. Cover with waterproof paper which meets requirements of ASTM C171.
   3. Cover with clear or white polyethylene sheets, 0.004" thick; lap edges minimum 4" and seal with tape.
   4. Seal with liquid applied curing and sealing compound applied in accordance with manufacturer's directions; do not apply compound on construction joints. Paragraph 3.06 C. above does not apply.
   5. Do not use Methods 1 and 4 in unheated areas during cold weather operations if exposed concrete is protected with blanket insulation.

E. Vertical surfaces:
   1. Wood forms, kept wet, and metal forms provide satisfactory curing; cure exposed top surfaces as specified above.
   2. When forms are removed before end of curing period, exposed concrete must be cured by one of first three approved methods included under Item D.

3.07 INTERIOR SLABS ON GRADE

A. Thickness as shown on drawings.

B. Place over vapor barrier as specified in Section 07110; 6" minimum well graded and compacted granular sand leveling course under membrane.

C. Isolation joint where shown on drawings and as specified herein under JOINTS.

D. Unless otherwise shown, place exposed slab either:
   1. In strips, maximum 15' wide with control joints centered on columns and saw across strips, as specified herein, under JOINTS, at maximum 15' spacings on column centers.
   2. Place alternate panels checkerboard with control joints on column centers in each direction and maximum 15' oc.

E. Finish as specified herein under FLATWORK FINISHING.

F. Note requirements for drains and process equipment.

3.08 SURFACE COURSES

A. Remove all debris and sweep cured slab base with heavy wire broom; dry brush to remove dust; wash and keep slab wet for 12 hours prior to placement of fill.

B. Remove any excess water 15 to 30 min. prior to placement of surface course.

C. Finish as specified herein under FLATWORK FINISHING.

3.09 FLATWORK FINISHING

A. Screed and float.

B. After floating, check surface with straight edge and eliminate high and low spots; interior slab must be level or flat within 1/4" in 10'; 3/8" in 20'; 3/4" in 40', and drain to floor drains; remove and replace any concrete slabs not meeting these requirements; replacement limits determined by extent of deficiencies and by structural considerations.

C. Do not use dust coat and add no water.

D. Trowel interior slabs, surface courses and concrete fillets not otherwise specified to smooth, polished surface:
   1. Delay troweling until concrete has hardened sufficiently to prevent excess fines form working to surface; avoid excessive troweling.
   2. After topping has set to ring trowel, trowel second time to produce burnished finish.

E. Fine float finish structural slabs over which waterproofing will be placed; floors in rooms, with vehicular access, steps and platforms.

F. Non-slip floor surfaces:
   1. Required for concrete fill of steel stairs and where shown on drawings.

2. After concrete floor surfaces have been floated and troweled, but while still plastic, sprinkle abrasive aggregate evenly onto the surface and work it into the surface during finishing so that the grains are securely imbedded in the concrete at the surface. Application rate 25 to 40 lbs./100 SF as recommended by the manufacturer.

G. Liquid floor hardener:
   1. Required for interior floors not scheduled to receive floor coverings or other floor systems.
   2. Do not use curing compounds for curing these slabs.
   3. Apply in 3 coats to thoroughly cured floor over clean dry surface in accordance with manufacturer's directions.
   4. Dilute with water, as recommended by manufacturer, for heavy duty dense floors.
   5. Unless otherwise recommended on directions furnished with material, dilute fluosilicate based liquid applied hardener (parts by volume) as follows:

Coat	Water	Hardener
First	3	1
Second 2	1	
Third	1	1

3.10 EQUIPMENT BASES

A. Furnish bases for all mechanical and electrical equipment where shown on drawings or specified.

B. Where required, anchor bolts and template to ensure proper location must be furnished by subcontractor concerned.

C. Finish as specified herein under FLATWORK FINISHING.

D. Grout under base of equipment; pack grout to completely fill voids.

3.11 SEALING EXTERIOR SLABS

A. Required for exterior slabs placed between September 15 and May 1 which may be subjected to deicing agents.

B. After specified curing, seal slabs as follows:
   1. First coat 1/2 boiled linseed oil and 1/2 mineral spirits applied at rate of approximately 450 SF per gallon.
   2. After first coat has dried, apply second coat of uncut boiled linseed oil at rate of approximately 540 SF per gallon.

3.12 SCHEDULE OF FINISHES

A. Concrete shall be finished as specified either to remain as natural concrete to receive an additional applied finish or material under another section.

B. Concrete for the following conditions shall be finished as noted on the drawings and as further specified herein:
   1. Concrete to receive dampproofing or waterproofing: Rough-form finish.
   2. Concrete not exposed to view and not scheduled to receive an additional applied finish or material: Rough-form finish.
   3. Exterior vertical concrete above grade exposed to view: Rubbed finish.
   4. Interior vertical concrete exposed to view except in water containment areas: Rubbed finish.
   5. Vertical concrete in water containment areas. Rubbed finish on exposed surfaces and extending to 2' below normal operating water level: Rough-form finish on remainder of submerged areas.
   6. Interior and exterior underside of concrete exposed to view: Rubbed finish.
   7. Interior or exterior horizontal concrete not requiring floor hardener or sealer: Floated finish.
   8. Concrete for exterior walks, interior and exterior stairs: Broomed finish perpendicular to direction of traffic.
   9. Concrete slabs on which process liquids flow or in contact with sludge: Steel trowel finish.

END OF SECTION

SECTION 05120

STRUCTURAL STEEL

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes structural steel items shown on plans and not specified elsewhere.

B. Related work specified elsewhere:
   1. Section 03100 - Concrete Formwork.
   2. Section 03421 - Precast Concrete.
   3. Section 04200 - Unit Masonry.
   4. Section 05500 - Metal Fabrications.
   5. Section 09900 - Painting.

1.02 QUALITY CRITERIA

A. Unless otherwise shown on plans or specified, all materials, details, fabrication, and erection of structural steel on project must meet requirements of latest edition of AISC "Manual of Steel Construction - ASD".

B. Welds: conform to requirements of AWS D1.1, Structural Welding Code.

C. High strength bolted connections: conform to latest edition of AISC Specification for Structural Joints Using ASTM A325 or A490 Bolts.

1.03 SUBMITTALS

A. Submit complete shop drawings, checked by fabricator and Contractor.

B. Clearly show fabrication tolerances.

C. Erection plan must include placement dimensions of all cast-in-anchorage; include required tolerances.

D. On erection plans, include schedule of field welding together with appropriate details for field use.

E. Prepare field connection details along lines indicated on plans and submit to Engineer for approval.

F. See Section 01300 - Submittals for additional requirements.

1.04 STORAGE OF MATERIALS

A. Store structural steel members above ground on platforms, skids or other supports and protect from weather.

B. Store other materials in weathertight dry place; packaged materials in original unbroken package or container.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Steel shapes, bars and plates: ASTM A36.

B. Pipe columns: ASTM A53.

C. Electrodes for welding:
   1. Conform to latest edition of Specifications for Mild Steel Covered Arc Welding Electrodes (AWS-A5.1) or Specifications for Low Alloy Steel Covered Arc Welding Electrodes (AWS-A5.5).
   2. E70XX series suitable for type of current, polarity, position and other conditions of use.

D. High strength bolts and nuts: ASTM A325 bolts with ASTM A325 nuts and washers.

E. Anchorage inserts: furnish all inserts cast into concrete of built into masonry and complete information and/or templates for proper location.

2.02 FABRICATION

A. Shop weld connections, unless otherwise noted.
   1. Weld bead must be flush or slightly above surface of adjacent components.
   2. Welds exposed in finished structure must be neat, uniform, and free of cracks, undercut, overlay, surface holes or slag inclusion and with exposed face reasonably smooth (uniform ripples permitted); finishing or grinding will not be required except where necessary for clearance or fit with other items.

B. Bolted connections for locations where noted.

2.03 SHOP FINISHES

A. Clean surfaces free of scale, rust or foreign matter before applying primer.
   1. Sand blast all exposed surfaces in completed building to completely remove mill scale.
   2. If paint failure occurs due to improper cleaning, strip all paint from member, properly clean and repaint at no additional cost to Owner.

B. Items exposed to weather conditions including lintels: galvanized coating; ASTM A123; minimum 4.0 mils thick.

C. Do not paint items encased in concrete or contact surfaces for field welding.

PART 3 - EXECUTION

3.01 ERECTION

A. Erect individual members so that deviation from plumb, level and alignment does not exceed 1 to 500.

B. Unless specifically shown in plans or specified otherwise, field connections may be welded or bolted with 3/4" A325 bolts.

C. Perform all welding by Gas Shielded Metal-Arc Welding Method in manner to avoid warping or buckling of component parts and assemblies.

D. Grout setting plates with nonshrink dry grout; Embeco, Five Star, or equal.

END OF SECTION

SECTION 05500

METAL FABRICATIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes fabricated metal items as specified hereinafter and miscellaneous metal shapes and plates not specified elsewhere, but shown on plans.

B. Installation of anchorage accessories specified under following sections:
   1. Section 03100 - Concrete Formwork.
   2. Section 03421 - Precast Concrete.
   3. Section 04200 - Unit Masonry.

C. Related work specified elsewhere:
   1. Section 03300 - Cast-in-Place Concrete.
   2. Section 05120 - Structural Steel.
   3. Section 09900 - Painting.

1.02 SUBMITTALS

A. Submit complete shop and erection drawings:
   1. Clearly show fabrication and installation tolerances.
   2. Prepare field connection details along lines indicated and/or specified.
   3. Design basis, if any.
   4. Clearly show all materials (including ASTM numbers), dimensions, details, anchorage inserts, fasteners, weights, painting or coatings and similar details.

B. See Section 01300 - Submittals for additional requirements.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Mild steel: 0.15 - 0.25% carbon content, free from scale and accurate to size or gauge.

B. Structural steel shapes, plates and bars: ASTM A36.

C. Reinforcing steel rods: ASTM A615, Grade 40 or 60.

D. Galvanizing: hot-dip, ASTM A385, ASTM A384, ASTM A153, ASTM A386, ASTM E376 and ASTM A123, minimum 4 mil thickness unless noted otherwise.

E. Aluminum-alloy extruded bars, rods, shapes and tubes: ASTM B221, alloy 6061-T6 or 6063-T6.

F. Aluminum-alloy shapes: ASTM B308, alloy 6061-T6 or 6063-T6.

G. Aluminum-alloy sheet and plate: ASTM B209, alloy 6061-T6 or 6063-T6.

H. Aluminum-alloy structural pipe and tube: ASTM B429, alloy 6061-T6 or 6063-T6.

I. Aluminum-alloy seamless extruded tubing: ASTM B241, alloy 6061-T6 or 6063-T6.

J. Cast aluminum fittings: ASTM B26, alloy 214.

K. Forged aluminum fittings: ASTM B247, alloy 6061-T6 or 6063-T6.

L. Stainless steel: ASTM A167, Type 302/304 or 316 with No. 4 satin finish; castings: ASTM A296; chain: ASTM A473; bolts: ASTM F593, 300 Series; nuts: ASTM F594, 300 Series.

M. Threaded rod: Series 300 stainless steel, unless noted otherwise.

2.02 FABRICATION

A. General:
   1. Weld joints and connections unless shown otherwise on drawings.
   2. Welds must conform to requirements of AWS D1.0-69, Code for Welding in Building Construction.
   3. Exposed welds neat and uniform; finishing or grinding of welds not required unless specified or necessary for proper clearance or fit with other items.

B. Mounting brackets and reinforcing angles:
   1. Steel.
   2. Anchorage as shown on drawings.

C. Pipe hangers: aluminum or stainless steel unless noted otherwise; Elcen, or equal.

D. Tread plate: as detailed on drawings.

2.03 ANCHORS, BOLTS AND FASTENING DEVICES

A. Anchor bolt material shall be ASTM A307 unless otherwise noted.

B. Unless otherwise noted, bolts for the connection of carbon steel or iron shall be steel machine bolts; bolts for the connection of galvanized steel or iron shall be galvanized steel or stainless steel machine bolts; and bolts for the connection of aluminum or stainless steel shall be stainless steel machine bolts.

C. Unless otherwise noted, expansion anchors shall be zinc plated carbon steel wedge type anchors complete with nuts and washers. Type 316 stainless steel wedge type anchors shall be used where they will be submerged or exposed to the weather or where stainless steel wedge type anchors are required. When the length or embedment of the bolt is not noted on the Drawings, provide length sufficient to place the wedge and expansion cone portion of the bolt at least 1-in behind the concrete reinforcing steel. Expansion anchors shall be Hilti, Kwik-Bolt II; Simpson Strong-Tie Wedge-All; Powers Power-Stud or equal.

D. Compound masonry expansion anchors shall be lead expansion sleeve type anchors complete with nuts and washers. Anchors shall be precision die-cast zinc alloy with a minimum of two lead alloy expansion sleeves. When the length or embedment of the bolt is not noted on the Drawings, provide length sufficient to place the wedge and expansion sleeve portion of the bolt at least 1-in behind the concrete reinforcing steel. Expansion anchors shall be Star Expansion Industries, Star Slugin or equal.

E. Adhesive anchors shall be a two-part dual cylinder chemical resin anchoring system. Cylinders shall contain premeasured amounts of resin, cement and a hardener. Adhesive epoxy anchors shall be Hilti HIT HY 150 Max or equal.

F. Adhesive anchors, for fastening to hollow concrete block or brick, shall be a three-part stud, screen and chemical dispenser anchoring system. Adhesive cartridges shall contain premeasured amounts of resin and hardener which are mixed and deposited in a screen tube by a dispenser. Stud assemblies shall consist of an all-thread anchor rod with nut and washer. Anchors shall be Hilti, HIT C-20 System or equal.

G. Automatic end welded headed anchor studs shall be flux ended studs made from cold drawn steel, ASTM A108 Grades C-1010 through C-1020. Headed anchor studs shall be Nelson, H4L Headed Concrete Anchors or equal.

H. Machine bolts and nuts shall conform to Federal Specification FF-B-575C. Bolts and nuts shall be hexagon type. Bolts, nuts, screws, washers and related appurtenances shall be Type 316 stainless steel.

I. Toggle bolts shall be Hilti, Toggler Bolt or equal.

2.04 SHOP PAINTING

A. Clean surface of steel items free of scale, rust or foreign matter and apply one shop prime coat to all steel items per Section 09900 - Painting.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Assemble components, securely join together and attach assembly to structure; where not specifically shown, each stair attachment must adequately transfer its dead load and 100 psf live load to structure.

B. Install anchorage inserts in concrete formwork as shown on drawings.

C. Securely anchor all items plumb, square and level and in correct alignment with other work.

D. Coat aluminum surfaces in contact with concrete with bituminous paint.

END OF SECTION

SECTION 09701

FINISHED FLOOR SYSTEM

PART 1 – GENERAL

1.01 DESCRIPTION

A. Furnish necessary material, labor, and equipment required to prepare designated areas and install a non-slip finished flooring system on concrete floors.

B. Locations:
   1. Control Building.

C. Coordinate the timing for this work to be done in 2-3 phases with no other trades working in the area.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Cast-In-Place Concrete, Section 03300

B. Painting, Section 09900

1.03 QUALITY ASSURANCE

A. The finished floor coating shall be uniform in color, texture and appearance. All edges that terminate at walls, floor discontinuities and other embedded items shall be sharp, uniform and cosmetically acceptable with no thick or ragged edge. The Contractor shall work out an acceptable masking technique to ensure the acceptable finish of all edges.

B. Reference Standards:
   1. ACI 308 – Standard Practice for Curing Concrete
   2. ACI 302.1R-80 – Guide for Concrete Floor and Slab Construction
   3. United States Department of Agriculture Acceptance

C. Contractor Prequalification Requirements:
   1. Each bidder for this project shall be an "Approved Applicator" by Coating Manufacturer at the time of bid submittal with 5 years minimum experience.
   2. Each approved applicator shall have been pre-qualified in all phases of surface preparation and application of the specified floor coating system.

1.04 SUBMITTALS

A. Color to be selected by Owner.

B. Manufacturer's Literature: Descriptive data and specific recommendations for initiating, mixing, application and curing.

C. Manufacturer's Material Safety Data Sheets (MSDS) for each respective product being used.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. All materials shall be delivered in original manufacturer's sealed containers with all pertinent labels intact and legible.

B. Store materials in protected areas at a temperature between 70° F and 90° F.

C. Follow all manufacturer's specific instructions and prudent safety practices for storage and handling.

1.06 JOB CONDITIONS

A. The material, air and surface temperatures shall be in the range of 60°F to 85° F during application and cure.

B. The relative humidity in the specific location of the application shall be less than 85% and the surface temperature shall be at least 5° F above the dew point.

C. The surfaces to be coated shall have been prepared as specified in Section 3.02 "Surface Preparation".

D. Protect all adjacent surfaces not to be coated with masking and covers.

1.07 WARRANTY

A. The contractor and the manufacturer shall furnish a standard guarantee of the Finished Flooring System for a period of one year after installation. The labor and material guarantee shall include loss of bond and wear-through to the concrete substrate from normal use.

B. Not included in the warranty are damage due to structural design deficiencies including but not limited to slab cracking from lateral, vertical or rotational movement, and gouging or other damage due to other equipment, delamination caused by vapor transmission, Acts of God, or other elements beyond the scope of protection of this system nor causes not related to the system materials.

C. In case of a warranty claim, the owner will notify the manufacturer and contractor in writing within 30 days of the first appearance of problems covered under this

warranty. The owner will provide free and unencumbered access to the area during normal working hours for warranty rework. Property protection is also the owner's responsibility. Remedy is limited to direct repair of the Polyurethane Flooring System.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Tnemec Series 290 CRU Semi-gloss Polyurethane Flooring System:
   1. Prime Coat: Tnemec Series 205 Terra Tread FC (180-200 SF/gal.).
   2. Intermediate Coat: Tnemec Series 205 Terra Tread FC (180-200 SF/gal.).
   3. Topcoat: Tnemec Series 290 CRU (300-340 SF/gal.) with Series 211-212 Glass at 3-4 oz. per gallon.

2.02 MATERIAL PREPARATION

A. Mix all material in strict accordance with the manufacturer's specific instructions and procedures for the respective material being used.

PART 3 – EXECUTION

3.01 PRE-WORK INSPECTION

A. Examine all surfaces to be coated with these materials and report any conditions that adversely affect the appearance or performance of the coating systems and which cannot be put into acceptable condition by the preparatory work specified in Paragraph 3.02.

B. Do not proceed with surface preparation and application until the surface is acceptable or authorization to proceed is given by the Engineer.

C. Ensure that floor drains, proximate equipment and any other items sensitive to dust and contamination are properly and adequately masked and protected.

D. For slabs on grade to be treated, Calcium Chloride tests will be run for every 1,000 square feet prior to installation.

3.02 SURFACE PREPARATION

A. General:
   1. Initially, dislodge dirt, mortar spatter and other dry surface accumulations and contamination by scraping, brushing, sweeping, vacuuming or compressed air blow-down.
   2. Surfaces that are heavily contaminated with petroleum or other process products shall be cleaned with the appropriate degreaser, detergent or other effective

cleaner/surfactant followed by thoroughly rinsing with fresh water to remove the accumulation prior to mechanical cleaning efforts. Mechanical cleaning will not remove such deposits, but will only drive them deeper.

3. Fill all cracks, pipe penetrations, and other discontinuities with material recommended by flooring system manufacturer.
4. All concrete floor surfaces shall be visibly dry, especially in cracks and other deep surface discontinuities, prior to commencing mechanical cleaning and preparation.

B. Mechanical Surface Preparation and Cleaning:
   1. All accessible concrete floor surfaces shall be mechanically cleaned using a "BlastTrac" method or approved equivalent. All surface and embedded accumulations of paint, toppings, hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be removed leaving a bare concrete surface having a minimum profile of 30 mils and exposing the upper facades on concrete aggregate. (Reference SSPC-SP13 / NACE 6).
   2. Floor areas that are inaccessible to the cleaning machine shall be mechanically abraded to the specified degree of cleanliness, soundness and profile using vertical disc scarifiers, starwheel scarifiers, grinders, needle guns or other suitable effective equipment.
   3. Cracks in the floor 3/16" and wider, shall be routed out to a minimum ½" deep V-groove of sound concrete and filled with materials recommended by the manufacturer. Other significant surface discontinuities such as holes, pits, depressions and exposed aggregate areas shall be filled with similar materials.
   4. Allow the surface to dry or force dry with heat and circulating air to ensure that all surface, especially discontinuities, are visibly dry.
   5. All concrete floor terminations and leading edges shall be saw-cut and chiseled down to ¼ to ½" as to avoid feathered edge terminations. This includes drains, construction & expansion joints and all leading edges of concrete floor where they meet dissimilar materials.

3.03 APPLICATION

A. Floor
   1. This application shall consist of applying the Primer/Intermediate, allowing time for cure, and then applying the topcoat in the sequence and film thicknesses as specified following manufacturer's recommendations.

3.04 INSPECTION

A. Engineer to inspect and accept Primer/Intermediate coats before application of the Topcoat commences.

B. All work that is not acceptable to the Engineer or Owner must be corrected before consideration of final acceptance.

3.05 CLEAN-UP

A. Remove any material spatters and other material that is not where it should be. Remove masking and covers, taking care not to contaminate surrounding areas.

B. Repair any damage that should arise from either the application effort or from the clean-up effort.

3.06 COATING SCHEDULE

Coat	Tnemec
Primer/Sealer Coat	Series 205 60% Solids Polyamide Epoxy primer/sealer saturation at 180-200 sq. ft. per gallon. DFT of 3-5 mils.
Intermediate Coat	Tnemec Series 205 Terra Tread 60% Solids Polyamide epoxy at 180-200 sq. ft. per gallon. DFT of 3-5 mils.
Topcoats	Tnemec Series 290 CRU 67% Solids Aliphatic Polyester Polyurethane at 300-340 sq. ft. per gallon. DFT of 2-3 mils per coat. Add Series 211-212 Glass Beads at 3-4 oz. per gallon.

END OF SECTION

SECTION 09900

PAINTING

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes painting and protective coatings of exterior and interior surfaces, equipment and piping.

B. Painting, as used herein, includes application of paints, enamels, fillers, stains, varnishes, sealers, or other coatings required for use as prime, intermediate or finish coats, as specified herein under painting schedule.

C. Unless specifically specified elsewhere, following surfaces are not to be painted.
   1. Pipe, conduit and ducts in concealed spaces or buried.
   2. Stainless steel and aluminum surfaces except as noted otherwise hereinafter.
   3. Glass, vitreous enamel and chrome plated items.
   4. Brass, bronze and copper.
   5. Rubber, plastic and fiberglass.
   6. Conduit and ducts on unpainted surfaces.
   7. Concrete floors.
   8. Interior concrete channels.
   9. Exterior surfaces of precast concrete walls.
   10. Concrete except as shown in Painting Schedule.

D. Shop prime coat is specified under following sections for corresponding materials:
   1. Section 05120 - Structural Steel.
   2. Section 05500 - Metal Fabrications.

E. Factory paint or prefinish all equipment as specified herein unless specifically stated otherwise under equipment item specification.

F. Factory prefinish certain miscellaneous items as specified elsewhere or per approved manufacturer's standard; colors selected by Engineer.

G. Related work specified elsewhere: Section 13570 - Inside Process Piping.

1.02 QUALITY ASSURANCE REQUIREMENTS

A. Include following on label of containers:
   1. Name of manufacturer.
   2. Manufacturer's stock name, type and number.
   3. Color.

B. Include following on label of containers or furnish information with materials list in form that will readily relate it to material in container:
   1. Instructions for reducing, where applicable.
   2. Detailed pigment/vehicle ratios.
   3. Any special storage or application instructions.

1.03 SUBMITTALS

A. Materials List:
   1. Submit complete list of materials and painting schedule for all coats required for each type of surface; deliver no material to job site until list is reviewed by Engineer.
   2. List in form permitting identification by container labels.
   3. Note recommended dry film thickness, type system, finish and surface preparation for each coat and each system on list.
   4. With list, furnish published current price list containing all grades of each type of paint specified and produced by manufacturer.
   5. Submit complete catalog describing all painting systems and types available and proposed.

1.04 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to job site in original unopened containers with labels intact.

B. Store only acceptable materials at job site and per manufacturer's recommendations for storage conditions including temperatures.

C. When stored in structure under contract, protect floor and walls of storage area from spatter or discoloration.

D. Store in well ventilated area, away from excessive heat, sparks, flame or direct sunshine; provide safeguards to prevent fire.

1.05 ENVIRONMENTAL CONDITIONS

A. Comply with manufacturer's recommendations as to temperature, humidity and surface conditions under which coating or coating system can be applied.

B. Do not apply finish in areas where dust is being or likely to be generated.

C. Do not apply paint on exterior surface exposed to hot sun or when surface temperature exceeds 105°F.

D. Apply all finishes under adequate illumination.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General:
   1. Finish materials: product of manufacturer who maintains laboratory under direction of qualified chemist and who maintains strict quality control.
   2. Except where quality is established by definite criteria, finish materials must be best of their respective types produced by manufacturer.
   3. Coating system for each surface type: product of single manufacturer.
   4. Primer used to touch-up shop-applied prime coat: same type as shop coat.
   5. Coatings used to touch-up factory prefinished items: same type as factory's finish coating.
   6. Thinning and tinting materials: as recommended by manufacturer of material to be thinned or tinted.

B. Gloss (paint and enamel): measured on Gardner-Hunter Reflectometer using 60° Calibrated Gloss Standard, the following apply:
   1. Flat finish: 10° or less.
   2. Eggshell finish: 10° to 35°.
   3. Semi-gloss finish: 35° to 70°.
   4. Gloss finish: 65° and up.

2.02 COLORS

A. Color all coats as directed by Engineer.

B. Color prime coats to contrast at least two shades on scale of ten with substrate being primed, except for enamels.

C. Tint undercoats to approximate final color to assure uniform finish color, but with sufficient variation to distinguish between coats.

2.03 MIXING AND TINTING

A. Deliver paints and enamels ready-mixed to job site except where manufacturer recommends otherwise.

B. Job tint and mix only when acceptable to Engineer.

C. Use adequate means and take all precautions necessary to protect floor and adjacent wall surfaces during tinting and mixing operation.

PART 3 - EXECUTION

3.01 INSPECTION

A. Examine surfaces scheduled to be painted for conditions that will adversely affect execution, performance or quality of work and which cannot be corrected by normal cleaning, sanding and filling of cracks and nail holes.

B. Do not proceed with surface preparation or coating application until conditions are suitable; application of paint or other coating to surface constitute acceptance of that surface.

3.02 PREPARATION OF SURFACES

A. General:
   1. Remove foreign material and stains which will adversely affect adhesion or appearance of applied coating and make sure that surface is sufficiently dry; follow recommendations of paint manufacturer.
   2. Roughen gloss on existing painted surfaces by sanding or etching to provide proper tooth for adhesion of paint.
   3. Remove mold or mildew completely, wash surface with neutralizing solution, rinse and allow it to dry before painting.
   4. Test to determine moisture content of surface to be painted.

B. Metals:
   1. Completely remove oil and grease with solvent recommended by manufacturer and wipe dry with clean cloths.
   2. Remove mill scale, rust and defective paint down to sound surface or bare metal as recommended by paint manufacturer.
   3. Pretreat galvanized surfaces with zinc phosphate solution; Galvaprep No. 5, or equal.
   4. Wash exterior mill finish aluminum with mineral spirits or turpentine and allow to weather for month before painting; in lieu of weathering, roughen surface with steel wool.

C. Concrete:
   1. Remove dirt, loose particles, excess mortar and any film left from form oil or curing compound.
   2. Fill cracks and irregularities with portland cement grout to provide uniform surface.
   3. Test for dryness.

D. Masonry: remove foreign matter, loose particles and efflorescence.

3.03 APPLICATION

A. Do not apply initial coat until moisture content of surface is within limitations recommended by paint manufacturer.

B. Apply materials without thinning, adulteration or change unless otherwise specified, recommended by manufacturer or approved by Engineer.

C. Apply by brush, roller or spraying equipment; spray application not permitted unless adequate precautions are taken to protect all items and surfaces not intended to be coated.
   1. Spread or flow each coat smooth and even to film thickness recommended by manufacturer, without runs, sags, skips, excessive brush marks, or other defects.
   2. Keep materials free from skins or lumps and well stirred during use.
   3. Keep equipment clean, free from contaminants and suitable for finish required.

D. Comply with manufacturer's recommendations for drying time between coats; if not stated, dry for minimum 48 hours for exterior paint and minimum 24 hours for interior paint.

E. Sand and dust between coats to remove defects visible from distance of 5'; for enamel, use fine sandpaper or steel wool and clean between coats to produce an even, smooth finish unless otherwise specified.

F. Joints must present uniform appearance after painting, either completely open or completely closed.

G. Leave all parts of mouldings clean and true to detail with no undue build-up of paint in corners.

H. Make edges adjoining other materials or other colors clean and sharp with no overlapping.

I. Where colors differ between adjoining rooms or spaces and where door frames are to match wall colors, change color at doors.

J. Touch up suction or hot spots in first coat on concrete before applying second coat.

K. Final coat must have solid hiding and/or uniform appearance.

L. Where 100% polyurethane is specified, strictly follow manufacturer's specifications for surface preparation and application.

3.04 FIELD QUALITY CONTROL

A. Notify Engineer when surface preparation is complete and when each coat has been applied for inspection of work before succeeding specified coat is applied; if succeeding coat is applied without Engineer's approval, no credit will be given for applied coat and Contractor must recoat work in question.

3.05 PROTECTION AND CLEANING

A. Carefully protect adjacent work and materials.

B. Remove paint from floors, glass, or other surfaces not specified to receive paint.

C. When painting is complete, remove from premises all debris that are result of painting operations.

3.06 PAINTING SCHEDULE

A. Following general surface painting requirements and General Painting Schedule are not necessarily complete and do not limit scope of work.

B. Once proposed materials list with complete painting schedule is received, Engineer will specify specific painting systems with number of coats, dry film thicknesses and colors.

C. Exterior metals:
   1. Even if prefinished, Engineer will specify painting system and color for items specified under Section 05120 - Structural Steel, Section 05500 - Metal Fabrications and aluminum are exposed, and equipment specified under Divisions 11, 15 and 16.
   2. Prime coating:
      a. Touch-up weld burns or abrasions in shop applied prime coat.
      b. Unless specified otherwise, prime unprimed surfaces with primer recommended by manufacturer as best suited for finish type specified.
      c. Prime galvanized metal with coat of zinc dust primer (allow minimum 72 hours drying time under good drying conditions, before applying finish coats) or portland-cement-in-oil type paint (Tnemec Series 22, or equal).
      d. Prime non-anodized aluminum with coat of zinc chromate primer (minimum 23% zinc chromate).

D. Interior metals:
   1. Paint steel doors and frames, overhead structural steel door tracks and accessory items, exposed items specified under Section 05120 - Structural Steel and Section 05500 - Metal Fabrications, diffusers, grilles, panel boxes, pipes and pipe supports.

2. Painting not required for factory finished diffusers and grilles at acoustical ceilings and corrosion resistant metals (aluminum and stainless steel) except items specifically noted to be painted.
3. Prime coating:
    a. Touch-up weld burns and abrasions in shop applied prime coat.
    b. Prime items which have not been shop primed, including pipe and conduit installed by Mechanical and Electrical Subcontractors where required, with primer recommended by manufacturer as best suited for surface being primed and finish coat(s) specified.
    c. Where required for proper adhesion or to assure complete hiding by finish coat(s) specified, prime prefinished or prime coated diffusers, grilles, electric panels, switch boxes, conduit and ducts installed on or adjacent to ceilings and walls which are to be painted.
    d. Use only primers recommended by finish coat manufacturer.
4. On diffusers, grilles, panels, boxes, pipe supports, conduit and ducts apply same finish coat(s) as required for adjacent wall or ceiling surface.

E. Duct and equipment insulation covers:
1. Painting of items installed and covered by Mechanical Subcontractor.
2. One coat vinyl type primer-sealer.
3. Finish coat(s) same as adjacent wall or ceiling surface.

F. Paint pipe lines as specified in Section 13570 - Inside Process Piping under Pipe Coding Schedule.

G. Paint materials as manufactured by Tnemec, per General Painting Schedule.

GENERAL PAINTING SCHEDULE

Surface	Generic Types	Intended Use	Manufacturer's System Numbers
Exterior Metal			
All outside metal not immersed in water, e.g. castings, exposed piping, vents etc.	Epoxy-Polyamide	General [1]	Prime Coat: Tnemec Series 27WB Typoxy @ 4.0 mils D.F.T.
	Polyurethane	General	Finish Coat: Tnemec Series 1075U-(color) Endura-Shield II @ 3.0 mils D.F.T.
All outside metal immersed or in contact with wastewater and sludge, e.g. piping, gates, valves, etc.	Hydrophobic Aromatic Polyurethane	General [2]	Prime Coat: Tnemec Series 446 Perma Shield MCU @ 7.0 mils D.F.T. Finish Coat: Tnemec Series 446-(color) Perma Shield MCU @ 7.0 mils D.F.T.
Interior Metal			
All inside metal in highly corrosive environments e.g. pumps, exposed piping; beams, power and control panels, boxes, ventilators.	Epoxy-Polyamidoamine	General	Prime Coat: Tnemec Series N69-1211 Red Hi-Build Epoxoline II Primer @ 4.0 mils D.F.T.
Highly corrosive areas include: 1. Raw Sewage Pump Station 2. Return Sludge Pump Area 3. Waste Sludge Pump Area 4. Screen Building Process Room and Compactor Room			Finish Coat: Tnemec Series N69-(color) Hi-Build Epoxoline II @ 4.0 mils D.F.T.
Inside metal in areas other than highly corrosive environments: e.g. pumps, motors, shaft and guards, exposed piping; beams, panels, boxes, joists, ventilators, unit heaters, mechanical equipment, electric panels, miscellaneous equipment.	Epoxy-Polyamidoamine	General*	Prime Coat: Tnemec Series 27WB-Typoxy @ 4.0 mils D.F.T. Finish Coat: Tnemec Series N69-(color) Hi-Build Epoxoline II @ 4.0 mils D.F.T.
	Epoxy-Polyamidoamine	Machinery and Piping	Prime Coat: Tnemec Series 27WB-Typoxy @ 4.0 mils D.F.T.

			Finish Coat: Tnemec Series N69-(color) Hi-Build Epoxoline II @ 4.0 mils D.F.T.
Inside metal: Miscellaneous metals	HDP Acrylic Gloss	General	Prime Coat: Tnemec Series 27WB Typoxy @4.0 mils D.F.T. 2 Finish Coats: Tnemec Series 1028-(color) Enduratone @ 2.5 mils D.F.T. per coat.
All Others	Epoxy-Polyamidoamine	General	Prime Coat: Tnemec Series N69-(color) Hi-Build Epoxoline II @ 4.0 - 6.0 mils D.F.T. Finish Coat: Tnemec Series N69-(color) Hi-Build Epoxoline II @ 4.0 - 6.0 mils D.F.T.
Concrete			
Concrete tanks, channels and chambers. Screen Building below Operating Floor - New concrete channel floor, walls, roof. Existing channels modified including channel floor, walls, and roof.	Hybrid Epoxy Mortar Modified Polyamine Epoxy	Wet and corrosive Areas	Prime Coat: Tnemec Series 434 Perma-Shield H2S @ 1/8" D.F.T. Finish Coat: Tnemec Series 435 Perma -Glaze @ 15-20 mils D.F.T.

Interior Precast Concrete/Concrete Masonry			
Exposed precast and masonry walls in Screen Building - all rooms. Also precast ceiling where exposed in all rooms.	Epoxy-Polyamidamine	Porous Surface Primer	1254 Epoxoblock WB
		Dense Surface Primer	N69 (color) Hi-Build Epoxoline II @ 4-6 mils D.F.T.
		Finish Coat	N69 (color) Hi-Build Epoxoline II @ 4-6 mils D.F.T.
Exterior Masonry/Precast Concrete/Concrete			
None identified.	Acrylic Emulsion	Surface Primer	Tneme-crete Series 180 @ 100 sf/gal. Back roll as needed.
		Finish Coat	Tneme-crete Series 180 @ 150-200 sf/gal. Back roll as needed.

(1) Except as listed below for specified applications.
(2) An acceptable approach is to remove the factory primer following installation and field apply the prime and finish coats as specified.
*Except as listed below for specified applications.

END OF SECTION

SECTION 11000

EQUIPMENT INSTALLATION

PART 1 - GENERAL

1.01 SCOPE

A. General requirements for all process equipment specified in Division II. The Contractor is responsible for ensuring that all mechanical equipment meets the requirements of this section in addition to individual equipment specification sections.

B. Related Sections.
   1. Conditions of the contract.
   2. Division I - General Requirements.
   3. Section 09900 - Painting.
   4. Division 13 - Special Construction.
   5. Division 15 - Mechanical.
   6. Division 16 - Electrical.

C. Submittals - provide in accordance with Section 01300.

1.02 WORK INCLUDED

A. Installation and erection of all equipment specified.

B. Receiving, transporting, unloading and storing of all equipment.

C. Adjustments, lubrication and initial operation.

D. Foundations for all equipment.

E. Anchor bolts, fasteners and sleeves for all equipment.

F. Specific requirements for equipment installation is included with individual equipment specification and manufacturer's drawings and instructions.

1.03 RECEIVING, TRANSPORTING AND STORING

A. Receive all shipments of equipment at job site or local freight terminal.

B. Transport as required and unload at job site.

C. Store equipment in manner and location which will ensure complete fitness for operation; protect from rust, corrosion, weathering and vandalism.

D. Pay all demurrage or storage charges.

1.04 ASSEMBLY AND ERECTION

A. Completely assemble all equipment shipped knocked down; furnish minor items such as nuts, bolts, washers, pins and pipe fittings necessary for assembly and operation; use materials compatible with equipment.

B. Erect and install ready for operation.

C. Manufacturer of equipment to furnish stainless steel fasteners and supports unless specified otherwise.

D. Contractor to supply stainless steel fasteners and supports not supplied with equipment.

1.05 SUPPORTS AND FOUNDATIONS

A. Provide devices for supporting all equipment in accordance with recommendations of manufacturer and as shown on plans.
   1. Concrete pads for floor mounted equipment.
   2. Fabricated supports of steel sections, plates or rods for all hung equipment and bearing supports; prevent transmission of excessive forces to building structures or any piece of equipment or piping.

B. Align and level all equipment; use shims as needed.

C. Grout under all equipment on concrete foundations with non-shrink cement grout specified in Section 03300 - Cast-In-Place Concrete.

D. Contractor of equipment to supply ASTM A167 Series 300 stainless steel anchor bolts, expansion anchors, nuts and washers and templates unless specified otherwise.

1.06 PROTECTION

A. Structures:
   1. Use cribbing, shoring or planking to protect structures from damage due to construction operations.
   2. Repair any damage to structures or equipment after equipment is in place.

B. Equipment:
   1. Protect against falling objects and construction operations which might damage equipment installed before construction is completed.
   2. Provide pump and blower intakes with temporary hardware cloth screens or solid plugs; remove at direction of Engineer.
   3. All equipment to receive shop paint before shipment; see Section 09900 - Painting for additional requirements.

1.07 CLEANING

A. Clean equipment of all temporary protective coatings.

B. Remove all oil, grease and dirt from external surfaces prior to painting; see Section 09900 - Painting for additional requirements.

1.08 LUBRICATION

A. Lubricate all moving equipment parts in accordance with manufacturer's recommendations.

B. Furnish lubricants.

C. Provide and install extensions to grease connections and oil drain lines on motors, reducers, drives, or other mechanical equipment where maintenance access is not easily reached.

1.09 ADJUSTMENTS

A. Make any adjustments to equipment necessary to improve operation.

B. Check equipment clearances and adjust in accordance with recommendations of manufacturers.

C. Add or replace equipment packing, seals and similar items as required.

1.10 INITIAL OPERATION

A. Supervise initial operation of all equipment.

B. Maintain all equipment until acceptance by Owner.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 11312

VARIABLE SPEED BOOSTER SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

A. This specification establishes the comprehensive requirements for the preparation and shipment of one (1) variable speed booster system for the pumping of gray water diverted from effluent flow to the seal water system of numerous pumps in the WPCP facility.

B. Provide complete with all accessories, special tools, spare parts, local wiring, valves, controls, mounting, anchor bolts and other appurtenances as specified and as may be required for a complete and operating installation.

C. Related work specified elsewhere:
   1. Section 05500 - Metal Fabrications.
   2. Section 09900 - Painting.
   3. Section 11000 - Equipment Installation.
   4. Division 16 - Electrical.
   5. Division 17 - Instrumentation.

D. Provide spare parts and tools as specified.

E. Manufacturer: Flowpoint Environmental Systems Triplex Pump Skid with Controls, or approved equal. Goulds Vertical Multi-Stage Pumps, or approved equal.

1.02 BASIC REQUIREMENTS

A. Furnish materials, labor and equipment necessary to complete all work specified in this section.

B. Equipment furnished subject to field testing as specified hereinafter.

C. Furnish equipment suitable for explosion hazardous locations rated for Class I, Division 1, Group D per NEC. System control panel shall be rated NEMA 4X.

D. Manufacturer to completely assemble, operate and test unit before shipment; ship knocked down, blocked and braced in least number of parts possible; submit certification to Engineer before shipment that unit has been tested.

E. Manufacturer to furnish services of factory/field service engineer for one period totaling two 8-hour working days for wash press at site to inspect installation of

unit, assist in initial system start-up, observe and/or perform field tests and to instruct Owner's personnel concerning equipment maintenance requirements and proper operation of system.

F. Submit to Engineer a written report showing manufacturer's factory/field service engineer's findings, test results and installation approval; cover all inspections and outline in detail any deficiencies noted.

G. Submittals:
   1. Shop drawings: complete fabrication and installation drawings, including layout, dimensions, component weights, details, anchorage inserts and installation information necessary to show compliance with specifications and recommended installation requirements.
   2. See Section 01300- Submittals, for additional requirements.
   3. Include:
      a. A copy of the contract drawings with addenda updates that apply to the equipment in this section marked to show specific changes necessary for the supplied equipment. If no changes are required, the drawing shall be marked "No changes required".
      b. A copy of this specification section, with addenda updates included, and all referenced and applicable sections with addendum updates included, with each paragraph marked to indicate specification compliance, or marked to indicate requested deviations from specific requirements. If deviation from the specification are indicated and therefore requested by the contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph. The remaining portions of the paragraph not underlined will signify compliance on the part of the contractor with the specifications. Provide written justification for each deviation.

H. All equipment shall be shipped to the jobsite complete. All equipment manufactured outside of the United States shall be fully assembled including the drive, controls and automatic valves and factory tested prior to delivery to the jobsite.

PART 2 - PRODUCTS

2.01 DESIGN CRITERIA

A. Furnish and install one (1) fully automatic triplex pump skid unit, complete with all accessories, in compliance with the following specifications and as shown on the drawings. If an “of equal” pump skid unit is selected, dimensions shall be approved accordingly and still meet minimum distance and maintenance requirements set out in plans and specifications.

B. Performance:

Number:	One (1) complete unit
Number of Pumps:	Three (3)
Pumps, each:	Vertical mutli-stage pump, 52 GPM, 217 ft head
Number of VFDs:	Three (3)
VFDs, each:	480VAC, 3PH, 5 HP
Inlet Pipe Size:	4-inch nominal diameter
Outlet Pipe Size:	4-inch nominal diameter
General Skid Dimensions:	46.25″ width, 56.25″ length, 60″ overall height

C. Operation:
   1. The pump skid unit shall be provided to pump gray water from the treatment stream to various pump seal water systems throughout the wastewater treatment campus.
   2. During normal flow conditions, the gray water pumps shall be operated via a programmable logic controller (PLC).
   3. Pumps shall be valved and controlled to be able to allow for independent operation and maintenance of each pump.

2.02 PUMP SKID UNIT

A. Pump skid unit shall be installed on utility pad as shown on plan set, and anchored to pad as detailed in plan set and manufacturer's recommendations.
B. Nema 4X enclosures with Single Point Disconnect, 30 amp rating
C. Ethernet TCP/IP connection included

2.03 SPARE PARTS

A. The Contractor shall furnish a one-year supply of all recommended lubricants.

B. The Contractor shall furnish the spare parts listed below, suitably packaged and labeled with the corresponding equipment number.

C. During the term of this contract, the Contractor shall notify the Engineer in writing about any manufacturer's modification of spare part numbers, interchangeabilities, or model changes. If the Engineer determines that the modified parts no longer apply to the equipment provided, the Contractor shall furnish other applicable parts at no increase in cost to the Owner.

B. The spare parts shall be identical and interchangeable with the original parts and shall be furnished in clearly identifiable and labeled containers:
   1. One set of spare fuses of each size.
   2. One set of tools for maintenance of VFD units.

2.04 SYSTEM CONTROLS

A. Provide totally integrated control system, both local and main; shall be designed and manufactured by the bar screen manufacturer; construct controls for Section 11310, Section 11312 and Section 14100 in a single main control panel as described in Section 11310.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install equipment in accordance with manufacturer's recommendations and as shown on drawings.

B. Contractor shall verify dimensions of pump skid are compatible with dimensions of installation space and clearance tolerances of pump skid and existing utilities.

C. Manufacturer's representative to inspect installation before start-up and to assist in initial system start-up as specified hereinbefore.

D. For additional requirements, see Section 01600 - Material and Equipment.

3.02 FACTORY TESTING

A. The pump skid unit shall be factory assembled and factory run tested as a complete assembly including the controls that will be supplied with the unit.

3.03 FIELD TESTS

A. Field test booster pumps after erection in presence of manufacturer's representative and Engineer to confirm and verify structural and mechanical compliance with specifications.

1. All labor, materials and test apparatus necessary for conducting the field acceptance tests shall be furnished by the Contractor at no additional cost to the Owner.

B. Submit complete test procedures to Engineer for review prior to testing; do not start testing until Engineer has reviewed test procedures.

3.04 WARRANTY

A. The manufacturer shall warrant that all of its equipment shall be free of defects caused by faulty material and/or workmanship and shall repair or replace those parts for a period of 24 months from the date of start-up.

END OF SECTION

SECTION 13570

INSIDE PROCESS PIPING

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes inside process piping and appurtenances required for complete piping systems with connections to all treatment units, equipment and controls.

B. "Inside" refers to all piping and appurtenances not buried or directly covered with earth; see Section 02610 - Buried Piping for "buried" piping.

C. This section also includes certain piping and appurtenances not shown on drawings but associated with inside piping and appurtenances.
   1. Equipment vents and drains.
   2. Piping required for proper operation of piping system equipment including drain valves at low points in piping; no additional compensation allowed for drain piping and small valves.
   3. Connections to instruments and control apparatus; include pressure gauges and other appurtenances required for satisfactory operation of piping system and proper function of instruments and controls.
   4. All flanges, unions, expansion joints, bolts, gaskets, reducing fittings, bushings, adapters, hangers and supports.
   5. Pipe end seals and spacers.

D. Certain piping, valves, controls and accessories are specified with equipment.

E. Refer to schematic diagrams for some piping and valves not detailed on drawings.

F. Refer to Section 02610 - Buried Piping for miscellaneous castings.

1.02 SUBMITTALS

A. Provide detailed drawings of all shop fabricated piping; include following information:
   1. Identify pipe service and material to be used for each.
   2. Show overall dimensions.
   3. Show location of all nozzles, taps, supporting lugs and other pipe attachments.
   4. Pipe material, wall thickness and/or schedule number, joint types and fitting types.
   5. Identification mark for each pipe section.

6. Drawings showing details of pipe hangers and supports for each pipe service including locations, materials, strength capacity, spacing, inserts and other similar information.
7. Valve types, sizes, weights, dimensions, materials, locations and pressure ratings.
8. Valve operator types, sizes, weights, dimensions, materials, electrical and/or pneumatic characteristics and special requirements.

PART 2 - PRODUCTS

2.01 PIPE MATERIALS

A. Pipe material, thickness, joints and fittings to conform with Inside Process Pipe Specification Table included hereinafter.

B. Pipe material and valves permissible for each type service to conform with Inside Process Piping Schedule shown hereinafter; where more than one pipe material is listed for particular service, Contractor must select and furnish only one pipe material for that service unless Engineer approves otherwise (galvanic action may occur if certain pipe materials are intermixed).

C. Label intended use for every pipe length and fitting supplied for construction to eliminate misuse in field.

INSIDE PROCESS PIPE SPECIFICATION TABLE

Pipe	Material	Thickness	Joints	Fittings
Stainless Steel (SS)	304L pipe per ASTM A312; 304L fittings per ASTM A403CR; temperature resistant gaskets for air piping.	Schedule 40	Grooved SS coupling, flanged or welded.	Factory grooved per ANSI/AWWA C220, flanged or welded.
Polyvinylchloride (PVC)	ASTM D1785, Type 1, Grade I	Schedule 80	Solvent cement ASTM D2647	ASTM D1785
Steel (S)	ASTM A53, seamless black, pickled	Schedule 160	Threaded, NPTF (dry seal)	ASTM A105, forged steel, 3000 psi, black, pickled, threaded to match pipe (1)

Notes: (1) Provide Worchester or Stauf ball valves, Sperry Vickers needle valves, and Deltrol air bleedoffs.

INSIDE PROCESS PIPING SCHEDULE

Service	Pipe Flow Designation	Installed Condition	Pipe Material
Drain $\leq$ 4"	D	Interior, Exterior	PVC
Non Potable Water	NPW	Interior, buried	PVC, SS, S

2.02 PIPE THROUGH WALLS AND SLABS

A. Provide embedded wall flange on steel and iron pipe passing through concrete walls and slabs; fabricate wall pipes to dimensions required; place embedded wall flange in center of wall or slab; Clow Corp.; U.S. Pipe, or equal.

B. Provide special concrete wall and floor slab sleeve for pipe as detailed on drawings; continuous, synthetic rubber link seal to fill void between pipe and sleeve (or core drilled hole) as manufactured by Thunderline Corp., or equal; install per manufacturer's recommendations; use double seal where shown on drawings.

2.03 PIPE HANGERS AND SUPPORTS

A. Design of hangers and supports along with anchoring are the responsibility of the Contractor. Minimums are established herein and any information on the service or application will be made available. Details on the plans are minimum requirements and need to be developed by the Contractor.

B. Install hangers and supports as required to support piping shown on drawings; conform to American Standard Code for Pressure Piping, ANSI B31.1, Federal Specification WW-H-171, and the piping manufacturer's recommendations.

C. Provide galvanized steel or stainless auxiliary structural steel members, other than building structural steel, required for supporting or anchoring piping and accessories, except where specifically noted otherwise on drawings. Pipe support material shall match pipe material as approved by Engineer.

D. Drill holes, provide bolting material and inserts as required to fasten auxiliary structural members to building work; welding not allowed.

E. Provide corrosion resistant anchors, rollers and special supports as required to securely anchor and guide piping; prevent transmission of excessive forces to building structure or to any piece of equipment or piping.

F. Arrange and locate anchors, rollers and guides, not detailed; subject to acceptance of Engineer.

G. Provide compatible materials to prevent galvanic and corrosive action between pipe and hanger or support.

H. Brace piping system to withstand all loads caused by surge, water hammer or shock.

I. Hang and support all pipe in strict accordance with pipe and pipe hanger and support manufacturer's recommendations and as acceptable to Engineer; submit complete details of proposed hanger and support systems before fabrication;

provide continuous support of horizontal PVC pipe using galvanized steel angles or channels or individual hangers at spacing approved by Engineer.

J. Prefabricated pipe hangers and supports: Unistrut Corp.; Elcen Metal Products Co.; Grinnell Co., Inc., or equal; corrosion resistant materials.

K. General location and type shown on drawings, only for major pipe hangers and supports.

L. Refer to Section 05500 - Metal Fabrications for general material specifications.

2.04 MECHANICAL SLEEVE COUPLINGS

A. Dresser Style 38; Smith-Blair Style 411, or equal.

B. Use where shown on drawings and where permitted by Engineer.

2.05 UNIONS

A. Provide unions as required for installation and removal of equipment, where shown on drawings and as directed by Engineer.

B. Use 150 lb., malleable iron, ground joint with brass to iron seats and screwed ends for all metallic piping smaller than 2", except stainless steel.
   1. Use threaded unions with socket pipe connections for plastic piping.
   2. Use threaded stainless steel unions with welded pipe connections for stainless steel piping smaller than 2".

C. Use flanges or mechanical couplings in lieu of unions for all piping 2" and larger.

2.06 PIPE CASING END SEALS AND SPACERS

A. Use manufactured casing spacers to position water pipe in casing; wood skids shall not be used.

B. Casing spacers shall meet the following material requirements:

a. HDPE Band/Panel and Riser: ASTM D 638
b. Stainless steel or carbon steel band/panel and Riser: Type 304 stainless steel according to ASTM A 240 or carbon steel according to ASTM A 36
    i. Liner: Elastomeric PVC per ASTM D 149
    ii. Spacer Skid/Runner: Abrasion resistant polymer with a low coefficient of friction
    iii. Fasteners: Type 304 (18-8) stainless steel per ASTM A 193.

C. Casing end seals shall be manufactured for above grade application and rated for installation in fire prone areas.

D. Provide casing end seals GPT Model FW, or equal.

2.07 VALVES IN GENERAL

A. Valve types: conform with diagrams shown on drawings.

B. Use valves of single manufacturer for project insofar as possible.

C. Provide all special tools required for packing and disassembling valves.

D. Laying dimensions of flanged valves in accordance with ANSI B16.10.

E. Flanges: ANSI B16.1, 125 lbs. template.

F. Valves designed specifically for service intended.

G. Test valves as specified hereinafter.

2.08 BALL VALVES

A. Polyvinylchloride (PVC) ball valves; 4" and smaller on PVC piping only.
    1. Use PVC valves and pipe of same manufacturer to ensure system compatibility.
    2. Type 1, Grade 1 PVC per ASTM D1784.
    3. Viton O-ring seals; Teflon seats; 150 psig design cold water working pressure.
    4. Double true union type with double block design.
    5. R.&G. Sloane, or equal.

B. Metal ball valves; for metal piping only.
    1. Type 316 stainless steel ball and stem.
    2. Bronze glands and silicone bronze body bolts.
    3. Bronze or weldex handle with plastic covered grip.
    4. Glass-filled TFE seat, body seal and stem packing.
    5. Precompressed ball design with body bolt adjustment for normal wear.
    6. Full port design; 300 psig working pressure rating.
    7. Flanged, threaded, welded or soldered end connections as required.

8. Pittsburgh Brass Manufacturing Co., or equal.

2.09 PRESSURE SENSOR

A. Provide pressure gauges in locations show on plans; position for easy reading; certain pressure gauges may be specified elsewhere with equipment.

B. "Quality" type pressure gauges.
   1. 3-1/2" dial, open front, stem mounted, bronze Bourdon tube, silicone oil filled; stainless steel case.
   2. + 1.0% accuracy (full span); acrylic plastic windows.
   3. Ashcroft 1009, or equal.
   4. Provide intermediate diaphragms to isolate solids from gauge; 316 stainless steel construction; Ashcroft 101 series, or equal; fill gauge and upper half of diaphragm with silicone oil. Provide quick coupling.
   5. Provide brass tubing for gauge as required; include gauge cock between housing and gauge assembly with brass body and teflon seats; fill tubing with silicone oil.

C. Pressure gauge range: 0 - 120 psig.

2.10 DUPLEX STRAINER

A. Provide one duplex strainer as shown on plan sheets upstream of booster pump skid system.

B. Duplex strainer:
   a. Size: 4-inch
   b. Body material: cast iron
   c. Connection type: flanged
   d. Rating: ASME CL 125, 200 psig @ 150 degrees-F
   e. Basket perforations: 1/16-inch (1.6 mm)

C. Sure Flow Equipment, Inc. Duplex Strainer, or equal.

2.11 PIPE COLOR CODING AND LABELING SCHEDULE

A. Colors listed are general. Actual colors will be selected at a later date based on approved manufacturer and listed on color coordinating schedule.

A. Banding:
   1. Apply banding to pipe at connections to equipment, valves, branch fittings, at walls, floors or ceiling boundaries, at intervals not greater than 20'-0", and at least two locations per space.
   2. Provide additional banding as required by Engineer.

C. Equipment labels and tags:
   1. Name designation of process equipment having electrical connections or valves shall be as shown on drawings.
   2. Name and number designation of valves shall be as established during construction.
   3. Stencil name and number designations on piece of equipment or valve with minimum 1" high to maximum of 4" high block letters and numerals depending on size of piece of equipment and as determined by Engineer.
   4. Identify other equipment and valves too small for stenciling with 1-1/2" dia. 19-gauge polished brass metal tags fastened with No. 16 brass jack chains. Metal tags and chains shall have identifying numbering or lettering stamped in. Identifying code will be provided by Engineer. Where tags are used, pipe shall be color coded as specified.

D. Labels and directional arrows:
   1. Apply labels with directional arrows at connections to equipment, valves, branch fittings, at least one wall, floor or ceiling boundary within room, and at intervals not greater than 36'-0". Two labels minimum each room, crawl space or compartment.
   2. At each label, arrows indicating direction of flow shall point away from label. If flow may be in both directions, use double headed arrows.
   3. Lettering shall bear full pipe system name as scheduled.
   4. Lettering height shall be as follows:

Outside Pipe Diameter (in.)	Minimum Letter Height (in.)
3/4 - 1-1/4	1/2
1-1/2 - 2	3/4
2-1/2 - 6	1-1/4
8 and over	2-1/2

E. Schedule:

Pipe System	Pipe Color and Banding
Non-potable Water	Light Blue with Red Bands
Potable Water	Blue

PART 3 - EXECUTION

3.01 INSTALLATION

A. General:
   1. Make necessary field measurements to determine pipe laying lengths; work pipe into place without forcing or springing.
   2. Use fittings as shown on drawings.
   3. Provide sufficient unions and flanged connections to permit easy dismantling of equipment and piping for maintenance; minimize field welding required.
   4. All small piping not shown: arrange workable layout with convenient locations for valves and accessories.
   5. Follow customary practices of industry for first class work; use competent and skilled workmen.
   6. No additional compensation allowed for modifications of piping required to suit equipment furnished.
   7. Piping not detailed: arrange workable layout with convenient access to all valves and specialty items; arrangement subject to approval of Engineer.
   8. Slope drain piping 1/4" per foot minimum.
   9. Provide drains at low points for drain piping.
   10. Paint per Section 09900 - Painting.

B. Joints:
   1. Iron pipe: all flanged joints; flange or pipe face true to line; clean before assembly; gasket faces free of burrs and abrasions; draw up bolts and nuts uniformly and snug.
      a. Mechanical joint wall pipe with mechanical joint face set flush with wall may be used with bolt holes tapped for studs to retain follower gland.
      b. Prepare lined pipe for installation per manufacturer's recommendations.
   2. Steel pipe (other than stainless):
      a. Flanged: see iron pipe above.
      b. Screwed: use threading dies; cut clean and true to line; ream and file ends of pipe to remove all burrs; use Teflon joint material.
      c. Welded: AWWA C206; single butt welded joints.
   3. Stainless steel pipe:
      a. Flanged: see iron pipe above.
      b. Flared: use for instrument air tubing.
      c. Welded: conform to recommended Specifications for Stainless Steel Piping, Fittings and Accessories for the Pulp and Paper Industry, CA Report No. 30.
   4. Polyvinylchloride pipe: solvent cement, fused and flanged joints per manufacturer's recommendations; clean joints of dirt, oil, moisture and loose particles before making connections; no threaded joints.

C. Field cleaning:
   1. Rap and blow out piping and valves before and after installation with compressed air.
   2. Completely remove temporary preservative coatings from valves and other piping accessories.
   3. Contractor responsible for malfunctioning of pumps, valves, controls or other equipment due to presence of foreign material left in piping during installation; clean, repair or replace all malfunctioning or damaged equipment at no expense to Owner.

3.02 TESTS

A. Pressure lines:
   1. Test liquid piping systems with water after installation, in accordance with ANSI/AWWA C600 for Pressure Piping; inspect all joints for leakage after piping has been under pressure 24 hours.
   2. Test air piping systems with air; paint all joints and valves with soap solution, observe any bubbles; maintain test pressure on piping for not less than 4 hours; test pressure: twice average system working pressure.
   3. Valve off, or otherwise isolate instruments, controls or other piping accessories which may be damaged by test pressure.
   4. Provide test pumps, test plugs, blind flanges, pipe and gauges and make required piping connections.

C. Test valves as specified hereinbefore.

D. Retest piping showing leakage; replace or repair defective pipe, fittings and valves disclosed during tests to satisfaction of Engineer.

E. Disinfect all potable water lines and tanks per ANSI/AWWA C601.

END OF SECTION

SECTION 15010

MECHANICAL GENERAL PROVISIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Provide mechanical work, complete and operable, in accordance with the Contract Documents.

B. Mechanical General Provisions requirements specifically applicable to Division 15 sections, in addition to Division 1 requirements.

C. Wherever Mechanical General Provisions requirements conflict with any provisions of the General Requirements, Supplementary Conditions or Special Conditions, Mechanical General Provisions requirements shall take precedence.

1.02 PLANS

A. The plans and specifications cover the extent and general arrangements of the various systems subject to the individual characteristics of the equipment with regard to size, arrangement, etc. The plans are diagrammatical and are not intended to include all of the details or dimensions. Where no figures or dimensions are noted, the plans shall be accurately followed. Exceptions to or conflicts between the plans and specifications shall be brought to the Engineer's attention at least 7 days before bidding date.

1.03 LEAK DAMAGE

A. The contractor shall be responsible for damage to the work of other contractors or to the building, or to its contents, people, etc., caused by leaks in any of the equipment or material installed by him through equipment or material failures or disconnected pipes or fittings, and shall make, at his own expense, all repairs or replacement required as a result of such damage.

1.04 INTENT

A. It is the intention of these specifications and plans to call for finished work, tested and ready for use and operation by the Owner. Wherever the word "provide" is used, it shall mean "furnish and install complete and ready for use".

1.05 MATERIAL LIST SHEET

A. Submit a Material List Sheet within 48 hours after bids are received. Material List Sheet shall contain names of manufacturer for all major pieces of mechanical equipment.

B. Certain equipment and systems have been specified with 2 or more particular makes. For such equipment, the bidder shall indicate on the material list sheet, which of the particular makes he intends to use. If the bidder does not indicate which particular make he proposes to use, if more than one manufacturer's name is listed per item, or if a manufacturer's name other than those listed is indicated, the first make specified shall be used in the construction of the building.

C. Bidders wishing to obtain approval on brands other than those specified by name shall refer to Section 01300 - Submittals.

1.06 PROTECTION OF EQUIPMENT AND MATERIALS

A. Provide protection against weather, rain, windstorms, frost, ice, heat, and other natural phenomenon so as to maintain all material and equipment free from injury or damage including physical damage of any nature. This shall include the erection of any temporary shelters to protect adequately any equipment stored on the site, and the covering of equipment in the completed building with protective coverings.

1.07 VERIFICATION OF EXISTING UTILITIES PIPING AND EQUIPMENT AND EXAMINATION OF SITE

A. Verify the location of all existing utilities and coordinate with utility company personnel of requirements for properly connecting into their utilities; pay all associated fees.

B. Verify the location of all piping and equipment and call to the attention of the Engineer any and all discrepancies which involve additional work before signing of the contract.

C. After the contract is signed, any additional work required for the complete and working job shall be provided at no additional cost, unless specifically noted in the contract documents to the contrary.

D. Locations, sizes, capacities, etc., of all piping shall be verified prior to doing any other work on piping systems which are to connect to new piping systems. Any work rendered unusable by failure to comply with this provision shall be replaced at no cost.

E. Piping as mentioned in this division of the specifications shall be understood to include water, sewer and other piping systems necessary to the continued operation of any and all new or existing systems and equipment, whether on a temporary or permanent basis as noted elsewhere in the contract documents.

F. Prior to submitting proposals for this work, each contractor bidding shall first examine the site and all conditions thereon and/or therein. All proposals shall take into consideration all such conditions as may affect the work under this Contract.

1.08 EXCAVATION

A. Do all excavation required for the installation work in this Contract unless indicated otherwise. Excavation to provide sufficient clearance for installation of work and to be kept free of water. For method of execution, see Section 02200 - Earthwork.

1.09 BACKFILLING

A. Backfill immediately after inspection and tests have received approval of local authorities and Engineer. For materials and method of execution, see Section 02200 - Earthwork.

1.10 LAYING OUT OF THE WORK

A. Layout work on the premises and make proper provision for the other work. The exact location of each item shall be determined by reference to the general plans, by measurements at the building and in cooperation with other contractors. The Contractor shall be responsible for accurately locating all openings for ducts, pipes, etc., and access doors required.

1.11 COORDINATION

A. Any interferences with other trades shall be corrected before the work proceeds. Coordinate location of plumbing and mechanical equipment with structural conditions.

B. The mechanical and electrical portions of the work shall have precedence over one another in accordance with the following sequence:
   1. Soil and waste piping.
   2. Ductwork.
   3. Electrical bus duct and cable trays.
   4. Electrical wiring.

1.12 LUBRICATION

A. All equipment requiring lubrication shall have a label or plate permanently attached to the equipment indicating type of lubrication required and recommended frequency of lubrication. All equipment shall be fully and properly lubricated at the time of final acceptance of the facility.

1.13 ACCESS

A. Generally, all concealed valves, filters, thermostats, mixing valves, pumps and other items of equipment requiring maintenance and/or operation are located above accessible type ceilings. Should any concealed valves, pumps, etc., be inaccessibly located, furnish access doors with flush screwdriver operated lock. Doors shall be of the type suited to the construction into which they are to be installed.

B. Provide access to filters such that filters can be serviced without interruption; provide suitable access doors or panels.

1.14 CUTTING AND PATCHING

A. All cutting and patching required under this Division shall be done under this Division. Subcontract the performance of cutting and patching to tradesmen skilled in the trade required.

1.15 TESTS

A. All systems shall be tested in the presence of the Engineer and local authorities having jurisdiction in a manner required by regulation. No work shall be covered before tests are made.

B. Refer to individual sections for testing requirements.

C. When not indicated, test all piping hydrostatically at 1 1/2 times the maximum working pressure but in no case less than 50 psi for a period of 5 hours.

D. Test underground piping before backfilling.

1.16 PERMITS

A. Obtain all required permits. Pay for all permits, certificates and licenses required to commence the work and arrange for inspections required by local authorities.

1.17 NOISE

A. All mechanical equipment and devices shall operate without objectionable noise in the occupied portions of the building.

1.18 CLEANING AND ADJUSTING

A. Upon completion of the entire system, it shall be thoroughly cleaned and treated as specified. Place the entire system in operation in the presence of the Engineer or his representative and instruct the operator in all details of operation before acceptance.

B. Interior of all ductwork shall be cleaned of all construction dirt prior to placing fans in operation.

1.19 RECORD DRAWINGS

A. See specification Section 01720 - Project Record Documents.

1.20 OPERATION AND MAINTENANCE MANUALS

A. Furnish require number of complete sets of manufacturer's instructions for installation, operation and maintenance of all materials and equipment furnished.

B. Completely identify each manual by showing at least the following information:
   1. Name, address and phone number of supplier.
   2. Name, address and phone number of manufacturer.
   3. Name of project as it appears on the title sheet of these specifications.

C. Include all guarantees and warranties issued.

D. Include a lubrication list showing type of lubricant and lubrication schedule for all equipment.

E. Include a valve list showing valve tag number, service and location.

1.21 OPERATING INSTRUCTIONS

A. Instruct the Owner's operating personnel in the proper operation of all equipment items and systems. At the beginning of the first cooling and heating season, start the equipment and operate until satisfactory operation and performance is achieved.

1.22 CODES AND STANDARDS

A. Equipment, devices, apparatus, systems and installations shall be entirely suitable and safe for each intended application and be in full compliance with applicable standards, rules, regulations, codes, ordinances, etc., of municipal, county and state governments and local utilities, including Iowa State Building, Mechanical, Fire and Plumbing Codes. They shall also comply with OSHA and all applicable requirements of the following for the particular type of installation:
   1. Electrical Equipment and Wiring: National Electrical Code.

2. Duct Installations and Fire Dampers: NFPA, SMACNA Manuals, Uniform Mechanical Code.
3. Fans, Blowers and Other Air Moving Devices: AMCA, SMACNA Manual.

1.23 MOTORS, STARTERS AND DISCONNECT SWITCHES

A. Equipment requiring electric motors, motor starters, disconnect switches, overload protection, short-circuit protection and other items of electrical controls shall be furnished complete with all such items except when the electrical plans specifically indicate that the required starters, disconnect switches and other control items are to be furnished under Electrical.

B. Motors and other electrical devices shall be suitable for the electrical characteristics and type of service shown on the plans and shall comply with the requirements of the specification under Electrical.

C. Provide the number of auxiliary contacts required in the motor starters for proper interlocks, etc.

D. Motors which are 3 phase and 1 HP or larger (non-hermetic) shall be energy efficient type and shall meet the following NEMA nominal efficiencies as tested in accordance with IEEE Standard 112 TEST METHOD B:

Motor	Open			Enclosed		
HP	3600	1800	1200	3600	1800	1200
1	- - -	82.5	77.0	- - -	80.0	75.5
1.5	80.0	82.5	82.5	78.5	81.5	82.5
2	82.5	825	84.0	81.5	82.5	82.5
3	82.5	86.5	85.5	82.5	84.0	84.0
5	85.5	86.5	86.5	85.5	85.5	85.5
7.5	85.5	88.5	88.5	85.5	87.5	87.5
10	87.5	88.5	90.2	87.5	87.5	87.5
15	89.5	90.2	89.5	87.5	88.5	89.5
20	90.2	91.0	90.2	88.5	90.2	89.5
25	91.0	91.7	91.0	89.5	91.0	90.2
30	90.1	91.7	91.7	89.5	91.0	91.0
40	91.7	92.4	91.7	90.2	91.7	91.7
50	91.7	92.4	91.7	90.2	92.4	91.7
60	93.0	93.0	92.4	91.7	93.0	91.7
75	93.0	93.6	93.0	92.4	93.0	93.0
100	93.0	93.6	93.6	93.0	93.6	93.0
125	93.0	93.6	93.6	93.0	93.6	93.0
150	93.6	94.1	93.6	93.0	94.1	94.1
200	93.6	94.1	94.1	94.1	94.5	94.1

1.24 COMPLETION REQUIREMENTS

A. Before acceptance and final payment, provide:
   1. Accurate record drawings showing in red ink on blueline prints furnished for that purpose all changes from the original plans made during installation of the work. Drawings shall be filed with the Engineer when the work is complete.
   2. Balancing report.
   3. Operation and maintenance manuals.
   4. Operating instructions to the operating personnel.

END OF SECTION

SECTION 15050

BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes basic materials and methods of "Mechanical" work shown on plans.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Pipe and fittings:
   1. Cast iron soil pipe:
      a. Service weight hub and spigot or no-hub according to ANSI 112.5.1, ASTM A74.12 and Commercial Standard 188-66.
      b. Double seal elastomeric compression type joint conforming to ASTM C564 for pipe with hub and plain end spigot or,
      c. Mechanical coupling with neoprene gasket and all stainless steel shield and clamps conforming to ASTM C-564 for pipe with plain ends.
   2. Copper pipe:
      a. Type K and L, hard or soft, conforming to ASTM B88; Type DWV conforming to ANSI B306.
      b. Fittings: wrought copper or bronze, pressure type conforming to ANSI B16.22; cast bronze fittings conforming to ANSI B16.23 on DWV pipe.
      c. Solder: ANSI/ASTM B32, Grade 95TA, or Silverbrite 100 containing 95.5% tin, 4% copper and 0.5% silver.

B. Valves:
   1. Furnish valves for complete control of all risers, branches and each group of fixtures; in addition to valves shown on plans, furnish valves where required for proper servicing in connections at equipment; arrange valves for easy access.
   2. Gate valves:
      a. Screwed ends: 2" and smaller: bronze, rising stem, solid wedge disc, 125 psi SWP, 200 psi WOG; Crane 428, Jenkins 47, or equal.
      b. Solder ends: 1-1/2" and smaller: bronze, rising stem, solid wedge disc, 125 psi SWP, 200 psi WOG; Crane 1334, Jenkins 1242, or equal.
   3. Ball valves: bronze body, chrome plated bronze or brass ball, reinforced Teflon seat and seals, blow-out-proof design.
      a. 1/4" through 3": Watts B-6000, Apollo No. 70, or equal.
      b. Bubble tight shut-off; rated to 600 psi WOG 1/4" to 2" and 400 psi WOG 2-1/2" and 3", 150 psi stem.
      c. Suitable for temperatures from -55°F. to +450°F.

d. Provide level type operating handle.
e. Solder, threaded or flanged ends as shown on plans or as required.

C. Pipe hangers:
1. Clevis type, ITT Grinnell Figure 260 or 269, Crane, or equal, unless otherwise specified; Grinnell CT-65, or equal, for copper tubing.
2. Where loading exceeds manufacturer's recommended maximum for clevis type hanger: steel pipe clamp, Grinnell Figure 212, Crane, or equal, or heavy steel pipe clamp, Grinnell Figure 216, Crane, or equal, as required for loading.
3. Dip all hangers in zinc chromate primer before installation.

D. Structural attachments:
1. To concrete: wedge type concrete insert for loads up to 1,200 lbs. use Grinnell Figure 281, F&S Central, or equal; for loads up to 1,430 lbs. use Grinnell Figure 282, Universal Concrete insert, F&S Central, or equal.
2. To steel: 2" and smaller: use "C" clamp with retaining clip, Grinnell Figure 87, F&S Central, or equal; 2-1/2" and larger: use beam clamp, Grinnell Figure 229, F&S Central, or equal.

E. Pipe protection shields:
1. Protect pipe at point of support by 360° insert of high density, 100 psi, waterproof calcium silicate encased in 360° sheet metal shield; insert same thickness as adjoining pipe insulation; shield length and minimum sheet metal gauge as shown below:

Pipe Size	Shield Length	Minimum Gauge
1/2 - 1-1/2	4	26
2 - 6	6	20

2. Manufacturer and model number: Pipe Shields, Inc. Model CS, or equal.

F. Pipe penetration of walls, floors and beams:
1. Use calcium silicate insert for insulation; Pipe Shields, Inc. Model WFB-CS, or equal for insulated pipes and Pipe shields, Inc. No. WFB, or equal for Uninsulated pipes.

G. Pipe and duct sleeves and escutcheons:
1. Provide sleeves for all pipes and ducts passing through foundations, walls, slabs, floors, ceilings, partitions or other building construction.
2. Pipe sleeves: standard weight steel pipe with minimum 1/2" clear space around pipe passing through.
3. Duct sleeves: minimum 18 gauge galvanized sheet steel with minimum 1/2" clear space around duct passing through.
4. Size sleeves on insulated elements for overall outside dimension of insulation; do not interrupt insulation.
5. Sleeves Passing Through Floor: Extend sleeve 2" above finished floor.

6. Sleeves in Exterior Building Walls: Caulk space between pipe and sleeve with elastomeric caulking compound for weatherproof installation; when indicated seal annular space with link seal bolted gaskets as manufactured by Thunderline.
7. Escutcheons: Concealed catch and latch type, chrome plated; size to fit outside continuous insulation on insulated pipes; Crane No. 10CP, or equal.

H. Pipe, Duct and Conduit Penetration Sealants:
1. Seal all pipe, duct and conduit openings through floor and fire rated walls or partitions with Dow Corning 3-6548 Silicone RTV foam, or equal.
2. Sealant used shall meet or exceed Fire Endurance Test as defined in ASME 119 and shall be UL listed; flame spread rating not to exceed 20.
3. Apply the sealant as per manufacturer's recommendations; use Dow Corning 1200 RTV, or equal; prime coat to improve adhesion.

2.02 PIPE PAINTING AND IDENTIFICATION

A. Paint all exposed piping in accordance with Section 13570.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General:
1. Lay out and install pipes, approximately as shown on plans, straight, plumb and as direct as possible, at right angles to or parallel with walls unless otherwise shown or approved.
2. Keep pipes close to walls, partitions, ceilings and above ceiling structures; offset only where necessary unless otherwise directed.
3. Locate groups of pipes parallel; space pipes to permit applying insulation and servicing of valves.
4. Arrange and isolate pipes passing through walls or floors to comply with codes.
5. Provide dielectric couplings where copper lines connect to iron or steel.

B. Solder Joints: Cut pipe square using roller type tube cutter; burr ends, resize and polish to bright metal; melt solder or brazing alloy by contact with tube and fitting, not by flame directly.

C. Fabricate screwed piping using sharp cutting, threading and reaming tools to maintain proper thread dimension and produce standard thread engagement; sealing and adhesive type compounds not allowed; coat exposed joints at threads with red lead at end of each day's work.

D. Grading:
1. Water: Minimum 1/4" in 10', for draining system.
2. Drainage: 1/4" per foot; may be 1/8" per foot for 4" and larger pipe.

E. Horizontal Piping Supports:
   1. Hanger Attachments to Cored Slabs: At slab joints wherever possible, at core spaces where not possible; attachments not permitted at ribs.
   2. Steel Piping:

Pipe Size (inches)	Rod Diameter (inches)	Maximum Spacing (feet)
Up to 1-1/4	3/8	8
1-1/2 to 2	3/8	10
1-1/2 to 3	1/2	10
4	5/8	10

   3. Copper Piping:

Pipe Size (inches)	Rod Diameter (inches)	Maximum Spacing (feet)
Up to 1	3/8	6
1-1/4 to 2	3/8	8
1-1/2 and Above	1/2	8

   4. Cast Iron Soil Pipe:

Pipe Size (inches)	Rod Diameter (inches)	Maximum Spacing (feet)
2 through 5	3/8	each joint
6 through 10	1/2	each joint
12 through 15	5/8	each joint

F. Unions:
   1. Locate as shown; if not shown:
      a. In bypasses around equipment.
      b. Between shut-off and equipment in connections to equipment requiring disconnection for repair or replacement.
      c. In drainage piping, only on inlet side of fixture trap.

G. Valves:
   1. Locate as shown; if not shown:
      a. In make-up lines to equipment.
      b. In all take-offs from main lines.
   2. Locate for ease of access and operation; stems horizontal to vertical position only.

H. Escutcheons: Install on all pipes passing through walls, floors or ceilings and exposed to view except in mechanical rooms and unfinished spaces.

3.02 WELDING

A. Comply with latest provisions of applicable codes.

B. Welded Joints:
   1. Socket or butt welded.
   2. Branch may be welded into main without fittings where main is at least two sizes larger than branch.

3.03 PIPE IDENTIFICATION

A. Label all piping installed under this Division.

B. Identify with plastic clamp-on legends and arrows, Seton Nameplate Corporation, or equal, indicating pipe and direction of flow. Identification shall be color coded per ANSI/ASME A13.1 "Scheme for Identification of Piping Systems". Identification shall be located as follows:
   1. At each branch riser take-off.
   2. At least every 40'.
   3. At each penetration of wall.

3.04 VALVE IDENTIFICATION

A. Identify valves by distinguishing numbers and letters. Attach 18-gauge polished brass tag to each valve, 1-1/2" diameter, stamped for appropriate service in 1/4" backfilled letters, with 1-3/4" No. 10 brass-s-hooks; furnish four copies of printed valve list showing tag letter, number, service and location; include a copy in each maintenance manual; deliver remaining charts to owner; tags as manufactured by Seton Nameplate Corp., Style 250-BL, or equal.

3.05 IDENTIFICATION OF EQUIPMENT

A. Identify all plumbing equipment by nameplates securely fastened to the equipment. Nameplate notation shall correspond to notations used on plans and specifications. Plates shall be aluminum, 2-1/2" x 3/4" with black enameled background with etches or engraved natural aluminum lettering; or engraved bakelite nameplates of 1/16" thick black engraving stock with white lettering and beveled edges as manufactured by Seton Nameplate Corporation, or equal.

END OF SECTION

SECTION 15250

INSULATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes insulation of mechanical equipment and piping as scheduled on plans. The following systems are included:
   1. Domestic cold and hot water piping.

1.02 FIRE RATINGS

A. Maximum composite products ratings for insulation products: ASTM E84, NFPA 255, UL 723 and NFPA 90A.
   1. Flame spread: 25.
   2. Smoke developed: 50.

B. Label or listing: UL label or listing, satisfactory test results from National Bureau of Standards, or satisfactory certified test report from an approved testing laboratory will be required to indicate that fire hazard ratings for materials proposed for use do not exceed those specified; when insulation, vapor barrier covering, wrapping materials and adhesives are applied separately in field, test each item individually.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Insulation types:
   1. Type I-1: flexible foamed plastic pipe insulation, closed cell structure; temperature limits -40°F. to 220°F.; k value not to exceed 0.26 at 75°F.; permeability rating not to exceed 0.1; Armstrong Armaflex, Manville Aerotube, or equal.
   2. Type I-2: preformed, sectional, fiberglass pipe insulation with factory applied all purpose vapor retarder jacket with pressure sensitive adhesive closure; nominal density 4 lbs./cf; k value not to exceed 0.23 at 75°F.; permeability rating not to exceed 0.02; Owens Corning SSL II, Manville Micro Lok 650, or equal.
   3. Type I-3: flexible glass fiber blanket insulation with factory applied vapor barrier foil facing; temperature limits of 40°F. to 250°F.; permeability rating not to exceed 0.02; Owens Corning T-150, Manville 800, or equal.

4. Type I-4: semi rigid, fiberglass sheet insulation with factory applied all-purpose vapor retarder jacket with pressure sensitive adhesive closure; nominal density 3 lbs./cf; k value not to exceed 0.23 at 75ºF.; permeability rating not to exceed 0.02; Manville 1000 series, or equal.

B. Adhesives, cements and mastics:
   1. As recommended by insulation manufacturer unless noted otherwise.
   2. 25/50 flame and smoke rating both liquid and dry state.
   3. Benjamin-Foster, Chicago Mastic, Childers Products, 3M, or equal.

C. Staples: outward clinching type of 304 or 316 stainless steel.

D. Bands:
   1. 3/4" nominal width metal with a minimum thickness of 0.07".
   2. Aluminum, brass.

E. Pipe insulation protection jacket: 0.016" thick aluminum jacket with felt backing held in place with aluminum bands spaced on 12" centers.

F. Fittings, flanges, valves and similar devices:
   1. Fiberglass insert precut to size and shape of appurtenance jacketed with premolded one-piece pvc cover.
   2. Thickness and finish to match adjoining pipe insulation.
   3. Manville Zeston, Thermazip, or equal.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Pipe surfaces must be clean and certified tight by Contractor before starting application of insulation.

B. Comply with manufacturer's recommended application methods.

C. Tightly butt joints; coat with cements and adhesives where required to ensure vapor barrier; pull jacketing tight and smooth and secure flaps and tape with recommended adhesive.

D. Seal exposed edges of insulation with same material as jacket or facing.

E. Insulate pipe fittings and valves with premolded sections, cut sections of pipe insulation or blanket insulation.

F. Install pipe insulation continuous through wall and floor sleeves.

G. Finished insulation product must be neat without any loose tape; sloppy insulation workmanship will not be acceptable.

H. Insulation schedule: see schedule on plans.

END OF SECTION

SECTION 15400

PLUMBING

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes plumbing systems complete, fully adjusted and ready for use.

B. Code requirements: plumbing systems shall comply with the local codes and ordinances.

PART 2 - PRODUCTS

2.01 SANITARY AND STORM WATER PIPING SYSTEM

A. Pipe and fittings:
   1. Below ground sanitary piping: service weight, hub and spigot cast iron soil pipe and fittings conforming to ASTM A74.
   2. Above ground sanitary piping: hubless cast iron soil pipe and fittings conforming to Cast Iron Soil Pipe Institute Specification 301.
   3. Drain or condensate drain piping: copper tubing, type DWV, ASTM B306, seamless hard drawn copper with cast bronze fittings.
   4. Storm water piping: Schedule 80 PVC; refer to Section 13570 - Inside Process Piping for details.

   5. Manufacturer and model number: Polycast 700 series, or equal.
   6. Provide channels with interlocking joints and horizontal ribs to facilitate anchoring; provide outlets, end caps and properly sloping matching pieces as required.

B. Traps:
   1. Provide traps for all equipment requiring connections to drainage system.
   2. Place trap as near fixture as possible; do not double trap any fixture.

C. Lead flashings and shields:
   1. Floor drains: install all floor drains except those installed in floors laid on ground or over crawl spaces, with 4 lb. sheet lead flashing extending 18" from drain in all directions.

2.02 NON-POTABLE WATER PIPING SYSTEM

A. Pipe and fittings:
   1. Schedule 80 PVC; refer to Section 13570 - Inside Process Piping for details.

B. Wall hydrants: freezeless with vacuum breaker-backflow preventer, satin chrome finish on brass casting, 3/4" hose thread nozzle, permanent type brass valve body with hemispherical seating surface, one-piece valve plunger, hardened stainless steel stem, loose key; chrome finish; Woodford Model B65, Zurn, or equal.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Sanitary, waste, vent, drain and storm piping:
   1. Comply with requirements of local authority having jurisdiction; generally install horizontal drainage piping with slope not less than 1/4" per foot for 3" and smaller and at 1/8" per foot for 4" and larger.
   2. Vent flashings; furnish flashing and counter flashing of vent pipes passing through roof.

B. Non potable water system:
   1. Install water system pitched toward service shutoff valves; provide copper-to-steel insulating adapters where non-ferrous piping joins ferrous piping; install piping below frost depth (minimum of 5 feet).
   2. Expansion and contraction of pipe: provide sufficient swing joints, expansion loops and/or devices necessary for flexible piping system; anchor horizontal runs over 50 feet in length to supporting construction at midpoint of run to force expansion evenly divided toward ends, or as indicated.
   3. Clamp hose bibbs and hose station firmly to wall using clamp assembly; provide warning sign at each hose bibb connected to non-potable water system or at each hose bibb located downstream of backflow preventer; if not shown on plans, install hose bibb at 3'-6" above floor.

3.02 TESTS

A. Test entire soil, waste, vent and storm system hydrostatically; plug all openings in soil, waste and vent lines, fill system or portion thereof, with water to roof level or minimum 10' and check all joints for water tightness.

B. Test water piping hydraulically before insulation is installed; fill system or section to be tested with water and pressurize to 150 psi or 1.5 times the working pressure for a period of 24 hours; repair any leakage located and repeat test until proven watertight.

END OF SECTION

SECTION 16050

ELECTRICAL REQUIREMENTS

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall provide electrical work, complete and operable, in accordance with the Contract Documents.

B. The provisions of this section apply to all sections in Division 16, except as indicated otherwise.

C. The work of this section is required for operation of electrically-driven equipment provided under specifications in other divisions. The Contractor's attention is directed to the requirement for proper coordination of the work of this section with the work of equipment specifications and the work of instrumentation sections.

D. Concrete, excavation, backfill, and steel reinforcement required for encasement, installation, or construction of the work of the various sections of Division 16 is included as a part of the work under the respective sections, including duct banks, manholes, handholes, equipment housekeeping pads, and light pole bases.

1.02 REFERENCE STANDARDS

A. The work of this section and all sections in Division 16 shall comply with the following as applicable:
   1. NEC (NFPA 70) National Electrical Code
   2. NETA International Electrical Testing Association
   3. NEMA 250 Enclosure for Electrical Equipment (1000 Volts Maximum)

B. Electrical equipment shall be listed by and shall bear the label of Underwriters' Laboratories, Inc. (UL) or an independent testing laboratory acceptable to the local code enforcement agency having jurisdiction.

C. Installation of electrical equipment and materials shall comply with OSHA Safety and Health Standards (29 CFR 1910 and 29 CFR 1926, as applicable), state building standards, and applicable local codes and regulations.

D. Where the requirements of the specifications conflict with UL, NEMA, NFPA, or other applicable standards, the more stringent requirements shall govern.

1.03 SIGNAGE AND MARKINGS

A. Identification: Provide danger, caution, and warning signs and equipment identification markings in accordance with applicable federal and state OSHA and NEC requirements.

B. Local Disconnect Switches:
   1. Each local disconnect switch for motors and equipment shall be legibly marked to indicate its purpose unless the purpose is indicated by the location and arrangement.

C. Warning Signs:
   1. 600 volts nominal, or less: Entrances to rooms and other guarded locations that contain live parts shall be marked with conspicuous signs prohibiting unqualified persons to enter.

D. Isolating Switches: Isolating switches not interlocked with an approved circuit interrupting device shall be provided with a sign warning against opening them under load.

1.04 PERMITS AND INSPECTION

A. Permits shall be obtained and inspection fees shall be paid according to the General Conditions.

B. The Contractor shall pay connection and turn-on service charges required by the utility companies.

1.05 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Division 01.

B. Shop Drawings: Include the following:
   1. Complete material lists stating manufacturer and brand name of each item or class of material.
   2. Shop drawings for all grounding work not specifically indicated.
   3. Front, side, rear elevations, and top views with dimensional data.
   4. Location of conduit entrances and access plates.
   5. Component data.
   6. Connection diagrams, terminal numbers, internal wiring diagrams, conductor size, and cable numbers.
   7. Method of anchoring, weight.
   8. Types of materials and finish.
   9. Nameplates.
   10. Temperature limitations, as applicable.
   11. Voltage requirement, phase, and current, as applicable.
   12. Front and rear access requirements.
   13. Test reports.
   14. Grounding requirements.
   15. Catalog cuts or photocopies of applicable pages of bulletins or brochures for mass produced, non-custom manufactured material. Catalog data sheets shall be stamped to indicate the project name, applicable Section and paragraph, model number, and options. This information shall be marked in spaces designated for such data in the Engineer's stamp.

C. Shop drawings shall be custom prepared. Drawings or data indicating "optional" or "as required" equipment are not acceptable. Options not proposed shall be crossed out or deleted from shop drawings.

D. Owner's Manuals: Complete information in accordance with Division 01.

E. Record Drawings: The Contractor shall show invert and top elevations and routing of all duct banks and concealed below-grade electrical installations. Record drawings shall be prepared, be available to the Engineer, and be submitted according to Division 01.

1.06 AREA DESIGNATIONS

A. General
   1. Raceway system enclosures shall comply with Section 16110 - Electrical Raceway Systems.

      Electric work specifically indicated in sections within any of the Specifications shall comply with those requirements.

AREA	NEMA ENCLOSURE CLASSIFICATION						
	1	3R	4X	7	9	12	Notes
Control Bldg. – Process Room						X	
Control Bldg. – Control Room	X						
Control Bldg. – Computer Room	X						

B. Material Requirements
   1. NEMA 1, 3R, and 12 enclosures shall be steel coated with ANSI 61 grey paint unless noted otherwise on plans.
   2. NEMA 4X: stainless steel unless specified otherwise.
   3. NEMA 7: Explosion-proof.

1.07 TESTS

A. The Contractor shall be responsible for factory and field tests required by specifications in Division 16 and by the Engineer or other authorities having jurisdiction. The Contractor shall furnish necessary testing equipment and pay costs of tests, including replacement parts and labor, due to damage resulting from damaged equipment or from testing and correction of faulty installation.

B. Where test reports are indicated, proof of design test reports for mass-produced equipment shall be submitted with the shop drawings, and factory performance test reports for custom-manufactured equipment shall be submitted and be approved prior to shipment. Field test reports shall be submitted for review prior to Substantial Completion.

C. Equipment or material that fails a test shall be removed and replaced.

1.08 CONSTRUCTION SEQUENCING

A. Continuance of existing plant operation during construction is critical. Work shall be scheduled, subject to Owner's approval, to minimize any required shutdown time. The Contractor shall submit a written request, including sequence and duration of activities to be performed during any shutdown.

B. Switching, safety tagging, etc., required for equipment shutdown and power outages shall be performed by the Contractor. In no case shall the Contractor begin any work without written authorization by the Engineer.

C. The Contractor shall visit the Site before submitting a Bid to better acquaint itself with the work of this Contract. Lack of knowledge will not be accepted as a reason for granting extra compensation to perform the work.

PART 2 - PRODUCTS

2.01 GENERAL

A. Equipment and materials shall be new, shall be listed by UL, and shall bear the UL label where UL requirements apply. Equipment and materials shall be the products of experienced and reputable manufacturers in the industry. Similar items in the work shall be products of the same manufacturer. Equipment and materials shall be of industrial grade standard of construction.

B. Where a NEMA enclosure type is indicated in a non-hazardous location, the Contractor shall utilize that type of enclosure, despite the fact that certain modifications such as cutouts for control devices may negate the NEMA rating.

C. On devices indicated to display dates, the year shall be displayed as 4 digits.

2.02 MOUNTING HARDWARE

A. Miscellaneous Hardware:
   1. Nuts, bolts, and washers shall be stainless steel.
   2. Threaded rods for trapeze supports shall be continuous threaded, stainless steel, 3/8" dia. minimum.
   3. Strut for mounting of conduits and equipment shall be stainless steel. Where contact with concrete or dissimilar metals may cause galvanic corrosion, suitable non-metallic insulators shall be utilized to prevent such corrosion. Aluminum strut shall not be utilized for free standing support frames. Strut shall be as manufactured by Unistrut, B- Line, or equal.
   4. Anchors for attaching equipment to concrete walls, floors and ceilings shall be stainless steel expansion anchors, such as "Rawl-Bolt," "Rawl-Stud" or "Lok-Bolt" as manufactured by Rawl; similar by Star, or equal. Wood plugs shall not be permitted.
   5. Refer to Section 16070 – Hangers and Supports for additional details.

2.03 ELECTRICAL IDENTIFICATION

A. Nameplates: Nameplates shall be fabricated from white-letter, black-face laminated plastic engraving stock, Formica type ES-1, or equal. Each shall be fastened securely, using fasteners of brass, cadmium plated steel, or stainless steel, screwed into inserts or tapped holes as required. Engraved characters shall be block style with no characters smaller than 1/8" top to bottom.

B. Conductor and Equipment Identification: Conductor identification devices shall be either imprinted plastic-coated cloth marking devices such as manufactured by Brady, Thomas & Betts, or equal, or shall be heat-shrink plastic tubing, imprinted split-sleeve markers cemented in place, or equal.

PART 3 - EXECUTION

3.01 GENERAL

A. Incidentals: The Contractor shall provide all materials and incidentals required for a complete and operable system, even if not required explicitly by the Specifications or the drawings. Typical incidentals are terminal lugs not furnished with vendor supplied equipment, compression connectors for cables, splices, junction and terminal boxes, and control wiring required by vendor furnished equipment to connect with other equipment indicated in the Contract Documents.

B. Field Control of Location and Arrangement: The drawings diagrammatically indicate the desired location and arrangement of outlets, conduit runs, equipment, and other items. Exact locations shall be determined by the Contractor in the field based on the physical size and arrangement of equipment, finished elevations, and other obstructions. Locations on the drawings, however, shall be followed as closely as possible.
   1. Where "home runs" are shown, the Contractor shall route the conduits in accordance with the indicated installation requirements. Routings shall be exposed or encased as indicated, except that conduit in finished areas shall be concealed unless specifically indicated otherwise. Conduits encased in a slab shall be sized for conduit OD to not exceed one-third of the slab thickness and be laid out and spaced to not impede concrete flow.
   2. Conduit and equipment shall be installed in such a manner as to avoid all obstructions and to preserve head room and keep openings and passageways clear. Lighting fixtures, switches, convenience outlets, and similar items shall be located within finished rooms as indicated. Where the drawings do not indicate exact locations, such locations shall be determined by the Engineer. If equipment is installed without instruction and must be moved, it shall be moved without additional cost to the Owner. Lighting fixture locations shall be adjusted slightly to avoid obstructions and to minimize shadows.

3. Wherever conduits and wiring for power circuits, lighting and receptacles are not indicated, it shall be the Contractor's responsibility to provide required conduits and wiring, based on the actual installed fixture layout and the circuit designations as indicated. Wiring shall be #12 AWG minimum, conduits shall be 3/4" minimum (exposed) and 1" minimum (encased). When circuits are combined in the same raceway, the Contractor shall derate conductor ampacities in accordance with NEC requirements.

C. Workmanship: Materials and equipment shall be installed in strict accordance with printed recommendations of the manufacturer. Installation shall be accomplished by workers skilled in the work. Installation shall be coordinated in the field with other trades to avoid interferences.

Protection of Equipment and Materials: The Contractor shall fully protect materials and equipment against damage from any cause. Materials and equipment, both in storage and during construction, shall be covered in such a manner that no finished surfaces will be damaged, marred, or splattered with water, foam, plaster, or paint. Moving parts shall be kept clean and dry. The Contractor shall replace or refinish damaged materials or equipment, including faceplates of panels and switchboard sections as part of the work.

3.02 CORE DRILLING

A. The Contractor shall perform core drilling required for installation of raceways through concrete walls and floors. Locations of floor penetrations, as may be required, shall be based on field conditions. Verify all exact core drilling locations based on equipment actually furnished as well as exact field placement. To the extent possible, identify the existence and locations of encased raceways and other piping in existing walls and floors with the Owner prior to any core drilling activities. Damage to any encased conduits, wiring, and piping shall be repaired as part of the work.

3.03 CONCRETE HOUSEKEEPING PADS

A. Concrete housekeeping pads shall be provided for indoor floor standing electrical equipment. Housekeeping pads for equipment, including future units, shall be 4" above surrounding finished floor or grade and 2" larger in both dimensions than the equipment, unless otherwise indicated.

B. Concrete housekeeping curbs shall be provided for conduit stub-ups in indoor locations that are not concealed by equipment enclosures. Such curbing shall be 3" above finished floor or grade.

3.04 EQUIPMENT ANCHORING

A. Floor supported, wall, or ceiling hung equipment and conductors shall be anchored in place by methods that will meet seismic requirements in the area where the project is located. Wall-mounted panels that weigh more than 500 lbs. or that are within 18" of the floor shall be provided with fabricated steel support pedestals. If the supported equipment is a panel or cabinet enclosed within removable side plates, it shall match supported equipment in physical appearance and dimensions. Transformers hung from 4" stud walls and weighing more than 300 lbs. shall have auxiliary floor supports.

B. Leveling channels anchored to the concrete pad shall be provided for switchgear and pad-mounted transformer installations.

C. Anchoring methods and leveling criteria in the printed recommendations of the equipment manufacturers are a part of the work of this Contract. Such recommendations shall be submitted as shop drawings under Section 01300 - Submittals.

3.05 EQUIPMENT IDENTIFICATION

A. Equipment and devices shall be identified as follows:
   1. Nameplates shall be provided for panel boards, control and instrumentation panels, starters, switches, and pushbutton stations. In addition to nameplates, control devices shall be equipped with standard collar-type legend plates.
   2. Control devices within enclosures shall be identified as indicated. Identification shall be similar to the subparagraph above.
   3. Toggle switches which control loads out of sight of switch and multi-switch locations of more than 2 switches shall have suitable inscribed finish plates.
   4. Equipment names and tag numbers, where indicated on the drawings, shall be utilized on nameplates.
   5. The Contractor shall furnish typewritten circuit directories for panel boards; circuit directory shall accurately reflect the outlets connected to each circuit.

3.06 CLEANING

A. Before final acceptance, the electrical work shall be thoroughly cleaned. Exposed parts shall be thoroughly cleaned of cement, plaster, and other materials. Oil and grease spots shall be removed with a non-flammable cleaning solvent. Such surfaces shall be carefully wiped and cracks and corners scraped out. Touch-up paint shall be applied to scratches on panels and cabinets. Electrical cabinets or enclosures shall be vacuum-cleaned.

END OF SECTION

SECTION 16070

HANGERS AND SUPPORTS

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. Conduit and equipment supports.

B. Anchors and fasteners.

1.02 REFERENCES

A. NECA - National Electrical Contractors Association.

B. ANSI/NFPA 70 - National Electrical Code.

1.03 REGULATORY REQUIREMENTS

A. Conform to requirements of ANSI/NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.04 CONTRACTOR SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Division 01 and Section 16050 - Electrical Requirements.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials and Finishes: Provide stainless steel hangers, supports and anchors to provide complete corrosion resistance.

B. Provide materials, sizes, and types of anchors, fasteners and supports to carry the loads of equipment and conduit.

C. Anchors and Fasteners:
   1. Concrete Structural Elements:
      a. Use steel or malleable iron concrete inserts set in place prior to placing new concrete.
      b. Use expansion anchors not less than 1/4″ bolt size and not less than 1-1/8″ embedment in existing concrete.
         1) Use power set fasteners not less than 1/4 inch diameter with depth of penetration not less than 3 inches in existing concrete.
         2) Use vibration and shock resistant anchors and fasteners for attaching to concrete ceilings.
            a)Steel Structural Elements: Use beam clamps or spring steel clips.
            b) Concrete Surfaces: Use self-drilling anchors or expansion anchors.
            c) Hollow Masonry, Plaster and Gypsum Board Partitions: Use toggle bolts and hollow wall fasteners.
            d) Solid Masonry Walls: Use expansion anchors.
            e) Sheet Metal: Use sheet metal screws.
            f) Wood Elements: Use wood screws.

2.02 MANUFACTURERS

A. Superstrut, Unistrut, B-line, or equal.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify all channels, fasteners, anchors and miscellaneous equipment are suitable for the application.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Provide anchors, fasteners, and supports in accordance with NECA "Standard of Installation".

C. Do not fasten supports to pipes, ducts, mechanical equipment and conduit.

D. Obtain permission from Engineer before using powder-actuated anchors.

E. Obtain permission from Engineer before drilling or cutting structural members.

END OF SECTION

SECTION 16110

ELECTRICAL RACEWAY SYSTEMS

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall provide electrical raceway systems, complete and in place, in accordance with the Contract Documents.

1.02 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Division 01, and Section 16050 - Electrical Requirements.

B. Shop Drawings
   1. Complete catalog cuts of raceways, fittings, boxes, supports, and mounting hardware, marked where applicable to show proposed materials and finishes.
   2. Dimensioned layout drawings of cable tray routings, including elevations.

PART 2 - PRODUCTS

2.01 GENERAL

A. Pull and junction boxes, fittings, and other indicated enclosures that are dedicated to the raceway system shall comply with this section.

B. Electrical raceways and associated fittings shall be UL listed and approved for the intended installation.

2.02 CONDUIT

A. Rigid Aluminum (RAL) Conduits

1. Rigid aluminum conduit shall be manufactured of 6063 alloy, temper T-1.
2. Rigid aluminum conduit shall be manufactured in accordance with ANSI C80.5 - Rigid Aluminum Conduit, and UL-6 - Rigid Metal Electrical Conduit.
3. Suitable for use in exterior and corrosive environment applications. Aluminum conduit to be utilized in Control Building Process Room.
4. Manufacturers, or equal.
   a. V.A.W. of America
   b. Alcoa

B. Rigid Galvanized Steel (RGS) Conduit:
1. Rigid steel conduit shall be mild steel, hot-dip galvanized inside and out.
2. Rigid steel conduit shall be manufactured in accordance with ANSI C80.1 - Rigid Steel Conduit, Zinc Coated, and UL-6.
3. Suitable for use as exposed conduit in indoor applications.
4. Manufacturers, or equal.
   a. LTV Steel
   b. Triangle
   c. Wheatland Tube

C. Liquidtight Flexible Conduit:
1. Liquidtight flexible conduit shall be constructed of a flexible aluminum or galvanized metal core with a sunlight resistant thermoplastic outer jacket.
2. Liquidtight flexible conduit shall be manufactured in accordance with UL-360 - Steel Conduits, Liquid-Tight Flexible.
3. Suitable for use at equipment connections and applications where vibration is expected. Liquidtight conduit length to be kept to minimum.
4. Aluminum inner core shall be utilized when used when terminated to rigid aluminum raceways.
5. Manufacturers, or equal.
   a. Anaconda, Sealtite
   b. Electriflex, Liquatite Type LA

D. Electrical Metallic Tubing (EMT) or Intermediate conduit (IMC) will not be accepted except where shown on plans.

2.03 FITTINGS AND BOXES

A. General:
1. Cast and malleable iron fittings for use with metallic conduit shall be the threaded type with 5 full threads.
2. Fittings and boxes shall have neoprene gaskets and non-magnetic stainless steel screws. Covers shall be attached by means of holes tapped into the body of the fitting. Covers for fittings attached by means of clips or clamps will not be acceptable.
3. Boxes larger than standard cast or malleable types shall be 304 stainless steel, NEMA 4X.

4. In outdoor areas, conduit shall be terminated in raintight hubs as manufactured by Myers, O.Z. Gedney, Appleton, or equal. In other than outdoor areas, sealed locknuts and bushings shall be used.
5. Conduit, fittings, and boxes in hazardous locations shall be suitable for the Class and Division indicated.

B. Cast Aluminum Fittings and Boxes
   1. Cast aluminum boxes and fittings shall have less than 0.40% copper content and shall be utilized with aluminum conduit.
   2. Manufacturers, or equal.
      a. O.Z. Gedney
      b. Appleton
      c. Crouse-Hinds

C. Malleable Iron Fittings and Boxes:
   1. Fittings and boxes for use with galvanized steel conduit shall be of malleable iron or gray-iron alloy with zinc plating.
   2. Manufacturers, or equal.
      a. O.Z. Gedney
      b. Crouse-Hinds
      c. Appleton

D. Stainless Steel Boxes:
   1. Stainless steel boxes shall be used with pvc coated RGS conduit and where indicated.
   2. Stainless steel boxes shall be NEMA 4X, Type 304.
   3. Stainless steel shall be minimum 14-gauge thickness, with a brushed finish.
   4. Doors shall have full length stainless steel piano hinges. Non-hinged boxes are not acceptable.
   5. Manufacturers, or equal.
      a. Hoffman
      b. Rohn
      c. Hammond

E. Sheet Steel Boxes:
   1. Sheet steel boxes shall be galvanized steel outlet and switch boxes.
   2. Manufacturers, or equal.
      a. Raco
      b. Steel City
      c. Appleton Electric

2.04 CONDUIT SCHEDULE

A. Refer to Section 16050.

PART 3 - EXECUTION

3.01 GENERAL

A. Wiring shall be run in raceway unless indicated otherwise.

B. Raceways shall be installed between equipment as indicated. Raceway systems shall be electrically and mechanically complete before conductors are installed. Bends and offsets shall be smooth and symmetrical, and shall be accomplished with tools designed for this purpose. Factory elbows shall be utilized wherever possible.

C. Where raceway routings are indicated on plan views, follow those routings to the extent possible; Conduits shall be concealed in walls unless indicated otherwise; do not conceal conduits inside concrete floors unless shown specifically on drawings or authorized by the Engineer.

D. Where raceways are indicated but routing is not indicated, such as home runs, raceway routings shall be the Contractor's choice and in strict accordance with the NEC and customary installation practice. Raceway shall be encased, exposed, concealed, or under floor as indicated; conduits in finished areas (offices, hallways etc.) shall be concealed unless specifically indicated otherwise.

E. Routings shall be adjusted to avoid obstructions. Coordinate between trades prior to installation of raceways. Lack of such coordination shall not be justification for extra compensation, and removal and re-installation to resolve conflicts shall be by the Contractor as part of the work.

F. Exposed raceways shall be installed parallel or perpendicular to structural beams.

G. Install expansion fittings with bonding jumpers wherever raceways cross building expansion joints.

H. Exposed raceways shall be installed at least 1/2" from walls or ceilings except that at locations above finished grade where damp conditions do not prevail, exposed raceways shall be installed 1/4" minimum from the face of walls or ceilings by the use of clamp backs or struts.

I. Wherever contact with concrete or dissimilar metals can produce galvanic corrosion of equipment, suitable insulating means shall be provided to prevent such corrosion.

3.02 CONDUIT

A. Exposed indoor conduit shall be rigid galvanized steel except as follows, unless indicated otherwise:
   1. In Control Building Process Room, rigid aluminum conduit shall be utilized.
   2. Where galvanized conduit has to be cut, the galvanized coating shall be repaired per manufacturer's instructions.
   3. Exposed outdoor mounted conduit shall be rigid aluminum.

B. Conduit concealed or encased in concrete, except for analog control conduit which shall be PVC coated RGS, shall be rigid Schedule 40 PVC; exterior buried conduit can be rigid Schedule 40 PVC or flexible non-metallic high density polyethylene (HDPE). Where conduit emerges from concrete encasement, a pvc coated RGS elbow shall be utilized for transition from the concrete. Conduit shall emerge from the concrete perpendicular to the surface whenever possible.

C. Exposed conduit shall be 3/4" minimum trade size. Encased conduit shall be 1" minimum trade size. Supports shall be installed at distances required by the NEC.

D. Conduit shall not be encased in the bottom floor slab below grade.

E. Concrete cover for conduit and fittings shall not be less than 1-1/2" for concrete exposed to earth or weather, or less than 3/4" for concrete not exposed to weather or in contact with the ground.

F. Conduits passing through a slab, wall, or beam shall not impair significantly the strength of the construction.

G. Conduits embedded within a slab, wall, or beam (other than those merely passing through) shall satisfy the following:
   1. Conduits with their fittings embedded within a column shall not displace more than 4% of the gross area of cross section.
   2. Conduits shall not be larger in outside dimension than one third the overall thickness of slab, wall, or beam in which embedded.
   3. Conduits shall not be spaced closer than 3 outside diameters on centers.

H. Conduit shall be placed so that cutting, bending, or displacing reinforcement from its proper location will not be required.

I. Threads shall be coated with a conductive lubricant before assembly.

J. Joints shall be tight, thoroughly grounded, secure, and free of obstructions in the pipe. Conduit shall be adequately reamed to prevent damage to the wires and cables inside. Strap wrenches and vises shall be used to install conduit to prevent wrench marks on conduit. Conduit with wrench marks shall be replaced.

K. Wherever possible, conduit runs shall slope to drain at one or both ends of run. Wherever conduit enters substructures below grade, the conduit shall be sloped to drain water away from the structure. Extreme care shall be taken to avoid pockets or depressions in conduit.

L. Installation of rigid steel conduit though a core-drilled hole in an exterior wall below grade shall utilize a sealing device as manufactured by Link Seal or equal.

M. Connections to lay-in type grid lighting fixtures shall be made using flexible metal conduit not exceeding 4' in length. Connections to motors and other equipment subject to vibration shall be made with liquid-tight flexible conduit not exceeding 3' in length. Equipment subject to vibration that is normally provided with wiring leads shall be provided with a cast junction box for the make-up of connections.

N. Conduit passing through walls or floors shall have plastic sleeves.

O. Conduit, fittings, and boxes required in hazardous classified areas shall be suitably rated for the area and shall be provided in strict accordance with NEC requirements.

P. Empty conduits shall be tagged at both ends to indicate the final destination. Where it is not possible to tag the conduit, destination shall be identified by a durable marking on an adjacent surface. A pull-cord shall also be installed in each empty conduit. This shall apply to conduits in floors, panels, manholes, equipment, etc.

END OF SECTION

SECTION 16120

WIRES AND CABLES

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall provide wires and cable, complete and operable, in accordance with the Contract Documents.

1.02 CONTRACTOR SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Division 01 and Section 16050 - Electrical Requirements.

PART 2 - PRODUCTS

2.01 GENERAL

A. Conductors, include grounding conductors, shall be copper. Aluminum conductor wire and cable will not be permitted. Insulation shall bear UL label, the manufacturer's trademark, and identify the type, voltage, and conductor size. All conductors except flexible cords and cables, fixture wires, and conductors that form an integral part of equipment such as motors and controllers shall conform to the requirements of Article 310 of the National Electric Code, latest edition, for current carrying capacity. Flexible cords and cables shall conform to Article 400, and fixture wires shall conform to Article 402. Wiring shall have wire markers at each end.

2.02 POWER AND LIGHTING WIRE

A. Wire rated for 600 volts in duct or conduit for all power and lighting circuits shall be Class B Type XHHW cross-linked polyethylene conforming to UL-44 - UL Standard for Thermoset-Insulated Wires and Cables. THHN/THWN for all wires smaller than or equal to No. 4 AWG; XHHW insulation for all wires larger than No. 4 AWG.

B. Conductors for feeders as defined in Article 100 of the NEC shall be sized to prevent a voltage drop exceeding 3% at the farthest outlet of power, heating, and lighting loads, or combinations of such loads, and where the maximum total voltage drop on both feeders and branch circuits to the farthest connected load does not exceed 5%.

C. Conductors for branch circuits as defined in Article 100 of the NEC, shall be sized to prevent voltage drop exceeding 3% at the farthest connected load or combinations of such loads and where the maximum total voltage drop on both feeders and branch circuits to the farthest connected load does not exceed 5%.

D. Wiring for 600 volt class power and lighting shall be as manufactured by General Cable, Okonite, or Rome Cable.

2.03 CONTROL WIRE

A. Control wire in duct or conduit shall be the same type as power and lighting wire indicated above.

B. Control wiring shall be No.14 AWG.

C. Control wires at panels and cabinets shall be machine tool grade type MTW, UL approved, rated for 90 C. at dry locations, and be as manufactured by American, Carol Cable, or equal.

2.04 INSTRUMENTATION CABLE

A. Instrumentation cable shall be rated at 300 volts.

B. Instrumentation cables shall be composed of two 18 gauge stranded tinned copper conductors, 0.19″ thick polyethylene insulation, an aluminum polyester foil outer shield, a No. 20 AWG stranded tinned copper drain wire, and a pvc outer jacket with a thickness of 0.028".

C. Manufacturer and model number: Belden 8760, or equal.

2.05 DATA HIGHWAY CABLE

A. Communication Cable
   1. Category 5E cable conforming to ANSI TIA/EIA-568-B.2-2001.
   2. Shielded with stranded conductors.
   3. 4 pair, 24 AWG; capable of transmitting data up to 1000 MBPS.
   4. Heavy duty oil and sunlight resistant PVC jacket with sequential markings at 2′ interval; NEC rated and UL listed.
   5. Belden or equal.

B. Bluehose cable: 1 pair, 20 AWG, 7/28 stranded, tinned copper, polyethylene insulation, Beldfoil +55% tinned copper braid and drain wire, Blue sunlight resistant PVC jacket. Nominal diameter: 0.238"; cable shall be Belden Part No. 9463, or equal.

2.06 CABLE TERMINATIONS

A. Compression connectors shall be Burndy "Hi Lug", Thomas & Betts "Sta-Kon,", or equal. Threaded connectors shall be split bolt type of high strength copper alloy. Pressure type, twist-on connectors will not be acceptable.

B. Pre-insulated fork tongue lugs shall be Thomas & Betts, Burndy, or equal.

C. General purpose insulating tape shall be Scotch No. 33, Plymouth "Slip-knot", or equal. High temperature tape shall be polyvinyl as manufactured by Plymouth, 3M, or equal.

D. Labels for coding 600 volt wiring shall be computer printable or pre-printed, self-laminating, self-sticking, as manufactured by W.H. Brady, 3M, or equal.

PART 3 - EXECUTION

3.01 GENERAL

A. The Contractor shall provide and terminate all conductors except where indicated.

3.02 INSTALLATION

A. Conductors shall not be pulled into raceway until raceway has been cleared of moisture and debris.

B. Pulling tensions on raceway cables shall be within the limits recommended by the cable manufacturer. Wire pulling lubricant, where needed, shall be UL approved.

C. Instrumentation, telephone and RS-485 cables shall not be run in the same raceway with power and control wiring except where specifically indicated.

D. Wire in panels, cabinets, and wire ways shall be neatly grouped using nylon tie straps, and shall be fanned out to terminals.

3.03 SPLICES AND TERMINATIONS

A. General:
   1. Wire taps and splices shall be properly taped and insulated according to their respective classes.
   2. In general, there shall be no cable splices in underground manholes or pull boxes. If splices are necessary, the cables shall be brought aboveground and terminated in a NEMA 4X, stainless steel terminal or splice cabinet on a concrete pad. Splices in underground manholes and pull boxes may be made only with the approval of the Engineer.
   3. Stranded conductors shall be terminated directly on equipment box lugs making sure that all conductor strands are confined within lug. Use forked-tongue lugs where equipment box lugs have not been provided.
   4. Excess control and instrumentation wire shall be properly taped and terminated as spares.

B. Control Wire and Cable:
   1. Control conductors shall be spliced or terminated only at the locations indicated and only on terminal strips or terminal lugs of vendor furnished equipment.
   2. In junction boxes, motor control centers, and control panels, control wire and spare wire shall be terminated to terminal strips.

C. Instrumentation Wire and Cable:
   1. Shielded instrumentation cables shall be grounded at one end only, preferably the receiving end on a 4-20 mA system.
   2. Two- and three-conductor shielded cables installed in conduit runs which exceed available standard cable lengths may be spliced in pull boxes. Such cable runs shall have only one splice per conductor.

D. Power Wire and Cable:

1. All 120/208-volt, 120/240-volt, and 480/277-volt branch circuit conductors may be spliced in suitable fittings at locations determined by the Contractor.
2. Splices to motor leads in motor terminal boxes shall be wrapped with mastic material to form a mold and then shall be taped with a minimum of 2 layers of varnished cambric tape overtaped with a minimum of 2 layers of high temperature tape.

3.04 CABLE IDENTIFICATION

A. General: Wires and cables shall be identified for proper control of circuits and equipment and to reduce maintenance effort. Identification shall appear within 3" of conductor terminals and at each pull or junction box.

B. Identification Numbers: The Contractor shall assign to each control and instrumentation wire and cable a unique identification number. Numbers shall be assigned to all conductors having common terminals and shall be shown on "as built" drawings. "Control Conductor" shall be defined as any conductor used for alarm, annunciator, or signal purposes.
   1. Multiconductor cable shall be assigned a number which shall be attached to the cable at intermediate pull boxes and at stub-up locations beneath free-standing equipment. It is expected that the cable number shall form a part of the individual wire number. Individual control conductors and instrumentation cable shall be identified at pull points as described above. The instrumentation cable numbers shall incorporate the loop numbers assigned in the Contract Documents.
   2. All 120/208-volt conductors shall be color coded as follows: Phase A - black, Phase B - red, Phase C - blue, and Neutral - white.
   3. All 120/240-volt system conductors shall be color coded as follows: Line 1 - Black, Line 2 - Red, and Neutral - White.
   4. All 480/277- volt system conductors shall be color coded as follows: Phase A - Brown, Phase B - Orange, Phase C - Yellow, and Neutral - Gray.
   5. Color coding tape shall be used where colored insulation is not available. Branch circuit switch shall be yellow. Insulated ground wire shall be green, and neutral shall be gray. Color coding and phasing shall be consistent throughout the Site, but bars at panelboards, switchboards, and motor control centers shall be connected Phase A-B-C, top to bottom, or left to right, facing connecting lugs.
   6. General purpose AC control cables shall be red. General purpose DC control cables shall be blue.
   7. Spare cable shall be terminated on terminal screws and shall be identified with a unique number as well as with destination.
   8. Terminal strips shall be identified by computer printable, cloth, self-sticking marker strips attached under the terminal strip.

3.05 TESTING

A. Cable Assembly and Testing: Cable assembly and testing shall comply with applicable requirements of ICEA Publication No. S-68-516 - Ethylene-Propylene-Rubber Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy. Factory test results shall be submitted with the shop drawings. The following field tests shall be the minimum requirements:
   1. Power cable rated at 600 volts shall be tested for insulation resistance between phases and from each phase to a ground using a megohmeter.
   2. Field testing shall be done after cables are installed in the raceways.
   3. Field tests shall be performed by a certified test organization acceptable to the cable manufacturer. Test results shall be submitted to the Engineer for review and acceptance.
   4. Cables failing the tests shall be replaced with a new cable or be repaired. Repair methods shall be as recommended by the cable manufacturer and shall be performed by persons certified by the industry.

B. Continuity Test: Control and instrumentation cables shall be tested for continuity, polarity, undesirable ground, and origination. Such tests shall be performed after installation and prior to placing cables in service.

END OF SECTION

SECTION 16450

GROUNDING

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3.01 GROUNDING

PART 1 - GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall provide the electrical grounding system, complete and operable, in accordance with the Contract Documents.

B. The requirements of Section 16050 - Electrical Requirements apply to this section.

C. Single Manufacturer: Like products shall be the end product of one manufacturer in order to achieve standardization of appearance, operation, maintenance, spare parts and manufacturer's services.

1.02 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Division 01 and Section 16050 - Electrical Requirements.

B. Shop Drawings: Manufacturer's product information for connections, clamps, and grounding system components, showing compliance with the requirements of this section.

PART 2 - PRODUCTS

2.01 GENERAL

A. Components of the grounding electrode system shall be manufactured in accordance with ANSI/UL 467 - Standard for Safety Grounding and Bonding Equipment, and shall conform to the applicable requirements of National Electrical Code Article 250 and local codes.

2.02 GROUNDING SYSTEM

A. Grounding loop conductors shall be bare annealed copper conductors suitable for direct burial. Conductors shall be No. 4/0 unless indicated otherwise.

B. Ground Rods:
   1. Unless indicated otherwise, the ground rod shall be a minimum of 3/4" in diameter, 10' long, and have a uniform covering of electrolytic copper metallically bonded to a rigid steel core. The copper to steel bond shall be corrosion resistant.
   2. Conform to ANSI/UL 467.
   3. Sectional type joined by threaded copper alloy couplings.

C. Buried cable-to-cable and cable-to-ground rod connections shall be made using exothermic welds by Cadweld, Enrico Products, or equal.

D. Exposed grounding connectors shall be of the compression type (connector to cable), made of high copper alloy, and be manufactured specifically for the particular grounding application. The connectors shall be Burndy, O.Z. Gedney, or equal.

E. Grounding clamps shall be used to bond each separately derived system to the grounding electrode conductors.

F. Equipment Grounding Circuit Conductors:
   1. These conductors shall be the same type and insulation as the load circuit conductors. The minimum size shall be as outlined in Table 250.122 of the National Electrical Code, unless indicated otherwise.
   2. Metallic conduit systems shall have equipment grounding wires as well as being equipment grounding conductors themselves.

G. Manufacturers of grounding materials shall be Copperweld, Blackburn, Burndy, or equal.

PART 3 - EXECUTION

3.01 GROUNDING

A. Provide a separate grounding conductor, securely grounded in each raceway independent of raceway material.

B. Provide a separate grounding conductor for each motor and connect at motor box. Do not use bolts securing motor box to frame or cover for grounding connectors.

C. Size as given on the conduit schedule and in accordance with the NEC-Article 250.

D. Route conductors inside raceway.

E. Provide a grounding type bushing for secondary feeder conduits which originate from the secondary section of each MCC section, switchboard, or panelboard.

F. Individually bond these raceways to the ground bus in the secondary section.

G. Provide a green insulated wire as grounding jumper from the ground screw to a box grounding screw and, for grounding type devices, to equipment grounding conductor.

H. Provide a separate grounding conductor in each individual raceway for parallel feeders.

I. Interconnect the secondary switchgear neutral bus to the ground bus in the secondary switchgear compartment only at service entrance point or after a transformer.

J. Bond cold water pipe system and building structure to separate grounding electrode per NEC.

K. Provide the duct bank ground system indicated, including, trenching, splices, ground rods, and connections to equipment and structures.

L. Measure ground impedance in accordance with IEEE STD 81 after installation but before connecting the electrode to the remaining grounding system.

M. Low Voltage Grounded System (600V or less): A low voltage grounded system is a system where the local power supply is a transformer with the transformer secondary grounded.
   1. Grounding system connections for a premises wired system supplied by a grounded AC service shall have a grounding electrode connector connected to the grounded service conductor at each service, in accordance with the NEC.
   2. The grounded circuit conductor shall not be used for grounding non-current carrying parts of equipment, raceways, and other enclosures except where specifically listed and permitted by the NEC.

N. Embedded Ground Connections:
   1. Underground and grounding connections embedded in concrete shall be UL listed compression type ground grid connectors.
   2. The connection shall be made in accordance with the manufacturer's instructions.
   3. The Contractor shall not conceal or cover any ground connections until the Engineer or authorized representative has established that every grounding connection conforms to the Contract Documents and has given the Contractor written confirmation.

O. Ground Ring:
   1. Furnish trenching and materials necessary to install the ground ring as indicated.
   2. Bonding conductor shall be in direct contact with the earth and be of the size indicated.
   3. Minimum burial depth 36" or as indicated on the drawings, whichever is greater.
   4. Re-compact disturbed soils to original density in 6" layers.

P. Ground Rods:
   1. Locations shall be as indicated.
   2. Rods forming an individual ground array shall be equal in length.

Q. Shield Grounding:
   1. Shielded instrumentation cable shall have its shield grounded at one end only unless shop drawings indicate the shield will be grounded at both ends.
   2. The grounding point shall be at the control panel or otherwise at the receiving end of the signal carried by the cable.
   3. Termination of shield drain wire shall be on its own terminal screw.
   4. Terminal screws shall be jumpered together using manufactured terminal block jumpers.
   5. Connection to the ground bus shall be via a green No. 12 conductor to the main ground bus for the panel.

END OF SECTION

SECTION 16480

LOW VOLTAGE MOTOR CONTROL CENTERS

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3.03 FIELD TESTS

PART 1 - GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall modify existing motor control centers (MCC's), complete and operable, in accordance with the Contract Documents. Contractor shall furnish and install feeder circuit to new Pump Skid Control Panel.

B. The requirements of Section 16050 - Electrical Work, General, apply to the work of this section.

C. In the event that motors provided are larger horsepower than motors indicated, raceways, conductors, starters, overload elements, and branch circuit protectors shall be revised as necessary to control and protect the increased motor horsepower. Adjustments shall be made as a part of the work.

1.02 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Division 01 and Section 16050.

B. Shop Drawings
1. Enclosure NEMA rating and color.
2. Horizontal and vertical bus ampacities, voltage rating and interrupting capacity. Include materials of construction.
3. Ground bus size and material of construction.
4. Conduit entrance provisions.
5. Main incoming line entry provision (top or bottom).

6. Control unit nameplate schedule.
7. Circuit breaker types, frames and settings.
8. Starter NEMA sizes, auxiliary contact provisions, coil voltage.
9. Relays, timers, pilot devices, control transformer VA and fuse sizes.
10. Elementary schematic ladder diagrams for each compartment. Custom schematics shall be furnished. Diagrams shall include remote devices. Submittals with drawings not meeting this requirement will not be reviewed further and will be returned to the Contractor stamped "REVISE-RESUBMIT".
11. Short circuit rating of the complete assembly.
12. Replacement parts lists and operation and maintenance procedures.
13. Time-current curves for protective devices.

C. Complete set of shop drawings showing coordination and interconnection wiring between MCC and control integrator drawings.

PART 2 - PRODUCT

2.01 GENERAL

A. The manufacturer of the low voltage motor control center shall also be the manufacturer of at least the following:
   1. Molded case circuit breakers up to and including 225 amp. frame size.
   2. Disconnect switches.
   3. Magnetic motor starters.
   4. Control and timing relays rated at 600 volts AC.
   5. Pushbuttons, lights, and selector switches, including remote mounted control stations.

B. Devices of the same type shall be products of the same manufacturer. This requirement applies to control devices, and insofar as practical, to equipment manufactured on a production basis. It also applies without exception to equipment custom fabricated for this project.

C. Motor control centers shall conform to the standards for NEMA Class IIS, Type B diagrams and wiring.

D. MCC Schedule

MCC DESIGNATION	LOCATION
MCC-3 (Existing)	Control Building-Control Room

2.02 DESIGN, CONSTRUCTION, AND MATERIAL REQUIREMENTS

A. The motor control centers shall be 600 volt class suitable for operation on a 3 phase, 60 Hz system. The system operating voltage and number of wires shall be as indicated.

B. The motor control centers shall receive power from a 3 phase, wye connected 277/280 volt transformer with a grounded neutral. Power distribution from the MCC shall be 480 volt, 3 phase, 3 wire, however the MCC shall include provision for termination of an incoming neutral conductor in conformance to NEC requirements for service entrance.

C. Enclosure shall be NEMA Type 1 enclosure. Compartment doors shall be interlocked with compartment circuit breakers. The interlock shall be fitted with a maintenance override.

D. Size and Arrangement
   1. Motor control centers shall be of mechanical groupings of control center units, assembled into a lineup of control center sections. Each control section shall be nominally 90" tall by minimum 20" deep.
   2. MCC's shall be designed to not exceed the space requirements as indicated on the contract drawings, including spaces, spares, and future compartments. MCC's shall be subject to rejection for exceeding the lengths indicated where allotted space is critical.
   3. Equipment within the MCC may be rearranged at the discretion of the manufacturer, providing the MCC provides the spares, space, and future provisions indicated.
   4. Switches and circuit breakers used as switches shall be located so that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, will not be more than 6'-7" above the floor, including the height of the concrete pad.

E. Components
   1. Busses
      a. A continuous copper ground bus shall be provided with full width of the motor control center line-up.
      b. The main horizontal bus shall be tin-plated copper located within an isolated compartment. The bus shall be rated 600 amp. minimum, but in no instance less than the main lug or main breaker frame size.
      c. The vertical bus in each section shall consist of a single tin-plated copper conductor per phase with a current capacity of not less than 600 amps. The vertical bus shall be completely isolated and insulated, and shall extend the full height of the section wherever possible.
      d. Fully rated continuous copper neutral bus shall be provided through the control center. Lugs of appropriate capacity shall also be provided.
      e. Power buses shall be braced to withstand 65,000 amp., minimum.

2. Wireways: A separate vertical wireway shall be provided adjacent to each vertical unit and shall be covered by a hinged door. Each individual unit compartment shall be provided with a side barrier to permit pulling wire in the vertical wireway without disturbing adjacent unit components.

F. Cabinet
1. Structural members shall be fabricated of not less than 12 gauge steel and side and top panels and doors shall be not less than 14 gauge steel.
2. Spaces designated as "SPACE" or "BLANK" shall include blank hinged doors and vertical bus bars.
3. Control units inside compartments shall be clearly identified with tags or stencil markings.
4. Each control unit including spares, spaces and blanks, lights, and devices shall be identified by an engraved nameplate. Identification shall include circuit number as indicated.
5. Each motor control center shall be fitted with the manufacturer's nameplate which shall include the NEMA Standard electric rating and other pertinent data, including manufacturer, sales order number, date of manufacture, and place of manufacture.
6. Where "L" or "U" shaped MCC layouts are indicated, corner compartments shall have similar current and short circuit ratings as functional compartments.
7. Fans, heat exchangers, transformers, capacitors, junction boxes, or other devices may not be mounted on the outside of the motor control center enclosure.
8. Finish for motor control center shall be light grey, ANSI 61. The panels shall be given 2 coats of primer inside and out and 2 coats of enamel finish. External colors other than ANSI 61 will not be acceptable.

2.03 FEEDER CIRCUIT BREAKERS

A. Circuit breakers having a frame size of 150 amp. or less shall be molded-case type with thermal magnetic non-interchangeable, trip-free, sealed trip units.

B. Circuit breakers with a frame size of 225 amp. to 1,200 amp. shall be molded case with RMS sensing electronic trip elements; provide adjustable trip on units with 400 amp. rating or higher.

C. The interrupting capacity of main, and feeder branch circuit breakers shall be a minimum of 65,000 RMS symmetrical amperes. Service disconnects rated 1000 A or more shall provide ground fault protection of equipment.

D. Circuit breaker disconnect operators shall be capable of accommodating 3 padlocks for locking in the "open" position.

2.04 MANUFACTURER

A. Feeder circuit breaker shall be compatible with existing Westinghouse MCC.

PART 3 - EXECUTION

3.01 GENERAL

A. The Contractor shall install motor control centers and ancillary devices in accordance with manufacturer's published instructions. Conduit installation shall be coordinated with manufacturer's as-fabricated drawings so that conduit stub-ups are within the area allotted for conduit. Conduit shall be stubbed up in the section that contains the devices to which conductors are terminated.

3.02 INSTALLATION

A. The Contractor shall:
   1. Torque bus bar bolts to manufacturer's recommendations. Tighten sheet metal and structure assembly bolts.
   2. Adjust motor circuit protector (MCP) devices to the instantaneous trip setting position recommended for the actual horsepower and full load amps of the motor. Verify that overload devices are proper for equipment installed; make necessary changes in overload devices as required for motors having power factor correcting capacitors.
   3. After equipment is installed, touch up scratches and verify that nameplate, and other identification is accurate.
   4. Provide high voltage switchboard matting in front of the MCC. The mat shall be 1/4" thick and 36" wide and shall be Model M36 as manufactured by W.H. Salisbury & Co., or equal.

3.03 FIELD TESTS

A. Visual and mechanical inspection after installation.
   1. Inspect for physical damage, proper anchorage, and grounding.
   2. Verify that the ratings of the thermal overload heaters match the motor full-load current nameplate data.
   3. Check tightness of bolted connections.

B. Electrical Tests
   1. Insulation tests
      a. Measure insulation resistance of each bus section phase to phase and phase to ground for one minute. Test voltage and minimum acceptable resistance shall be in accordance with manufacturer's recommendations.

b. Measure insulation resistance of each starter section phase to phase and phase to ground with the starter contacts closed and the protective device open. Test voltage and minimum acceptable resistance shall be in accordance with the manufacturer's recommendations.
c. Measure insulation resistance of each control circuit with respect to ground.

2. Verify proper operation of control logic in each mode of control.

END OF SECTION

SECTION 17100

PROCESS CONTROL AND INSTRUMENTATION SYSTEMS

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. This section describes process control and instrumentation systems.

B. The Contractor shall provide all Process Control and Instrumentation Systems (PCIS) complete and operable, in accordance with the Contract Documents.

C. The requirements of this section apply to all components of the PCIS unless indicated otherwise.

D. Related work specified elsewhere:
   1. Division 16 - Electrical.
   2. Section 17200 - Instrumentation and Control Equipment.
   3. Section 17300 - Control Panels.

1.02 REFERENCES

A. National Fire Protection Association (NFPA):
   1. NFPA 70 - National Electrical Code (NEC), latest edition.

B. National Electrical Manufacturers Association (NEMA):
   1. NEMA ICS-2 - Industrial Control Devices, Controllers, and Assemblies.
   2. NEMA 250 - Enclosures for Electrical Equipment.

C. Underwriters Laboratories (UL):

1. UL 508 - Industrial Control Equipment.

1.03 GENERAL

A. The Contractor shall use a Controls Integrator (CI) and qualified electrical installers to furnish, install, and place into service process instrumentation, controls and appurtenant work as specified and shown.

B. Contractor shall assign to the CI full responsibility for the functional operation of instrumentation and integrated controls systems. The Controls Integrator shall:
   1. Perform engineering required to select, to furnish, to supervise installation and connection, to calibrate, and to place into operation additional sensors, instruments, controls, accessories, and other equipment as specified.
   2. Be responsible for the integration of related systems and shall ensure compatibility of components through the coordination of all hardware, signal converters, communications software and accessories.
   3. Be under direct, written agreement with the Contractor and comply with specified requirements of these Documents.
   4. Not be the employee of nor be affiliated with manufacturers or manufacturers' representatives of major equipment such that a conflict of interest could adversely affect progress of the Work.

C. Work specified in Division 17 includes furnishing, installing, start-up, testing and adjusting of all required equipment, including instruments, equipment, hardware, software, wiring, accessory equipment, and training to provide a completely operational process control and instrumentation system.

D. It shall be the responsibility of the Contractor through the use of the CI to furnish a complete and fully operating system; The Contractor shall be responsible for all details which may be necessary to properly install, adjust and place in operation the complete installation; The Contractor shall assume full responsibility for additional costs which may result from unauthorized deviations from the Contract Documents.

E. It shall be the responsibility of the CI to examine all new and existing equipment that is transmitting signals to, or receiving signals from, equipment specified in Division 17; The CI shall be responsible for providing signal converters, buffer amplifiers, and isolation devices to make signal levels, reference to ground, etc. compatible between devices specified in Division 17 and existing equipment.

1.04 CONTROLS INTEGRATOR EXPERIENCE AND CAPABILITIES

A. The CI shall be normally engaged in assembly, installation, repair, and maintenance of process control and instrumentation systems and must have been supplying similar types/quantities of control systems in municipal water and wastewater treatment industry for a minimum of 15 years; submit list of minimum 35 installations for which integrator has provided similar type/quantity of equipment, including name and telephone number of person responsible for operation and maintenance of each installation.

B. The CI shall have qualified, trained service personnel on staff who are capable of programming, maintaining and adjusting the system; The CI shall be capable of offering an extended service contract after completion of the warranty period, including 24 hour, 7 day a week emergency services; service personnel must be available within 8 hours of verbal notice on all days of week.

C. Submit:
   1. 100% supply/performance/payment bond.
   2. Certificate-showing evidence of $1,000,000 insurance coverage for professional liability/ errors and omissions.
   3. Certificate-showing evidence of $1,500,000 insurance coverage for comprehensive general liability (All Risk Insurance).
   4. Copy of liability insurance policy with same limits as comprehensive general liability policy to protect Owner and Engineer against any and all claims in liabilities for injury to or death of persons or damage to property caused whole or in part by any negligent acts or omissions of integrator arising from work on this project; name Owner and Engineer against as additional insured and maintain this policy in full force and effect for entire duration of this project.

D. The CI shall have service and parts office within 200 miles of project site and shall be able to provide service within time period acceptable to the Owner or shall have the capability to provide service to project site remotely by modem; the local office shall have full-time service personnel and answer telephone calls in person; provide home telephone numbers of management personnel for use in case of emergencies.

E. The Controls Integrator shall be Tri-City Electric Company (Davenport, Iowa), or equal as approved by the Contracting Authority.

1.05 SUBMITTALS

A. Submit informational literature/data for following materials and equipment in accordance with general procedures set forth in Specifications:
   1. All equipment and components indicated on Drawings and specified in this section.
   2. Software packages including complete description of features and capabilities.

B. Submit shop drawings for following materials and equipment in accordance with general procedures set forth in Specifications:
   1. Panel drawings including system schematic drawings, terminal numbering, component schematic drawings, dimension drawings, layout drawing and nameplate schedule.
   2. Overall system diagram showing all components, converters, cables, and connectors.
   3. Programmable Logic Controller (PLC) programs in ladder format including verbal description of each rung's function; assign point numbers to all inputs and outputs, and show point numbering in PLC program.
   4. Proposed graphic displays; submit actual hardcopy of programmed graphic screens.
   5. The submittal shall address all hardware and software to be supplied. In addition, include:
      a. Identification of the respective responsibilities of each party to the project. Including what is provided by the system manufacturer, what is to be subcontracted etc.
      b. Description of the major user related features and operating characteristics of the proposed system.
      c. Description of all master site hardware and software updates including examples of HMI and PC SCADA displays, control loops, reports, and how the operator will interface with the system to achieve each specified function.
      d. Description and operation of all required configuration features of the I/O and local and remote control loop characteristics.
      e. Description containing startup implementation plan, participant's responsibilities and a schedule of events.
      f. All significant equipment to be supplied shall be listed followed by descriptive data sheets. The equipment list shall include each component name, manufacturer, model number, a description of the operation, quantity supplied, and any special setup and operation and maintenance characteristics.
      g. Drawings of equipment to be supplied shall include as a minimum, overall dimension details for each unit including installation arrangements, door mounted operator devices and instruments. Wiring diagrams of all system components including field device connections shall be included and specific installation wiring responsibilities identified.

C. Operations and Maintenance (O&M) Manuals: submit minimum of five (5) sets of operation and maintenance manuals containing:
   1. A detailed written description of system hardware, software, and system operation shall be provided. The description of hardware and software shall identify pertinent references to sections of standard hardware and software manuals where operational procedures are detailed. Control loops shall be fully described in the O&M manual.
   2. Panel equipment, field devices and instruments, including "as-built" system schematics.

3. Final copy of PLC program on 8-1/2" x 11" sheets in ladder format including verbal description of each rung's function.
4. PLC program burned on DVD.
5. Point lists for all PLC inputs/outputs; identify point number (tag), point description, point type, range in engineering units (if analog point), PLC number, rack and slot number, and point address.

D. Final as-built drawings.

E. All submittals bound in 3-ring binders with labeled tabs separating sections.

1.06 GUARANTEE

A. Contractor shall guarantee operation of system and that materials and workmanship of equipment be free from defects for period as defined in General Conditions of project manual providing equipment has been operated and maintained in accordance with manufacturer's recommendations.

1.07 WARRANTY

A. Controls Integrator shall provide a comprehensive two (2) year parts and labor warranty for complete control system.

1.08 TESTING

A. The controller and peripherals shall be tested as best possible at the factory as an integrated unit prior to shipment. The engineer shall be notified at least 2 weeks in advance of the system test. Include test results as an attachment to the equipment.

B. Panel furnished under this section constructed in accordance with UL 508.

C. Panel shop-inspected by UL or constructed in UL-recognized facility; completed panel shall bear serialized UL label indicating acceptance under Standard 508.

PART 2 - PRODUCTS

2.01 GENERAL

A. Code and Regulatory Compliance: PCIS work shall conform to or exceed the applicable requirements of the National Electrical Code. Conflicts between the requirements of the Contract Documents and any codes or referenced standards or specifications shall be resolved accordingly.

B. Current Technology: Meters, instruments, and other components shall be the most recent field-proven models marketed by their manufacturers at the time of submittal of the Shop Drawings unless otherwise required to match existing equipment.

C. Hardware Commonality: Instruments which utilize a common measurement principle (for example, d/p cells, pressure transmitters, level transmitters that monitor hydrostatic head) shall be furnished by a single manufacturer. Panel mounted instruments shall have matching style and general appearance. Instruments performing similar functions shall be of the same type, model, or class, and shall be from a single manufacturer.

D. Loop Isolators and Converters: Signal isolators shall be provided as required to ensure adjacent component impedance match where feedback paths may be generated, or to maintain loop integrity during the removal of a loop component. Dropping precision wirewound resistors shall be installed at all field side terminations in the control panels to ensure loop integrity. Signal conditioners and converters shall be provided where required to resolve any signal level incompatibilities or provide required functions.

E. Environmental Suitability: Indoor and outdoor control panels and instrument enclosures shall be suitable for operation in the ambient conditions associated with the locations designated in the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided in order to maintain all instrumentation devices 20% within the minimums and maximums of their rated environmental operating ranges. The Contractor shall provide power wiring for these devices. Enclosures suitable for the environment shall be furnished. All instrumentation in hazardous areas shall be suitable for use in the particular hazardous or classified location in which it is to be installed.

F. Signal Levels: Analog measurements and control signals shall be as indicated herein, and unless otherwise indicated, shall vary in direct linear proportion to the measured variable. Electrical signals outside control panels shall be 4 to 20 ma. dc except as indicated. Signals within enclosures may be 1 to 5 volts dc. Electric signals shall be electrically or optically isolated from other signals. Pneumatic signals shall be 3 to 15 psig with 3 psig equal to 0% and 15 psig equal to 100%.

G. Control Panel Power Supplies: Control panels shall be provided with redundant power supplies which are configured in a fault-tolerant manner to prevent interruption of service upon failure and interruption of service necessitated by the replacement of a power supply. Power supplies shall have an excess rated capacity of 40%. The failure of a power supply shall be annunciated at the control panel and repeated to the PLC.

H. Alternative Equipment and Methods: Equipment or methods requiring redesign of any project details are not acceptable without prior written approval of the Engineer through the "or equal" process of Section 01600 - Material and Equipment. Any proposal for approval of alternative equipment or methods shall include evidence of improved performance, operational advantage, and maintenance enhancement over the equipment or method indicated, or shall include evidence that an indicated component is not available.

2.02 OPERATING CONDITIONS

A. The PCIS shall be designed and constructed for satisfactory operation and long, low maintenance service under the following conditions:
   1. Environment: a water treatment plant facility.
   2. Temperature Range: 32 through 104°F.
   3. Thermal Shock: 1°F. per minute, max.
   4. Relative Humidity: 20 through 95%, non-condensing.

2.03 SPECIAL TOOLS

A. The CI shall furnish a priced list of any and all special tools required to calibrate and maintain the instrumentation provided under the Contract Documents. After approval the CI shall furnish the requested tools on that list.

B. Special tools shall be submitted before startup commences, suitably wrapped and identified.

PART 3 - EXECUTION

3.01 PROJECT MANAGEMENT

A. Supplier shall provide engineering and administrative services necessary to fulfill requirements of Specifications.

B. Supplier shall provide services of experienced project manager as overall coordinator during course of project.

3.02 INSTALLATION

A. General:
   1. Instrumentation, including instrumentation furnished under other divisions, shall be installed under Division 17 and the manufacturers' instructions.
   2. Equipment Locations: The monitoring and control system configurations indicated are diagrammatic. The locations of equipment are approximate. The exact locations and routing of wiring and cables shall be governed by structural conditions and physical interferences and by the location of electrical terminations on equipment. Equipment shall be located and installed so that it will be readily accessible for operation and maintenance. Where job conditions require reasonable changes in approximated locations and arrangements, or when the Owner exercises the right to require changes in location of equipment which do not impact material quantities or cause material rework, the Contractor shall make such changes without additional cost to the Owner.

B. Conduit, Cables, and Field Wiring:
   1. Conduit shall be provided under Division 16 without delay to the work of Division 17.

2. Process equipment control wiring, 4-20 mA signal circuits, signal wiring to field instruments, PLC input and output wiring and other field wiring and cables shall be provided under Division 16.
3. Terminations and wire identification at PCIS equipment furnished under this or any other division shall be provided under Division 17.

C. Ancillary Devices: The Contract Documents show all necessary conduit and instruments required to make a complete instrumentation system. The Contractor shall be responsible for providing any additional or different type connections as required by the instruments and specific installation requirements. Such changes shall not be a basis of claims for extra work or delay.

D. Installation Criteria and Validation: Field-mounted components and assemblies shall be installed and connected according to the requirements below:
1. Installation personnel have been instructed on installation requirements of the Contract Documents.
2. Technical assistance is available to installation personnel at least by telephone.
3. Installation personnel have at least 1 copy of the approved Shop Drawings and data.
4. Instrument process sensing lines shall be installed in conduit under Section 16050 - Electrical General Provisions. Individual tubes shall be run parallel and near the surfaces from which they are supported. Supports shall be used at intervals of not more than 3' of rigid tubing.
5. Bends shall be formed to uniform radii with the proper tool without deforming or thinning the walls of the tubing. Plastic clips shall be used to hold individual plastic tubes parallel. Ends of tubing shall be square cut and cleaned before being inserted in the fittings. Bulkhead fittings shall be provided at panels requiring pipe or tubing entries.
6. Differential pressure elements shall have 3 valve manifolds.
7. Flexible cables and capillary tubing shall be installed in flexible conduits. The lengths shall be sufficient to withdraw the element for periodic maintenance.
8. Power and signal wires shall be terminated with crimped type lugs.
9. Connectors shall be, as a minimum, water tight.
10. Wires shall be mounted clearly with an identification tag that is of a permanent and reusable nature.
11. Wire and cable shall be arranged in a neat manner and securely supported in cable groups and connected from terminal to terminal without splices unless specifically approved by the Engineer. Wiring shall be protected from sharp edges and corners.
12. Mounting stands and bracket materials and workmanship shall comply with requirements of the Contract Documents.
13. Verify the correctness of each installation, including polarity of electric power and signal connections, and make sure process connections are free of leaks. The Contractor shall certify in writing that discrepancies have been corrected for each system checked out.
14. The Owner will not be responsible for any additional cost of rework attributable to actions of the Contractor or the Controls Integrator.

3.03 CALIBRATION

A. General: Devices provided under Division 17 shall be calibrated according to the manufacturer's recommended procedures to verify operational readiness and ability to meet the indicated functional and tolerance requirements.

B. Calibration Points: Each instrument shall be calibrated at 20, 40, 60, 80 and 100% of span using test instruments to simulate inputs. The test instruments shall have accuracies traceable to National Institute of Standards and Testing.

C. Bench Calibration: Instruments that have been bench-calibrated shall be examined in the field to determine whether any of the calibrations are in need of adjustment. Such adjustments, if required, shall be made only after consultation with the Engineer.

D. Field Calibration: Instruments which were not bench-calibrated shall be calibrated in the field to insure proper operation in accordance with the instrument data sheets.

E. Analyzer Calibration: Each analyzer system shall be calibrated and tested as a workable system after installation. Testing procedures shall be directed by the manufacturers' technical representatives. Samples and sample gases shall be furnished by the manufacturers.

F. Calibration Sheets: Each instrument calibration sheet shall provide the following information and a space for sign-off on individual items and on the completed unit:
   1. Project name.
   2. Tag number.
   3. Manufacturer.
   4. Model number.
   5. Serial number.
   6. Calibration range.
   7. Calibration data: Input, output, and error at 10%, 50%, and 90% of span.
   8. Switch setting, contact action, and deadband for discrete elements.
   9. Space for comments.
   10. Space for sign-off by Controls Integrator and date.
   11. Test equipment used and associated serial numbers.

G. Calibration Tags: A calibration and testing tag shall be attached to each piece of equipment or system at a location determined by the Engineer. The Contractor shall have the Instrumentation Supplier sign the tag when calibration is complete. The Engineer will sign the tag when the calibration and testing has been accepted.

3.04 START-UP

A. The Controls Integrator shall provide skilled programmer/instrumentation engineer or technician who shall complete troubleshooting and start-up to place entire system into satisfactory operation; engineer or technician shall make necessary inspection of completed installation, make necessary final field adjustments and make program revisions as required for start-up.

B. Demonstrate proper operation of all system features and functions to Owner and Engineer.

C. Coordinate start-up scheduling with Owner and Engineer.

3.05 ON-SITE SERVICES

A. In addition to other services specified including start up, provide competent technician or programmer/instrumentation engineer to perform following services at times approved by Owner:
   1. Software revisions and training: One 8 hour days on-site to train Owner's personnel on:
      a. Operation and maintenance of all equipment furnished.
      b. SCADA system operations.
      c. PLC programming.

END OF SECTION

SECTION 17300

CONTROL PANELS

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. General: The Contractor shall provide a control panel/system modifications, complete and operable, in accordance with the Contract Documents.

B. The requirements of Section 17100 - Process Control and Instrumentation Systems apply to this Section.

1.02 CONTRACTOR SUBMITTALS

A. General: Submittals shall be furnished in accordance with Division 01.

B. Control Panel Engineering Submittal: The Contractor shall submit a control panel engineering submittal (CPES) for the control panel. The CPES shall completely define and document the construction, finish, layout, power circuits, signal and safety grounding circuits, fuses, circuit breakers, signal circuits, internally mounted instrumentation, face plate mounted instrumentation components, internal panel arrangements, and external panel arrangements. All panel drawings shall, as a minimum, be "B" size with all data sheets and manufacturer specification sheets being "A" size. The submittal shall be in conformance with ISA-S20 - Standard Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves, shall be submitted as a singular complete bound volume or multi-volume package within 120 calendar days after Notice to Proceed, and shall have the following contents:

1. A complete index shall appear in the front of the bound volume. Panel tagging and nameplate nomenclature shall be consistent with the requirements of the Contract Documents.
2. Scaled physical arrangement drawings drawn to scale which define and quantify the physical groupings comprising control panel sections, auxiliary panels, subpanels, and racks. Cutout locations with nameplate identifications shall be shown.
3. Front of panel layout for the control panel.
4. Schematic/elementary diagrams shall depict all control devices and circuits and their functions.
5. Wiring/connection diagrams shall locate and identify electrical devices, terminals, and interconnecting wiring. These diagrams shall show interconnecting wiring by lines, designate terminal assignments, and show the physical location of all electrical and control devices.
6. Interconnection diagrams shall locate and identify all external connections between the control panel/control panel devices and associated equipment. These diagrams shall show interconnecting wiring by lines, designate terminal assignments, and show the physical location of all panel ingress and egress points.
7. A bill of material which enumerates all devices associated with the control panel.
8. Submit informational literature/data for all components including but not limited to Control Panel internal devices, PLC hardware and software, etc.
9. Programmable Logic Controller (PLC) programs in ladder format including notated description of each rung's function; assign point numbers to all inputs and outputs, and show point numbering in PLC program.
10. Proposed graphic displays; submit actual hard copy of programmed graphic screens.

C. Operations Manual: Provide operations and maintenance information for the following:
   1. Panel equipment, field devices and instruments, including "as-built" system schematics.
   2. Final copy of PLC program on 8-1/2" x 11" sheets in ladder format including verbal description of each rung's function.
   3. Floppy disks containing final PLC program and final distributed control software program.
   4. Complete software documentation including programming information and operator's guides.
   5. Point lists for all PLC inputs/outputs; identify point number (tag), point description, point type, range in engineering units (if analog point), PLC number, rack and slot number, and point address.

D. All submittals shall be bound in 3-ring binders with labeled tabs separating each section.

1.03 QUALITY ASSURANCE

A. All materials, equipment and parts shall be new and unused of current manufacturer.

B. Control panel supplier shall be responsible for providing all necessary accessories required for a complete and operable system.

C. All control panels shall be constructed in accordance with UL 508A standards and shall bear the UL listing.

1.04 WARRANTY

A. See Division 01 for additional requirements.

PART 2 - PRODUCTS

2.01 GENERAL

A. Environmental Suitability: The control panel shall be suitable for operation in the ambient conditions associated with the location designated in the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided as necessary in order to maintain all instrumentation devices 20% within the minimums and maximums of their rated environmental operating ranges. The Contractor shall provide all power wiring for these devices. Enclosures suitable for the environment shall be provided.

B. The control panel controls shall be 120 VAC. Control conductors shall be provided in accordance with the indicated requirements.

C. Each source of foreign voltage shall be isolated by providing disconnecting or pull-apart terminal blocks or a disconnect operable from the control panel front. Each control panel shall be provided with identified terminal strips for the connection of all external conductors. The Contractor shall provide sufficient terminal blocks to connect 25% additional conductors for future use.

D. Control panel mounted devices shall be mounted a minimum of 3' above finished floor elevation.

2.02 CONTROL PANELS

A. SCADA Control Panel
   1. Existing control panel modified by Controls Integrator.
   2. Controls Integrator shall provide labor and materials necessary to integrate new

Gray Water Pump System process data and alarms into existing SCADA system.

3. Furnish control panel components necessary to facilitate termination of Ethernet communication cable.

B. Mounting of Instruments
   1. The panel vendor shall provide cutouts, and shall mount all instrument items indicated to be panel mounted.
   2. The panel vendor shall also mount behind the panels other instrument accessory items as required for functionality as indicated.
   3. Equipment mounted at the rear of panel shall be installed to allow for commissioning adjustments, servicing requirements, and cover removal.
   4. Spare space shall be kept clear of wiring, etc., to give maximum space for future additions.

C. Panel Wiring
   1. Wire type and sizes: Conductor shall be flexible stranded copper machine tool wire, UL listed Type MTW, and shall be rated 600 volts. Wires for power circuits within panel shall be No. 14 minimum and sized for the load. Wires for instrument signal circuits and alarm input circuits within panel shall be No. 16 AWG. All shielded cables, shall be No. 18 AWG minimum.
   2. Wire Marking: Wire numbers shall be marked using white numbered wire markers made from plastic-coated cloth, Brady Type B 500 or equal, or shall be heat shrink plastic.
   3. For case grounding, panels shall be provided with a 1/4" x 1" copper ground bus complete with solderless connector for one No. 4 AWG bare stranded copper cable. The copper cable shall be provided by the Contractor and be connected to a system ground loop.
   4. Power Supply Wiring
      a. Unless otherwise indicated, instruments, and alarm systems shall operate on 120 volt, 60 Hz circuits.
      b. Each potentiometer type instrument, electronic transducer, controller, or analyzer shall have an individual disconnect switch. Disconnect switches shall have metal or plastic tags indicating instrument tag numbers. Individual plug and cord set power supply connections may be used without switches when indicated in the material specification.
   5. Alarm Wiring: The panel vendor shall install and wire alarms including light cabinets, audible signal units, test and acknowledge switches, and remote logic units as indicated. Interconnecting wiring to panel mounted initiating devices shall also be wired by the panel vendor. The wiring from external initiating devices shall be provided by the Contractor. Where plug and cord sets are provided for component interconnection, the panel vendor shall harness and support the cables in neat and orderly fashion. Where separate wire is required, panel vendor shall install No. 16 AWG with THWN or THHN insulation between all components.
   6. Signal Wiring

a. Signal wire shall be twisted pair or triads. Cable shall be constructed of No. 16 AWG copper signal wires with THWN or THHN insulation.
b. Color code for instrument signal wiring shall be as follows:
Positive (+) – Black
Negative (-) – White

2.03 PROGRAMMABLE LOGIC CONTROLLER

A. General:
1. Modify existing programmable logic controller (PLC) control program to communicate with new Gray Water Pump System Control Panel.
2. PLC and all components shall be designed, manufactured and tested in accordance with latest applicable UL standards.

B. PLC
1. Existing PLC is Allen-Bradley ControlLogix with RS Logic 5000 programming software.
6. All software is to be licensed to the Owner.

2.04 DISTRIBUTED CONTROL SOFTWARE

A. Fully tested and documented standard software package, commercially available, ready for configuration to fit specific project requirements.

B. Fully configured by Contractor to satisfy requirements of functional descriptions in Section 17400 - Control Descriptions.

C. Software Tags
1. The software package shall handle all external data, internal data, and functions in "tag" format. Tags shall be a group of standardized software routines that can be set up by an operator to manipulate data.
2. The program shall use the software tags throughout all software routines. It shall be possible for different routines to access the same tag.
3. Allow operator to call any tag to the computer screen. The tag display shall indicate type of tag, point name, value or state, alarm conditions and other information depending on the tag type.
4. Allow operator to write new tags, combine tags, and manipulate tags to develop new closed-loop functions, graphics and data-bases.
5. As a minimum, the following tag types shall be provided:
a. Analog Tag - include operator entries for high alarm point, low alarm point, rate-of-change alarm point, conversion to engineering units, scan frequency, filtering, and trending sample frequency.

b. Digital Tag - include operator entries for scan frequency, inverting digital value, and overriding digital value to 0 or 1 state.
c. Alarm Tag - include operator entries for editing alarm message on screen, enable/disable alarm, report return to normal status.
d. Calculation Tag - include operator entries to perform logical and mathematical functions on any analog or digital values input to the tag. Allow up to eight input variables. Perform addition, subtraction, multiplication, division, sine, cosine, square root, natural logarithm, logarithm, Boolean functions, scan frequency, and trending sample frequency.

6. Allow operator to call tag summaries to a computer screen and/or printer. Standard summaries shall include:
   a. Tags in alarm
   b. Tags in standby
   c. Tags with disabled alarms
   d. Tags off
   e. All tags
7. Contractor shall program the system and configure a tag for each PLC input and output point. Contractor shall enter tag values, alarm points, ranges, scan frequency, etc. so that all tags are available for use at the computers by the Owner when additional graphics and trends are built in the future.

D. Computer Graphics
1. Computers shall have color video graphic displays showing the plant process. Provide a menu for selection of the various graphics. Graphics shall have at least 64 colors.
2. Graphics shall show current analog values (in engineering units), digital values and equipment status. Graphics showing process equipment (e.g., pumps, blowers, valves, etc.) shall be interfaced with all related input/output points so that current status of the equipment is shown:
   a. White - motor off or valve closed.
   b. Green - motor on or valve open.
   c. Red - alarm condition.
   d. Flashing - valve in intermediate position.
   e. Yellow - motor required.
3. Software shall contain "graphics builder" routine to allow the operator to create additional graphics. Graphics builder shall contain a menu of standard symbols, lines and shapes, and commands to facilitate building or modifying graphics. The graphics builder feature shall include a menu of common symbols (such as pumps, tanks, piping fittings, etc.) and shapes that can be selected using a mouse. Graphic builder shall include edit functions such as "copy", "move", "cut" and "paste" to facilitate making new screens and modifying existing screens.

4. Graphics shall be dynamic, capable of being linked with a software tag so that the graphic changes as analog or digital values change (e.g., a tank changes color as it is filled up).
5. Contractor shall build the initial graphics for the project. Screen layout, menus, directories, graphic designs and color selections shall be submitted for review and shall be confirmed with the Engineer and Owner during construction.
6. System Overview Graphic - Contractor shall build a graphic screen that is representative of the overall wastewater treatment facilities. The screen shall allow the operator to access other graphic screens by "clicking" the mouse on the appropriate building/structure. When an alarm occurs, the associated building/structure shall flash in red on the overview graphic.
7. Individual Building / Process Graphics - Contractor shall build approximately 50 graphics showing all processes. The graphics shall be linked to all related PLC inputs/outputs to display equipment running status, alarm conditions, water levels (dynamic display), flow rates, etc.
8. Control Graphics - Contractor shall build approximately 25 graphics for operator control of pumps, valves and equipment as specified. Each graphic shall allow operator to place equipment in "AUTO" mode and adjust setpoints and timing values as specified in the functional descriptions for each equipment item.
9. Provide graphical links between process graphics and control graphics so operator may transition between related screens with a single mouse operation.
10. In addition to the graphics specified previously and elsewhere in this Specification, Contractor shall build 6 graphics as determined by Owner/Engineer during construction.

E. Alarms
1. Computer shall have an alarm screen that shows new alarms, acknowledged alarms and daily alarm log.
2. Each alarm point shall identify the alarm location, a 20-character minimum alarm description, and time of occurrence.
3. Computer shall allow operator to acknowledge alarms and to print alarm summary on demand.
4. Print all alarm occurrences on the alarm printer, including date and time of occurrence and time of acknowledgment.
5. Alarms shall sound through the computer internal speakers and alarm horn in each Building.
6. Allow the operator to disable any alarm points via the computer (for equipment maintenance, etc.). This feature shall require a password to enable/disable alarms.
7. New alarm conditions shall display as a single line at the bottom of the computer screens when the alarm summary is not displayed.
8. Computer shall have a list of all alarms on a screen. Allow operator to enable or disable alarms.

9. Analog Value Alarms:
    a. Allow operator to assign "high" and "low" software setpoints to all analog inputs and outputs. If measured value exceeds the high setpoint or falls below the low setpoint, energize an associated alarm at the computer. All displays and software setpoints shall be in engineering units.
    b. Analog value alarms shall function as described above for plant alarms.
10. Equipment "Fail" Alarms
    a. Where a PLC calls for an equipment item to operate, the PLC shall monitor the associated equipment "RUNNING" contacts.
    b. If a RUNNING signal is not returned after five seconds (adjustable), then generate a descriptive alarm point.
11. Communication Failure Alarms
    a. Provide alarms to indicate loss of communication with each device on the network.

F. Faceplate Displays
    1. Computers shall have menu screens that allow operators to call any analog value or PID loop to the screen. The screen shall show the analog value or PID loop as a faceplate display with analog scale, numerical value, alarm limits, and other related information.
    2. Through mouse commands, allow operator to modify scale, alarm limits, setpoint (if PID), and to call related tags.

G. Historical Data Collection
    1. Scan all analog inputs and outputs each minute, and store data in a file. At the end of each hour, calculate maximum, minimum and average value for each point, and store the three values in a new file.
    2. Each day prompt the operator to select either to store the previous day's one-minute values on a memory stick, on the hard drive, or to delete the data from the computer.
    3. Retain the hourly minimums, maximums, totals, and averages for use in trending and reports. At the end of each month, allow the operator up to 15 days to select to either store the data on a memory stick, on the hard drive, or to delete the data from the computer.
    4. The software shall allow the operator to establish different scan rates for each point, with up to six (6) selectable rates.
    5. Supplier shall meet with Owner during software development to confirm the desired initial configuration, and to establish historical data protocol.

H. Trending
   1. Provide historical trend screens to recall data that has been collected by the historical data base. Allow the operator to select from 1 to 8 points on each trend display. The data shall have the appearance of a vertical-scale strip chart recorder with resolution of 2% of span. Display values in engineering units.
   2. Allow operator to access any time window within the last month (for hourly data) and within the last 24 hours (for one-minute data).
   3. Allow operator to build real-time trend screens with up to 8 points per screen. Continuously update the screens as real-time data is collected.

I. Reports
   1. Software shall be fully DDE-compliant to allow report generation using Microsoft Excel, latest revision (no substitutions).
   2. Supplier shall build the following reports:
      a. General Requirements for Reports - Report formats will be furnished to the Supplier during construction. Each report listed below shall have columnar format with the number of columns and rows as indicated. Provide footer rows with column total, average, minimum and maximum for each parameter as is applicable. Develop the report to automatically obtain and calculate each parameter where data is available via the process control system. Prompt the operator where manually-entered data is needed. Each parameter may consist of one of the following types of data:
         (1) Manual - A value entered by the operator.
         (2) Automatic - A value obtained from the process control system.
         (3) Calculated - A formula is applied to the entered or monitored data.
         (4) Combination - The parameter is determined through some combination of manual data, automatic data and/or calculations.
      b. Provide the following individual reports:
         (1) Monthly State Operating Reports
         (2) Daily Operating Reports - 130 values by 24 hours (130 columns by 24 rows).
         (3) Monthly Operating Report - 130 values by 31 days.
         (4) Runtime / Flow Summary - Daily report showing accumulated daily runtime for each process equipment item, and totalized flow for each flowmeter input. Provide monthly report summary with monthly runtimes, monthly totalized flows, and average daily flow computation. Perform totalization in the plant PLCs so data is not lost during computer failure.

PART 3 - EXECUTION

3.01 SIGNAL AND CONTROL WIRING

A. Wiring Installation: Wires shall be run in plastic wireways except (1) field wiring, (2) wiring between mating blocks in adjacent sections, (3) wiring from components on a swing out panel to components on a part of the fixed structure, and (4) wiring to panel mounted components. Wiring run from components on a swing out panel to other components on a fixed panel shall be made up in tied bundles. These bundles shall be tied with nylon wire ties and shall be secured to panels at both sides of the "hinge loop" so that conductors are not strained at the terminals.

B. Wiring run to control devices on the panel front shall be tied together at short intervals with nylon wire ties and be secured to the inside face of the panel using adhesive mounts.

C. Wiring to rear terminals on panel-mount instruments shall be in plastic wireways secured to horizontal brackets above or below the instruments in about the same plane as the rear of the instruments.

D. Shop Drawings shall show conformance to the above wiring installation requirements.

E. Wire Marking: Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on Shop Drawings. These numbers shall be marked on conductors at every terminal.

3.02 PROGRAMMING SERVICES

A. Program programmable logic controllers (PLCs) and operator interface terminal as required by functional descriptions.

B. Provide additional programming during start-up, training, and call-back periods as specified.

C. Control Integrator shall coordinate with process equipment manufacturer's supplied PLCs and their field service representative to set up network and coordinate all aspects of acquiring and transmitting various control functions from vendor furnished PLCs.

3.03 INSPECTION AND APPROVAL

A. It shall be the responsibility of the Contractor to furnish all necessary testing devices and sufficient manpower to perform the tests required by the Engineer.

B. Field Testing: The control panel shall be tested again for functional operation in the field after the connection of external conductors and prior to equipment startup.

END OF SECTION

SECTION 17400

CONTROL DESCRIPTIONS

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1.03 OIT SCREENS

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PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes how each portion of control system operates.

B. The functional descriptions, in conjunction with the drawings and technical requirements for products as described in Section 17300 - Control Panels, define the minimum requirements for installation.

C. All products used to meet the functional descriptions shall be those specified in Sections 17300.

D. Related work specified elsewhere:
   1. Division 16 - Electrical.
   2. Section 17100 - Process Control and Instrumentation System.
   3. Section 17300 - Control Panels.

1.02 GENERAL REQUIREMENTS

A. Alarm/Event Logging Colors. The following is the color scheme for alarms and events that are displayed on the Panelview.
   1. Cyan: Operator entered event.
   2. Red: Active unacknowledged alarm.
   3. Yellow: Active acknowledged alarm.
   4. Blue: Unacknowledged alarm - returned to normal.
   5. White: Acknowledged alarm - returned to normal.

B. Equipment Status and Data Information for MMI Displays. The following is the color scheme for dynamic changing status:

1. Gray: equipment which is not controlled and/or does not supply status information to the control system i.e. manual valves.
2. Yellow: Equipment Off-line (lockout/tagout system).
3. Blue: Equipment in the off state, valves closed i.e. process non-active state.
4. Cyan: Equipment or subsystems in standby mode.
5. Magenta: Equipment in the on state, valves open i.e. process active state.
6. Green: analog process values, bar graphs, etc. which indicate operating within acceptable limits (not an alarm state).
7. Red Flashing: Indication of an alarm that is not acknowledged.
8. Red: Indication of an acknowledged alarm.
9. Bordered Box: Indication of an analog process variable.
10. Double Border Box: Indication of an analog process operator entered setpoint.

C. Alarm/Event Logging. All alarms and events shall be logged to a tabular display on the display screen with date, time, tag name, description, status, value, and priority of alarms/events. The tabular display screen shall allow the Operator to acknowledge all alarms. Events shall include start/stop of equipment, open/close or position change of valves, operator initiated changes, setpoint changes, etc. Up to an Operator adjustable setpoint number of current events and alarms shall be displayed on the tabular screen with the older events and alarms beyond that setpoint number being stored in the historical database log.

D. General Monitoring and Displaying of Discrete Input Signals. Discrete input signals which represent equipment status shall be displayed on the display screens.

E. General Monitoring, Displaying, and Recording of Analog Input Signals. Process variable signals shall be displayed on the display screens. They shall be scaled in engineering units. All alarm limits are assigned to the associated process variable. Values shall be historically logged and trended as required.

F. Process Status. All process alarms, equipment status, and process variable values shall be available at any of the computer software display screens. Failures of any PLC on the digital communications network shall also be alarmed.

G. Equipment Run Times. The running time for all motorized equipment located in the plant and at all remote sites shall be totalized and displayed.

H. Automatic Rollover. Provide automatic rollover back to zero for all run times, meter totalizations, etc. Provide reports with automatic calculation to account for the automatic rollover to zero.

I. All computer display screens that allow an Operator to enter setpoints and to change software switches shall be password protected. An Operator must successfully log in with his password before any changeable setpoints are allowed.

J. Provide an Operator adjustable time delay setpoint with all setpoints throughout the control system.

K. Provide de-bounce timers or other programming logic throughout the system to prevent all alarms, setpoints, or controls repeat; and nuisance or otherwise unneeded alarms, starts, stops, etc.

L. Provide scan rate time delays or other programming logic throughout the system to prevent all alarms, setpoints, or controls repeat; and nuisance or otherwise unneeded alarms, starts, stops, etc.

M. Provide testing and logic to positively ensure that no lockout conditions can develop in anyway or in any form of operation, be it standard, non-standard, or emergency.

N. Monitor communications status of all remote facilities and plant panels.

O. Where alarms are called for provide High and High-High, Low and Low-Low, and others if specifically required.

P. Provide software Hand/Off/Auto switches, Duty/Standby switches, Local/Off/Remote switches, On-line/Off-line switches, Open/Close switches, Open/Stop/Close switches, Open/Stop/Close/Auto switches, Manual/Auto switches, On/Off pushbuttons, etc. for each equipment item.

Q. In the Off or Off-line position, provide a software pop-up "tag-out" box with descriptor lines for Operator entry of wording describing the reason for the device being out of service, for each item of equipment, instrumentation, etc. Provide a yellow tag on the equipment device on the applicable screens to visually indicate that it is off-line and tagged out, and cannot be operated through the control system as long as tagged out. The Off-Line switch and Tag-Out shall be used to isolate the particular device, but shall not affect the operation of the particular treatment process or plant as a whole.

R. Change piping/valves/equipment/building color to indicate flowing or not, working or not, operational or not, running or not, opened or closed, etc.

S. Screens shall be fully dynamic.

1.03 OIT SCREENS

A. The Controls Integrator shall develop graphical screens to dynamically depict the operation and status of the Treatment Plant functions, and tabular screen(s) to present system setpoints and summarize process values/quantities. The screens shall include but not be limited to:

1. Operator authentication/authorization.
2. Overview screen.
3. Pumps, treatment processes, etc.
4. Process setpoints.
5. Process values/quantities.
6. Alarm status/history.

B. The Controls Integrator shall develop a preliminary set of screens for submission to the Owner/Engineer for review and comment prior to finalizing the screens.

PART 2 - FUNCTIONAL DESCRIPTIONS

2.01 GENERAL

A. Control descriptions included herein are generic in nature and may not include all functions, status and alarms; these descriptions will be tweaked during submittal stage; Control Integrator shall develop algorithms based on the input/output point schedule and control descriptions.

2.02 GRAY WATER PUMP SKID

A. Gray Water Pump Skid shall be controlled and monitored by skid-mounted control panel. Equipment supplier furnished panel shall provide local control interface via panel-mounted display screen.

B. Gray water pumps shall maintain Operator adjustable pressure setpoints via manufacturer developed control algorithm.

C. Provide for monitoring of the following minimum equipment process data and alarms at existing Computer Room SCADA Control Panel via Ethernet network connection.

1. Pump 1 Running
2. Pump 1 Fault
3. Pump 1 In Auto
4. Pump 2 Running
5. Pump 2 Fault
6. Pump 2 In Auto
7. Pump 3 Running
8. Pump 3 Fault
9. Pump 3 In Auto
10. System Suction Pressure
11. Low Suction Pressure Alarm
12. System Discharge Pressure

13. High Discharge Pressure Alarm
14. Low Discharge Pressure Alarm

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

City of Davenport

Department: Finance
Contact Info: Mallory Merritt | 563-326-7792

Action / Date
2/3/2021

Subject:
Public Hearing on the FY 2022 Proposed Maximum Property Tax Levy. [All Wards]

Recommendation:
Hold the Hearing.

Background:
The City has developed a proposed maximum levy for affected property tax levies of $14.46001 per $1,000 of taxable value for FY 2022. This total maximum levy rate for the affected property tax levies is the same rate as FY 2021.

Under the law of the State of Iowa, the City is required to adopt the maximum property tax levy prior to the adoption of the annual budget.

ATTACHMENTS:

Type	Description
Backup Material	Backup Material

REVIEWERS:

Department	Reviewer	Action	Date
Finance	Merritt, Mallory	Approved	1/26/2021 - 12:05 PM
Finance Committee	Merritt, Mallory	Approved	1/26/2021 - 12:05 PM
City Clerk	Admin, Default	Approved	1/26/2021 - 1:31 PM

CITY NAME	NOTICE OF PUBLIC HEARING -PROPOSED PROPERTY TAX LEVY	CITY CODE
DAVENPORT	Fiscal Year July 1, 2021 - June 30, 2022	82-773

The City Council will conduct a public hearing on the proposed Fiscal Year City property tax levy as follows:

Meeting Date:	Meeting Time:	Meeting Location:
2/3/2021	5:30PM	226 W 4th St. Davenport, IA 52801

At the public hearing any resident or taxpayer may present objections to, or arguments in favor of the proposed tax levy.
After adoption of the proposed tax levy, the Council will publish notice and hold a hearing on the proposed city budget.

City Web Site (if available):	City Telephone Number:
cityofdavenportiowa.com	563-326-7711

Iowa Department of Management		Current Year Certified Property Tax 2020/2021	Budget Year Effective Property Tax 2021/2022**	Budget Year Proposed Maximum Property Tax 2021/2022	Annual % CHG
Regular Taxable Valuation	1	4,769,677,623	4,824,709,657	4,824,709,657	
Tax Levies:					
Regular General	2	$38,634,389	$38,634,389	$39,080,148	
Contract for Use of Bridge	3	$0	$0	$0	
Opr & Maint Publicly Owned Transit	4	$4,340,407	$4,340,407	$4,390,500	
Rent, Ins. Maint. Of Non-Owned Civ. Ctr.	5	$0	$0	$0	
Opr & Maint of City-Owned Civic Center	6	$0	$0	$0	
Planning a Sanitary Disposal Project	7	$0	$0	$0	
Liability, Property & Self-Insurance Costs	8	$1,192,419	$1,192,419	$1,206,200	
Support of Local Emer. Mgmt. Commission	9	$0	$0	$0	
Emergency	10	$1,287,813	$1,287,813	$1,302,672	
Police & Fire Retirement	11	$6,163,986	$6,163,986	$6,235,100	
FICA & IPERS	12	$6,234,253	$6,234,253	$6,306,200	
Other Employee Benefits	13	$11,116,318	$11,116,318	$11,244,550	
***Total 384.15A Maximum Tax Levy**	14	$68,969,585	$68,969,585	$69,765,370	**1.15%**
Calculated 384.15A MaximumTax Rate	15	$14.46001	$14.29507	$14.46001	

Explanation of significant increases in the budget:

FY 2022 increases include salary, penison, health insurance adjustments, and contract cost escalations.

If applicable, the above notice also available online at:

cityofdavenportiowa.com

*Total city tax rate will also include voted general fund levy, debt service levy, and capital improvement reserve levy

**Budget year effective property tax rate is the rate that would be assessed for these levies if the dollars requested is not changed in the coming budget year

City of Davenport

Department: Community Planning & Economic Development **Action / Date**
Contact Info: Laura Berkley | 563-888-3553 **2/10/2021**

Subject:
First Consideration: Ordinance for Case REZ20-08 being the request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables. [Ward 7]

Recommendation:
Adopt the Ordinance.

Background:
The Plan and Zoning Commission considered Case REZ20-08 at its January 19, 2021 meeting and voted to forward the request to City Council with a recommendation for approval.

The Commission vote was 10 yes, 0 no, and 0 abstention.

Findings:

1. The proposed I-1 Light Industrial District is compatible with the zoning of nearby property.
2. The established neighborhood character is primarily industrial to the north and east of the subject property. To the south, there is an apartment complex and several smaller scale multi-family residential developments. The proposed low intensity use of the site will serve as a transition between industrial and residential properties.
3. Rezoning the property to I-1 Light Industrial District does not create any nonconformities.

Consideration:
The City Council is requested to pass a resolution amending the Future Land Use Designation from Residential General (RG) to Industry (I).

ATTACHMENTS:

	Type	Description
🗋	Ordinance	Ordinance
🗋	Backup Material	Zoning Analysis
🗋	Backup Material	Zoning Map
🗋	Backup Material	Land Use Map
🗋	Backup Material	Site Photos
🗋	Backup Material	Application
🗋	Backup Material	Concept Plan
🗋	Backup Material	Public Hearing Notice-Committee of the Whole
🗋	Backup Material	Quad City Times Public Hearing Notice
🗋	Backup Material	Public Hearing Notice-Plan and Zoning Commission

REVIEWERS:

Department	Reviewer	Action	Date

Community Planning & Economic Development	Werderitch, Matt	Approved	1/26/2021 - 4:24 PM

ORDINANCE NO. _____

ORDINANCE for Case REZ20-08 being the request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables.

BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF DAVENPORT, IOWA:

Section 1. The following described unit of Scott County, Iowa real estate is hereby rezoned to "I-1, Light Industrial District."

Lot 5 of Lyngholm Park 8th Addition to the City of Davenport, Iowa.

Section 2. That the following findings and conditions are hereby imposed upon said rezoning:

Findings:

1. The proposed I-1 Light Industrial District is compatible with the zoning of nearby property.
2. The established neighborhood character is primarily industrial to the north and east of the subject property. To the south, there is an apartment complex and several smaller scale multi-family residential developments. The proposed low intensity use of the site will serve as a transition between industrial and residential properties.
3. Rezoning the property to I-1 Light Industrial District does not create any nonconformities.

Condition:
The City Council is requested to pass a resolution amending the Future Land Use Designation from Residential General (RG) to Industry (I).

Section 3. At its January 19, 2021 meeting, the Plan and Zoning Commission voted to forward the case to the City Council with a recommendation for approval.

SEVERABILITY CLAUSE. If any of the provisions of this ordinance are for any reason illegal or void, then the lawful provisions of this ordinance, which are separable from said unlawful provisions shall be and remain in full force and effect, the same as if the ordinance contained no illegal or void provisions.

REPEALER. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

EFFECTIVE DATE. This ordinance shall be in full force and effective after its final passage and publication as by law provided.

First Consideration _____

Second Consideration _____

Approved _____

Published in the *Quad City Times* on _____

Attest:

_____ _____

Mike Matson
Mayor

Brian Krup
Deputy City Clerk

Zoning Analysis
Development and Neighborhood Services Department

Case REZ20-08: The request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables. [Ward 7]

Comprehensive Plan:

1. Within Existing Urban Service Area: Yes
2. Within Urban Service Area 2035: Yes

Future Land Use Designations:
The property is designated Residential General (RG) in the Davenport +2035 Land Use Plan. The Future Land Use Designation would need to be amended to Industry (I) through the adoption of a resolution by City Council.

1. **Residential General (RG)** – Designates neighborhoods that are mostly residential but include, or are within one-half mile (walking distance) of scattered neighborhood-compatible commercial services, as well as other neighborhood uses like schools, churches, corner stores, etc. generally oriented along Urban Corridors (UC). Neighborhoods are typically designated as a whole. Existing neighborhoods are anticipated to maintain their existing characteristics in terms of land use mix and density, with the exception along edges and transition areas, where higher intensity may be considered.
2. **Industry (I)** – Designates areas devoted to manufacturing, assembly/fabrication, warehousing and distribution, research and technological innovation centers, and associated commercial/office uses developed at a scale as to warrant access to good transportation networks and separation or buffering from residential uses.

Zoning:
The property is currently zoned R-MF Multi-Family Residential Zoning District. This district is intended to accommodate a high-density neighborhood environment characterized by a mixture of housing types including semi-detached dwellings, two-family dwellings, townhomes and multi-family dwellings. Limited non-residential uses that are compatible with the surrounding residential neighborhoods may be permitted in the R-MF District.

The applicant is requesting a rezoning of the property to I-1 Light Industrial Zoning District. This district is intended to provide for a variety of light manufacturing, fabricating, processing, distributing, and warehousing uses. Light industrial uses are enclosed, low-intensity uses with minimal, if any, outside impacts.

Technical Review:
City Departments have reviewed the proposed Zoning Map Amendment Application. The applicant is required to install stormwater detention and water quality treatment if impervious area is over 5,000 square feet.

Public Input:
Letters were sent to property owners within 200 feet of the proposed request notifying them of the January 5, 2021 Plan and Zoning Commission Public Hearing.

To date, staff has not received any responses from adjacent property owners. No individuals from the public spoke at the Plan and Zoning Commission public hearing on January 5, 2021.
Notices of Public Hearings were published in the Quad City Times for both the January 5th and February 2nd public hearings.

Discussion:
The petitioner is requesting a rezoning to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables. The 1.09 acre lot is currently vacant. The property is located between multi-family development to the south and light industrial/service development to the north and east.

City Council approved Ordinance No. 2019-102 on March 27, 2019 to rezone the property from I-1 Light Industrial District to R-MF Multi-Family Residential District for the purpose of constructing apartment units. Development has not occurred on the property. The proposed rezoning to I-1 will reverse the 2019 City Council decision.

Why is a Zoning Map Amendment Required?
The Zoning Ordinance does not permit a communications facility in the R-MF district. The I-1 Light Industrial District identifies a communications building as a permitted light industrial use.

Approval Standards for Map Amendments (Chapter 17.14.040)
The Plan and Zoning Commission recommendation and the City Council decision on any zoning text or map amendment is a matter of legislative discretion that is not controlled by any particular standard. However, in making their recommendation and decision, the Plan and Zoning Commission and the City Council must consider the following standards. The approval of amendments is based on a balancing of these standards.

a. **The consistency of the proposed amendment with the Comprehensive Plan and any adopted land use policies.**

   Staff Response: The property is designated Residential General (RG) in the Davenport +2035 Land Use Plan. The proposed communications building is incompatible with the future land use category description, which is intended for neighborhoods that are mostly residential. Instead, the proposed low intensity industrial development fits the criteria for Industry (I).

   It is staff's opinion that a condition shall be placed on the Zoning Map Amendment requesting City Council to adopt a resolution amending the Future Land Use Designation from Residential General (RG) to Industry (I).

b. **The compatibility with the zoning of nearby property.**

   Staff Response: The subject property is located on the boundary between R-MF Multi-Family Residential District and I-1 Light Industrial District. The abutting properties to the north, east, and west are zoned I-1 Light Industrial District. The rezoning petition will serve as a continuation

of industrial property that extends east to the railroad tracks, between 53rd Street and 46th Street.

It is staff's opinion that the proposed amendment is compatible with the zoning of nearby property.

c. The compatibility with established neighborhood character.

Staff Response: The established neighborhood character is primarily industrial to the north and east of the subject property. To the south, there is an apartment complex and smaller scale multi-family residential developments near the intersection of Grand Avenue and East 46th Street. The low intensity use of the site will serve as a transition between industrial and residential properties.

It is staff's opinion that the proposed amendment is compatible with the established neighborhood character.

d. The extent to which the proposed amendment promotes the public health, safety, and welfare of the City.

Staff Response: The proposed I-1 zoning is consistent with existing vicinity uses to the north, east, and west of the property. The proposed communications building will be a low intensity industrial development, which should not create any nuisances to the multi-family development directly south.

It is staff's opinion that the proposed zoning map amendment will develop in a manner that promotes the public health, safety, and welfare of the City.

e. The suitability of the property for the purposes for which it is presently zoned, i.e. the feasibility of developing the property in question for one or more of the uses permitted under the existing zoning classification.

Staff Response: Under the current Zoning Ordinance, the R-MF Multi-Family Residential Zoning District does not allow for a communications building that houses and operates electronics and fiber optic cables. The intended development of the property is considered an Industrial-Light use.

It is staff's opinion that the property is not suited for development of the proposed business under the existing R-MF Multi-Family Residential District.

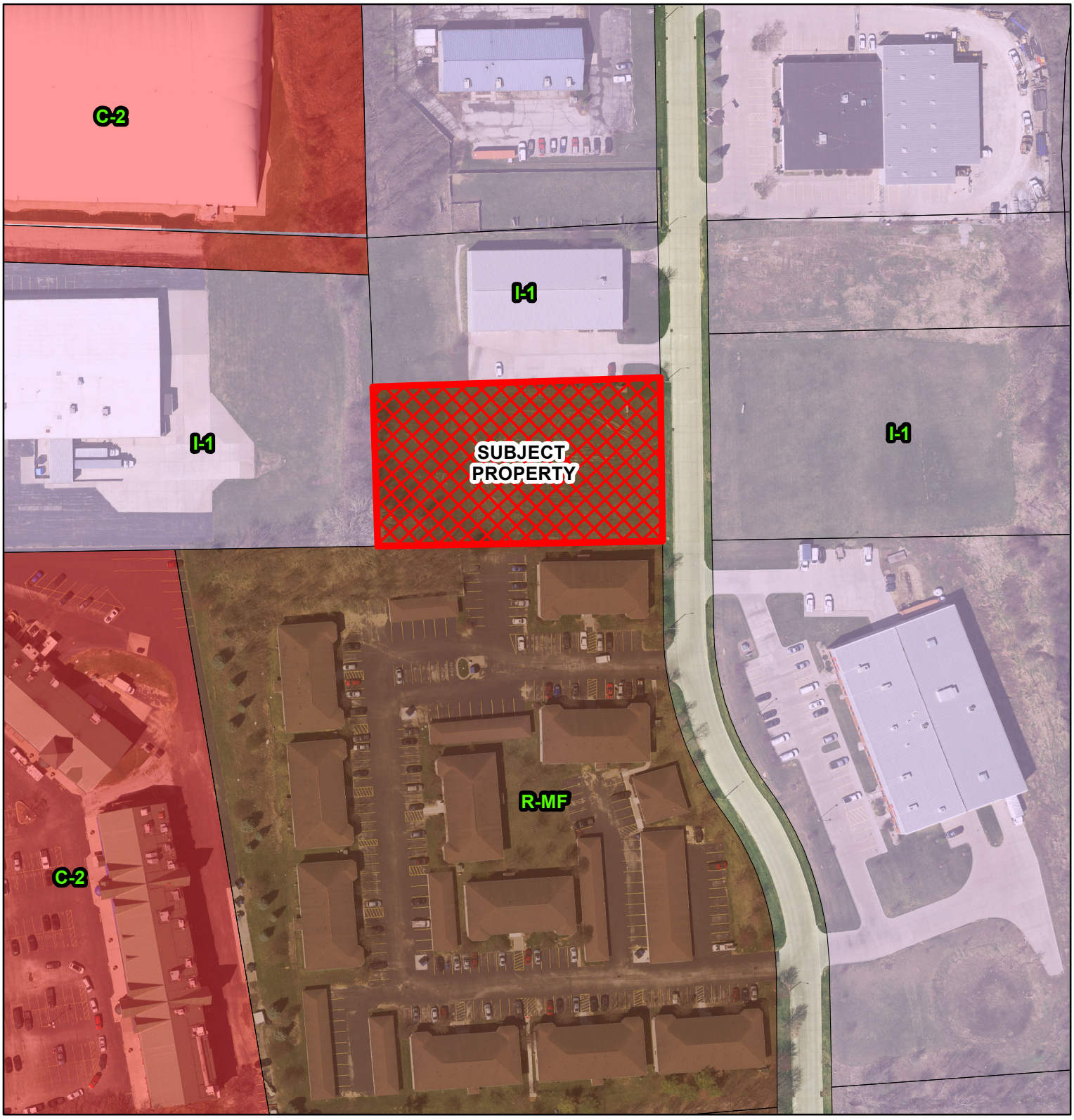
f. The extent to which the proposed amendment creates nonconformities.

Staff Response: The vacant 1.09 acre site satisfies the dimensional standards for the I-1 Light Industrial District.

It is staff's opinion that the proposed amendment will not create any nonconformities.

Zoning Map Amendment (Rezoning) Request

REZ20-08 5000 Grand Avenue



R-MF Multi-Family Residential District to I-1 Light Industrial District

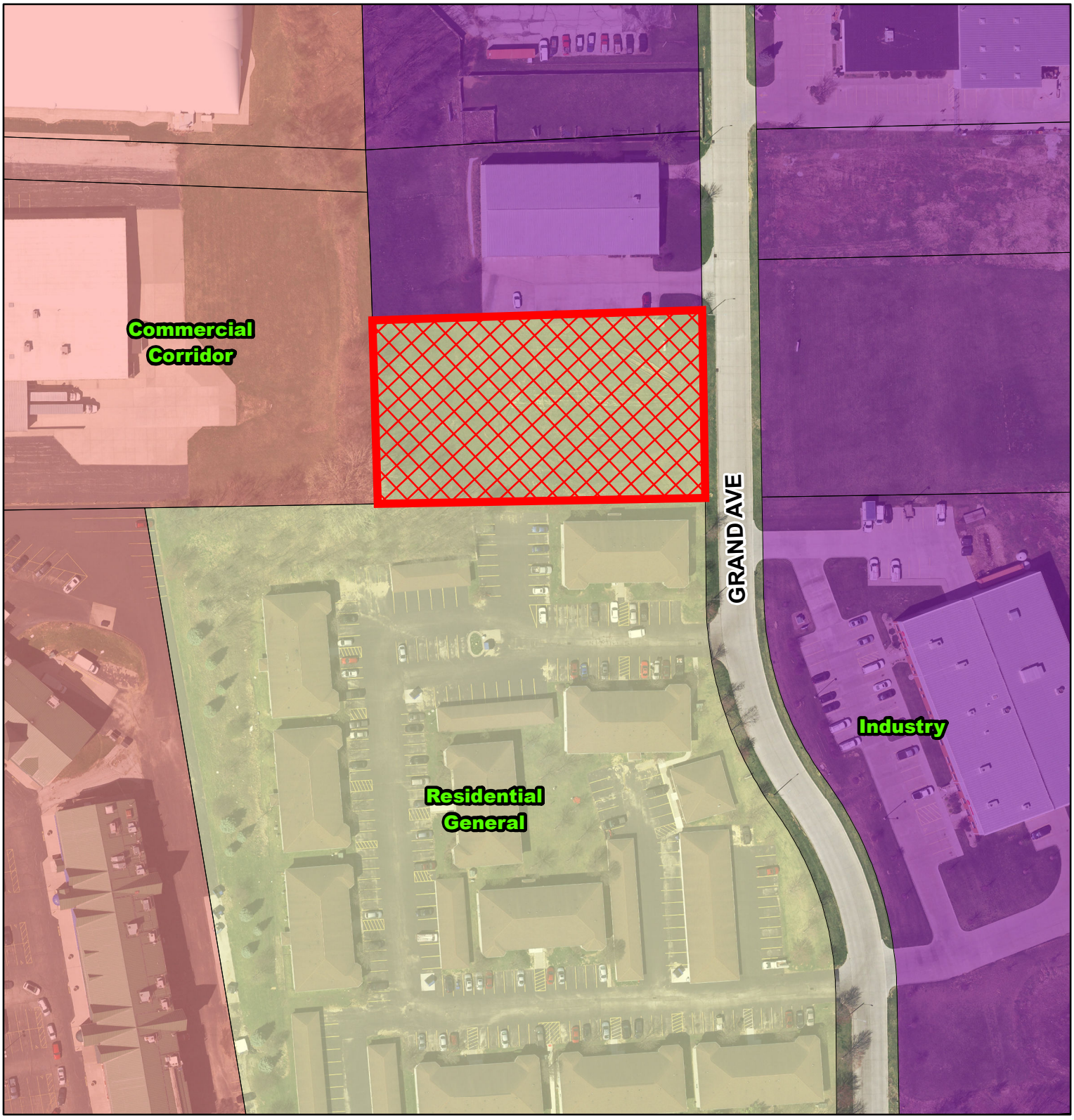
Private parties utilizing City GIS data do so at their own risk. The City of Davenport will not be responsible for any costs or liabilities incurred due to any differences between information provided and actual physical conditions.

0 50 100 200 300 400 Feet

N

Future Land Use Map (Davenport +2035)

REZ20-08 5000 Grand Avenue



General Residential to Industry

Private parties utilizing City GIS data do so at their own risk. The City of Davenport will not be responsible for any costs or liabilities incurred due to any differences between information provided and actual physical conditions.

0 50 100 200 Feet

N

Zoning Map Amendment (Rezoning) Request

REZ 20-08 5000 Grand Avenue

Complete application can be emailed to planning@ci.davenport.ia.us

Property Address* Lyngholm Park 8th addition Lot:005 Parcel #P1210-01F
***If no property address, please submit a legal description of the property.**

Applicant (Primary Contact)**

Name:	Dan Parchert
Company:	MCC Iowa LLC Mediacom
Address:	3900 26th Ave
City/State/Zip:	Moline, IL 61265
Phone:	309-743-4870
Email:	dparchert@mediacomcc.com

Owner (if different from Applicant)

Name:	Rocco B Commisso
Company:	MCC Iowa LLC Mediacom
Address:	1 Mediacom way
City/State/Zip	Mediacom Park, NY 10918
Phone:	845-443-2600
Email:	rcommisso@mediacomcc.com

Engineer (if applicable)

Name:	
Company:	
Address:	
City/State/Zip	
Phone:	
Email:	

Architect (if applicable)

Name:	
Company	
Address:	
City/State/Zip:	
Phone:	
Email:	

Attorney (if applicable)

Name:	Bruce J Gluckman
Company:	MCC Iowa LLC Mediacom
Address:	1 Mediacom Way
City/State/Zip:	Mediacom Park, NY 10918
Phone:	845-443-2600
Email:	bgluckman@mediacomcc.com

Application Form Type:

Plan and Zoning Commission
- Zoning Map Amendment (Rezoning) ☑
- Planned Unit Development ☐
- Zoning Ordinance Text Amendment ☐
- Right-of-way or Easement Vacation ☐
- Voluntary Annexation ☐

Zoning Board of Adjustment
- Zoning Appeal ☐
- Special Use ☐
- Hardship Variance ☐

Design Review Board
- Design Approval ☐
- Demolition Request in the Downtown ☐
- Demolition Request in the Village of East Davenport ☐

Historic Preservation Commission
- Certificate of Appropriateness ☐
- Landmark Nomination ☐
- Demolition Request ☐

Administrative
- Administrative Exception ☐
- Health Services and Congregate Living Permit ☐

****If the applicant is different from the property owner, please submit an authorization form or an accepted contract for purchase.**

Request:

Existing Zoning: R-MF

Proposed Zoning Map Amendment: Industrial

Purpose of the Request:

To allow for construction of a communications building to house and operate electronics and fiber optic cables

Total Land Area: 1.09 Acres

Does the Property Contain a Drainage Way or is it Located in a Floodplain Area: ☐ Yes ☑ No

Submittal Requirements:

- The completed application form.
- Recorded warranty deed or accepted contract for purchase.
- Authorization form, if applicable. If the property is owned by a business entity, please provide Articles of Incorporation.
- A legal description of the request if not easily described on the deed or contract for purchase.
- Required fee:
  Zoning Map Amendment is less than 1 acre - $400.
  Zoning Map Amendment is one acre but less than 10 acres - $750 plus $25/acre.
  Zoning Map Amendment is 10 acres or more - $1,000 plus $25/acre.
  $10.00 per sign; more than one sign may be required depending upon the area of the request.

Formal Procedure:

(1) Application:
- Prior to submission of the application, the applicant shall correspond with Planning staff to discuss the request, potential alternatives and the process.
- The submission of the application does not constitute official acceptance by the City of Davenport. Planning staff will review the application for completeness and notify the applicant that the application has been accepted or additional information is required. Inaccurate or incomplete applications may result in delay of required public hearings.

(2) Plan and Zoning Commission public hearing:
- The City shall post notification sign(s) in advance of the public hearing. A minimum of one sign shall be required to face each public street if the property has frontage on that street. It is Planning staff's discretion to require the posting of additional signs. The purpose of the notification sign(s) is to make the public aware of the request.
- The applicant shall make a presentation regarding the request at a neighborhood meeting. The purpose of meeting is to offer an opportunity for both applicant and neighboring residents/property owners to share ideas, offer suggestions, and air concerns in advance of the formal public hearing process. Planning staff will coordinate meeting date, time, and location and send notices to surrounding property owners.
- The Plan and Zoning Commission will hold a public hearing on the request. Planning staff will send notices to surrounding property owners.

(3) Plan and Zoning Commission's consideration of the request:
- Planning staff will perform a technical review of the request and present its findings and recommendation to the Plan and Zoning Commission.
- The Plan and Zoning Commission will vote to provide its recommendation to the City Council.
- If the Plan and Zoning Commission recommends denial, the request may only be approved by a favorable 3/4 vote of the City Council.

Formal Procedure (continued):

(4) City Council's consideration of the request:

- The Committee of the Whole (COW) will hold a public hearing on the request. Planning staff will send a public hearing notice to surrounding property owners.
- If property owners representing 20% or more of the area within 200 feet of the exterior boundaries of the request submit a written protest, the request may only be approved by a favorable 3/4 vote of the City Council. For the purpose of the 20% protest rate, formal protests will be accepted until the public hearing is closed.
- The City Council will vote on the request. For a zoning map amendment to be approved three readings of the Ordinance are required; one reading at each Council Meeting. In order for the Ordinance to be valid it must be published. This generally occurs prior to the next City Council meeting.

Applicant: Dan Parchert Date: 12/10/2020

By typing your name, you acknowledge and agree to the aforementioned submittal requirements and formal procedure and that you must be present at scheduled meetings.

Received by: _____ Date: _____

Planning staff

Date of the Public Hearing: _____

Meetings are held in City Hall Council Chambers located at 226 West 4th Street, Davenport, Iowa.

DocuSign Envelope ID: 3FA66333-D596-4529-83F1-CB7E6FB640D1

Mediacom

LETTER OF AUTHORIZATION

I, Bruce J. Gluckman, do hereby declare and state under penalty of perjury as follows:

1. I am the Deputy General Counsel for MCC Iowa LLC, formed in the state of Delaware, with its headquarters located at 1 Mediacom Way Mediacom Park, NY 10918 (hereinafter "Mediacom").

2. I authorize Daniel Parchert, a Director of Engineering, to represent Mediacom in any and all proceedings and to sign documents on behalf of Mediacom that are presented to the Davenport Community and Economic Development Department in Davenport, Iowa, regarding a parcel of land on Grand Avenue between East 46th Street and 53rd Street. This authorization to run for one year from the date stated below.

12/9/2020 | 8:26 AM PST

DocuSigned by:
Bruce Gluckman
75187141E93D46A...

Date

Bruce J. Gluckman

State of New York
County of Orange

Subscribed and Sworn before me by Bruce J. Gluckman, who is personally known to me, and who executed the foregoing instrument as his free act and deed this 8th day of December 2020.

Notary Public

Lauren Predmore
Qualified in Orange County
State of New York
No: 1PR6334472
Commission exp. December 21, 2023

WRITTEN CONSENT
OF
THE MANAGING MEMBER
OF
MCC IOWA LLC

The undersigned, being the managing member of MCC Iowa LLC, a Delaware limited liability company (the "Company"), does hereby consent to the adoption of the following specified resolution and approves and adopts such resolution.

RESOLVED, that the following persons be, and each of them hereby is, elected and confirmed to serve in the following designated offices of the Company, to hold such offices until their successors are elected and qualify, or as otherwise provided in the Operating Agreement of the Company:

Rocco B. Commisso	Chief Executive Officer
Mark E. Stephan	Executive Vice President, Chief Financial Officer and Treasurer
John G. Pascarelli	Executive Vice President, Operations
Italia Commisso Weinand	Executive Vice President, Programming and Human Resources
Brian M. Walsh	Senior Vice President and Corporate Controller
Joseph E. Young	Senior Vice President, General Counsel and Secretary
Bruce J. Gluckman	Group Vice President and Deputy General Counsel, Legal Affairs and Assistant Secretary

MEDIACOM BROADBAND LLC

By: MEDIACOM COMMUNICATIONS CORPORATION,
Managing Member

By: _____
Mark E. Stephan,
Executive Vice President and Chief Financial Officer

Dated: AUG 11 2015

MLS #:	QC4214929	**St:** Active	**Cat:** CIE		**LP:** $115,000
County:	Scott	**Type:**	Land & Farm		**Virtually Staged?:**
Addr:	0 GRAND		AV		**Unit #:**
City:	Davenport		IA	**Zip Code:**	52807
Legal:					

Tot Bldg SqFt:	0	**Sale:**	Yes	**Lease:**	No
Office SqFt:		**Lease $/Mo:**		**Lease Type:**	
Avail SqFt:	0	**Lease $/SqFt:**		**Lease Renewal**	
Warehse		**Stories:**		**Lease $/SqFt Ann**	
CAM $/SqFt:		**Parking Spcs:**		**Subsqt Sale to Tenant:**	

Handicap Mod:		**# of Bldgs:**	0	**Year Built:**	**Udgrd Strg Tank:**
Apx Lot SqFt:		**# of Units:**		**Apx Acres:**	1.09 **Zoning:** R-MF
Agent Owned:	No	**Agent Rltd to Seller:**	No	**NDA:**	**100 yr Flood Pl:**

Unbranded V Tour

Branded V Tour

Directions: 53rd Street south on Grand Avenue

Annual Taxes: $4,540.00 /	**Exemptions:**		**Tax Incentive:**	**Projected Exp (IV):**
Parcel ID: P1210-01F				**Projected Inc (IV):**
# Dock Drs (I):	**# Rail Drs (I):**	**# Seats (R):**	**Sprinkler:**	**Sec Sys:**

Development land, great location between E 46th Street and 53rd Street east of Brady Street. Great opportunity to build in North Central Davenport.

FEATURES

Industrial / Office/ Retail /Multi-Family / Restaurant / Investment

LOCATION Suburban
FRONTAGE/ACCESS Paved 2Lane, City Street
SEWER SOURCE None
OWNERSHIP L.L.C.
TAX INCENTIVE None
POSSIBLE FINANCING None
WATER SUPPLY None
TYPE Land & Farm

Land and Farm

Land with a House

PROPERTY TYPE/USE Other Property Type /Use
LAND DESCRIPTION Level, Other Land Description
EASEMENTS/RESTR Unknown
UTILITIES ONSITE None
OPTIONS Option For Sale

Original Price: $115,000	**Concessions $**	**Days On Market:** 84
Sold Price:	**Sold Conc Info**	**Cumulative DOM:** 84
Closing Date:	**How Sold:**	
Agent Owned: N	**Agent Related to Seller:** N	**Agent is Designated Managing Broker:** Yes

This information is deemed reliable, but not guaranteed. Copyright: 2019 RMLS Alliance

AGREEMENT FOR SALE OF COMMERCIAL REAL ESTATE

THIS IS A BINDING REAL ESTATE CONTRACT

MCC Iowa, LLC
Purchaser

Purchaser TODD CURTIS, Chief V.P.

MM Development, LLC
Seller

Seller

1. **THIS "AGREEMENT" IS DATED:** November 18, 2020

Purchaser agrees to purchase from the Seller and the Seller agrees to sell to Purchaser the real estate and any improvement thereon, commonly known as: 1.09 Acres on Grand Ave with a parcel # P1210-01F (see attached). and legally known as: _____(to be supplied by Seller's Attorney) situated in the County of Scott and the State of Iowa (the "Property"), for the sum of $ 100,000 (the "Purchase Price") to be paid as follows:

$2,000 EARNEST MONEY in the form of a check, which shall be deposited within 7 days after acceptance of this agreement and held in trust by Mel Foster Commercial Real Estate Trust and is part of the cash at closing. In the event any contingency is not met by the date contained in such contingency, including the completed subdivision of the lot into two parcels, one to be sold to Buyer and the other to be retained by Seller, -the Seller recognizes the earnest money will be returned to the Purchaser, upon agreement in writing by both parties, and this Agreement shall be void. Earnest money will not automatically be returned or paid to any party. In the event of any dispute as to the retention or return of the earnest money, the escrow agent shall only take such action with respect to the earnest money as agreed in writing by the parties, as ordered by a court of competent jurisdiction, or pursuant to Iowa Administrative Rule 193E – 13.1 or Illinois 225 ILCS 454/20-20. Seller and Purchaser agree to indemnify, defend and hold harmless Mel Foster Commercial Real Estate Services, L.L.C., or any other party acting as escrow agent, from and against any and all liabilities and claims arising out of duties as escrow agent hereunder.

$98,000 ADDITIONAL CASH PAYMENT, which shall be paid at time of closing.

$N/A BALANCE, to be obtained by Purchaser securing a _____loan commitment on the Property in the amount of not less than $_____. Purchaser agrees to apply immediately, to use all good faith diligence, and to fully cooperate in obtaining the loan. In the event, after using all good faith diligence, Purchaser is unable to obtain such a loan commitment upon terms and conditions satisfactory to Purchaser's sole satisfaction, within _____days from date hereof, the earnest money shall be refunded in full, and this Agreement shall be void.

INITIAL:

$N/A BALANCE, to be carried on (A.) _____ Contract for deed, or (B.) _____ A purchase-money mortgage, payable $_____, (_____% per annum), computed monthly, on the unpaid balance.

OTHER TERMS:_____

2. DUE DILIGENCE AND INSPECTIONS.

Unless otherwise stated in an addendum and/or rider attached hereto, and incorporated herein, this Agreement shall not be subject to the performance of due diligence and/or inspections by the Purchaser.

3. POSSESSION AND CLOSING (choose A or B)

X A. Possession on Closing:

(1) Seller shall deliver possession of the Property to Purchaser concurrently with the closing of this transaction, which shall be held on or before March 31, 2021.

_____B. Possession after closing:

(1) Closing shall be on or before _____ and Seller shall deliver possession of the property to Purchaser on or before _____ days after said closing.

(2) Per diem rent in the amount of $_____ shall be paid by Seller to Purchaser for each day the delivery of possession is beyond the date of closing, but under no circumstances shall the Seller be able to remain in possession more than _____days after closing.

C. Additional Provisions:

(1) Possession shall be deemed delivered when Seller has vacated the Property and delivered the keys to Purchaser or Purchaser's agent. In the case where the Seller does not physically occupy the Property and tenants are in place, possession shall be deemed delivered when the leases are assigned to Purchaser and any keys are delivered to Purchaser or Purchaser's agent.

(2) Necessary timely legal notices to tenants, if any, shall be given by Seller unless otherwise agreed to by the parties.

(3) If Seller shall fail for any reason whatsoever to vacate the Property after the above specified number of days, the Purchaser shall in addition to all other remedies have the right to commence any legal action or proceeding to evict and remove the Seller from the Property with Seller hereby agreeing to reimburse Purchaser for all reasonable

INITIAL: _____ _____

attorney fees and expenses incurred by the Purchaser in the enforcement of Purchaser's rights under this Agreement.

(4) In the event that closing does not occur on or before the date listed above, as a result of Purchaser's inability to close by such date, per diem liquidated damages in the amount of $____0____$ shall be paid by Purchaser to Seller, for each day the closing is delayed beyond the date of closing listed above.

(5) In the event that closing does not occur on or before the date listed above, as a result of Seller's inability to close by such date, per diem liquidated damages in the amount of $0 _____ shall be paid by Seller to Purchaser for each day the closing is delayed beyond the date of closing listed above.

4. EVIDENCE OF TITLE

Within fourteen (14) days of execution of this Agreement, Seller shall deliver (A.) __X____ An abstract of title, continued within thirty (30) days prior to closing or (B.) _____ A Commitment for Title Insurance issued by a title insurance company regularly doing business in the County where the Property is located, committing the company to issue an owner's policy in the usual form insuring merchantable title to the Property. In the event that the Property is located in Iowa and Seller elects to provide a Commitment for Title Insurance, Seller shall also provide an abstract of title to Purchaser prior to closing. If title evidence discloses exceptions other than those permitted under the rules for examination for abstracts of title adopted by the County Bar Association in which the Property is located, Purchaser or Purchaser's attorney shall give written notice of such exceptions to Seller within a reasonable time. Seller shall have a reasonable time to have such title exceptions removed, or any such exception, which may be removed by the payment of money may be cured by deduction from the purchase price at the time of closing. If Seller is unable to cure such exception, Purchaser shall be entitled to a refund of the earnest money. Furnishing a title insurance commitment insuring over an exception shall constitute a cure of such exception.

5. CONVEYANCE OF TITLE AND DOCUMENTS OF SALE

The parties agree to execute any transfer declarations or other documents required by the state, county or municipality in which the Property is located, as well as any documents required by the title insurance company in order to issue title insurance.

6. PRORATIONS AND ADJUSTMENTS

The following items shall be prorated at closing as of the date of delivery of possession:

A. Prorations

INITIAL: _____ _____

(1) Real estate taxes shall be prorated in accordance with standards adopted by the county bar association of the county where the real estate is located, which, in the absence of fraud, shall be final;

(2) Rent, if any, (with transfer in full of any security/damage deposit);

(3) Other income and operation expenses, if any.

B. Adjustments

Utility charges shall be adjusted by the parties by appropriate meter readings at or about the time of delivery and surrender of possession, with all utilities to be transferred to Purchaser's name as of the date of closing.

7. ASSESSMENTS

Seller shall pay all special assessments, which are a lien on the Property as of the date of closing. Seller acknowledges that prior to the execution of this Agreement Seller has no knowledge of or no notice has been received from any municipal authority concerning improvements which could result in a special assessment on the Property. Tap on fees, if any, which exist for municipal services to the Property, shall be paid by the Purchaser.

8. FIXTURES AND PERSONAL PROPERTY

All fixtures presently installed on the Property including but not limited to; brackets and fixtures, all carpeting, electric light fixtures, bathroom fixtures and accessories, telephone lines, central heating and cooling units and attached equipment, all shrubs and trees, shall be left by Seller in or upon said Property exactly as they are as of the date of this Agreement, and shall be deemed a part of the Property and title thereto shall pass to Purchaser at closing. The following personal property shall be sold to Purchaser as part of the closing: None

Seller shall deliver a Bill of Sale to Purchaser at closing for same. The parties agree that $ 0 of the Purchase Price shall be allocated toward the purchase of said personal property.

9. CONDITION OF PROPERTY

The parties agree that the Purchase Price reflects the condition of the Property and personal property being purchased (if any) and Purchaser acknowledges that the Property, the improvements and personal property (if any) thereof have been inspected, and Purchaser is acquainted with the condition thereof and accepts the same in:

X A. "As-Is" Condition.

INITIAL: _____

_____ B. "As-Is" condition except Seller warrants the plumbing, heating and electrical systems to be in normal working condition on date of possession and further warrants_____. Written notice of breach of the warranty contained above must be served upon Seller, Seller's attorney, or Seller's agent within two (2) business days of the date of possession. Purchaser shall have the right to inspect the Property during the 48-hour period immediately prior to closing.

10. DEFAULT

If Purchaser fails to make any payment or to perform any obligation imposed upon Purchaser by this Agreement, Seller may serve written notice of default upon Purchaser and if such specified default is not corrected within ten (10) days thereafter, Seller, subject to the terms of any listing agreement, may accept the earnest money and any additional down payment as damages or may pursue any available legal remedy including specific performance. In the event Seller fails to perform any obligation imposed upon Seller by this Agreement, Purchaser may serve written notice of default upon Seller and if such default is not corrected within ten (10) days thereafter, earnest money and any additional down payment deposit shall be refunded to Purchaser without prejudicing the Purchaser's right to any available legal or equitable remedy including specific performance. In the event of default the defaulting party shall be liable to the other party for reasonable attorney fees, expenses incurred by reason of default, and the real estate brokerage fee.

11. CASUALTY CLAUSE

Seller shall bear the risk of loss or damage to the Property prior to closing or possession, whichever first occurs. In the event all or a material part of the Property is damaged or destroyed prior to closing or possession, whichever first occurs, this Agreement shall terminate and be of no further force and effect, unless the Property can be restored to its present condition on or before the closing date. Seller shall keep adequate insurance, including fire and other extended coverage, on improvements on the Property until title has passed to Purchaser or possession is delivered to Purchaser, whichever first occurs. Purchaser shall be responsible for insurance coverage upon taking title to or possession of the Property, whichever occurs first.

12. EXPENSES OF TRANSFER

A. Seller shall pay:

(1) Broker's Commission;

(2) Cost of owner's title policy or the initial updating of the abstract(s) of title prior to closing, as necessary

(3) Revenue stamps and recording of any releases.

B. Purchaser shall pay:

(1) Recording fee for deed and mortgage;

INITIAL: _____

_____

(2) Cost of Purchaser's mortgage title insurance policy as required by mortgagee or the costs of re-continuing the abstract(s) of title post-closing.

Each party shall be responsible for their own attorney fees and customary closing costs for the County in which the Property is located. Closing costs do not include charges incident to the Purchaser's financing, and Purchaser shall pay such charges.

13. 1031 EXCHANGE

Purchaser agrees that it shall be an accommodation party, if requested by Seller, in a "1031 Starker Exchange," provided that Purchaser shall incur no additional cost with regard to said accommodation, shall not be required to take title to any property other than the Property, and said accommodation does not delay the closing of the transaction for the Property. Purchaser agrees to execute any and all documents necessary to effectuate such an exchange.

Seller agrees that it shall be an accommodation party, if requested by Purchaser, in a "1031 Starker Exchange," provided that Seller shall incur no additional cost with regard to said accommodation, shall not be required to take title to any property other than the Property, and said accommodation does not delay the closing of the transaction for the Property. Seller agrees to execute any and all documents necessary to effectuate such an exchange.

14. ESCROW

This Agreement will be closed through an escrow either with the (CHECK ONE) (A.)__X_____ Purchaser's attorney, (B.) _____ Title company selected by Purchaser's mortgage lender, or (C.) _____ Seller's attorney. The funds held in escrow shall be paid out upon recording of the necessary documents and the vesting of merchantable title of the Property in Purchaser.

15. REPRESENTATIONS OF SELLER

Seller hereby represents to Purchaser that, to the best of Seller's knowledge, the Property is not contaminated with, nor threatened with contamination from outside sources by, any chemical, material or substance to which exposure is prohibited, limited or regulated by any federal, state, county, local or regional authority or which is known to pose a hazard to health and safety and that Seller has not used the Property as a landfill or dumpsite, or for storage of hazardous substances, or has not otherwise done anything to contaminate the Property with hazardous wastes or substances. Seller warrants that the Property is not subject to any local, state or federal judicial or administrative action, investigation or order, as the case may be, regarding wells or underground storage tanks, solid waste disposal sites, or hazardous wastes or substances. In the event Purchaser notifies Seller before closing that the representations and warranties set forth herein are untrue and such notice is accompanied by a report from an engineering company or environmental consultant with experience in evaluating such matter, then Purchaser,ove at its option, may terminate this Agreement, and the earnest money paid herein shall be returned to Purchaser. Any and all environmental information that Seller has, if any, shall be provided to Purchaser within seven (7) days of execution of this Agreement.

INITIAL: _____

_____

16. LEASES

As of the date of this Agreement, the Property is subject to the following leases: None _____. Prior to closing, Seller shall not enter into any new leases or agree to extend any existing leases without Purchaser's prior written consent. All leases shall be assigned to Purchaser at closing, along with all security/damage deposits associated therewith.

17. SELLER'S CONSENT TO ASSIGNMENT

This Agreement may not be assigned by Purchaser to any other person or entity without Seller's prior written consent, which shall not be unreasonably withheld.

18. NOTICES AND ELECTRONIC TRANSMISSION

All notices required pursuant to this Agreement shall be in writing and signed by the party or party's agent (an "agent" shall be any person or persons designed in writing as such by a party and any attorney representing said party) and shall be given to the other party or that party's agent by:

A. Personally served upon the other party or that party's agent, in which case notice shall be effective upon the date of delivery;

B. By electronic transmission to the other party or that party's agent, in which case notice shall be effective on the date of the electronic transmission; or

C. Certified or registered mail, return receipt requested, and sent to the address of the party set forth below, which case notice shall be effective on the date of mailing.

If to Purchaser: Mediacom Attn: Todd Curtis
3900 26th Ave
Moline, Il 61201
Phone:

With copy to: Mel Foster Commercial Attn: Joe Wonio
3245 E 35th St Ct
Davenport, IA 52807
Phone: 563-370-8097

If to Seller: MM Development, LLC
1225 E River Dr, #320
Davenport, IA 52803
Phone:

With copy to: Mel Foster Commercial Attn: Thad DenHartog
3245 E 25th St Ct
Davenport, IA 52807
Phone:

INITIAL: _____

_____

Notice to any one party of a multiple person party shall be sufficient notice to all.

For the purpose of negotiating and finalizing this Agreement, any document transmitted electronically shall be treated in all manner and respects as an original document. The signature of any party shall be considered an original signature and such electronic document shall be considered to have the same binding legal effect as an original document.

19. GENERAL CONDITIONS

This Agreement shall be binding upon the parties and their successors and assigns. Time is of the essence of this Agreement. This Agreement shall be governed by and enforced in accordance with the laws of the state in which the Property is located. This Agreement contains the entire agreement of the parties and no representations, warranties, or agreements have been made by either party except as set forth herein. No modification, waiver, or amendment of the Agreement shall be effective unless made in writing and signed by the parties. All representations, warranties and covenants made by the parties shall survive closing. Paragraph headings are for the convenience of reference and shall not limit or affect the meaning of this Agreement.

20. BROKER REPRESENTATIONS

It is understood that no representation made by the Broker or Salesperson in the negotiation of this Agreement are being relied upon unless incorporated herein in writing. Broker and Salesperson make no representations or warranties, either expressed or implied, as to the physical or mechanical condition of the Property, the improvements thereon, or any personal property being transferred.

21. BROKERS AS AGENTS

Parties acknowledge that agency disclosures have been made and signed prior to signing of this Agreement. The Broker, the Broker's agents, employees, and associates agree to respond to all questions of the parties accurately and honestly, to the best of their knowledge, and agree to disclose all material defects about which they have knowledge, but are not required to discover hidden defects in the Property or defects of which they have no knowledge or give advice on matters outside the scope of their real estate licenses.

22. AGENCY

Listing Agent: Thad DenHartog

Purchaser's Agent: Joe Wonio

Company: Mel Foster Commercial

Company: Mel Foster Commercial

A. An agency disclosure must be made at the time specific assistance is provided to Purchaser or Seller. By signing below, Purchaser and Seller confirm that prior informed written disclosure of agency representation was provided to them, that they understand said representation and that the disclosure was provided prior to signing. Purchaser and Seller acknowledge and agree that:

INITIAL: _____

_____

CHECK ONE:

__X__(1) The Listing Agent is representing the Seller and the Purchaser's Agent is representing the Purchaser.

_____(2) The Agent, who is both the Listing Agent and the Purchaser's Agent, is acting as a Dual Agent with full knowledge and prior consent of both parties.

____(3) The Purchaser's Agent is representing the Purchaser only.

_____(4) The Listing Agent is representing the Seller only.

B. Seller and Purchaser request that Mel Foster Commercial Real Estate Services, L.L.C. select, prepare, and complete documents allowed by law or rule, and may contact their client by telephonic or electronic communication.

Purchaser Date 10/18/2020 Seller Date 11-30-20

23. RIDERS

This Agreement is subject to the following riders: Condition Precedent Rider.

24. ACCEPTANCE

When accepted, this Agreement shall become a binding a contract for the sale and purchase of the Property. If this Agreement is not accepted and returned to Purchaser and/or Purchaser's agent by the Seller on or before ~~November 19, 2020~~ December 2, 2020 at 5:00 p.m., it shall become null and void and the earnest money shall be refunded to the Purchaser. This is a legally binding contract. If not understood, consult with legal counsel of your choice. Receipt of a copy of this Agreement is acknowledged by the parties hereto. This Agreement has been read and executed on the dates beside our signatures.

Executed by Purchaser:

MCC Texas, LLC

Purchaser 10/18/2020 Date

Executed by Seller:

Seller Alejandro Mayorga 11-30-20 Date

Purchaser Date

Seller Date

INITIAL:

This Agreement has been prepared by:

Joe Wonio
Agent

MEL FOSTER COMMERCIAL REAL ESTATE SERVICES, L.L.C.
3245 East 35th Street Court, Davenport, IA 52807
(563) 324-4488 /FAX (563) 344-5803

INITIAL: _____

_____

CONDITION PRECEDENT RIDER

This Condition Precedent Rider is a supplement to and made a part of the Agreement for Sale of Commercial Real Estate (the "Agreement") dated November 18, 2020, by and between MM Development, LLC, as "Seller" and Mediacom, as "Purchaser".

The Agreement is conditioned upon Purchaser having a due diligence period beginning upon full execution of the Agreement by both parties and ending **March 15, 2021** (the "Due Diligence Period") to: (i) perform any due diligence on, regarding, or of the Property it so chooses; (ii) to perform any inspections on or of the Property it so chooses (provided, however, that any entry unto the Property shall be approved in advance by Seller in each instance); (iii) to examine the condition of the Property; (iv) to examine any contracts affecting the Property; (v) to determine whether the Property and the purchase thereof fits within Purchaser's business model and plans; and (vi) to determine whether the Property and the purchase thereof fits within Purchaser's intended use and purpose and obtaining proper zoning and other entitlements for the intended use (each of the above-referenced is herein referred to as a "Due Diligence Item"). Seller shall allow Purchaser and its agents and employees reasonable access to the Property during the Due Diligence Period. Unless otherwise noted, Purchaser shall pay for all of Purchaser's inspections.

In the event that Purchaser is not fully satisfied for any reason, at Purchaser's sole and absolute discretion, with each and every Due Diligence Item, including but not limited to the results of inspections, Purchaser may cancel and terminate this Agreement at any time during the Due Diligence Period by sending to Seller via email, fax, or by letter a written document terminating this Agreement. Upon such termination, this Agreement shall be null and void, neither party shall have any further responsibility to each other and the Earnest Money shall be returned to Purchaser. Any or all of the above-referenced contingencies or Due Diligence Items may be waived by Purchaser at any time by Purchaser delivering to Seller in writing a document stating such waiver(s). Alternatively, the parties may mutually agree to the remedy of any deficiency or defect arising under any Due Diligence Item through the execution of an Amendment to the Agreement, and proceed to closing.

Purchaser:

MC Iowa, LLC

Todd Curtis

Todd Curtis

Dated: 11/18/2020

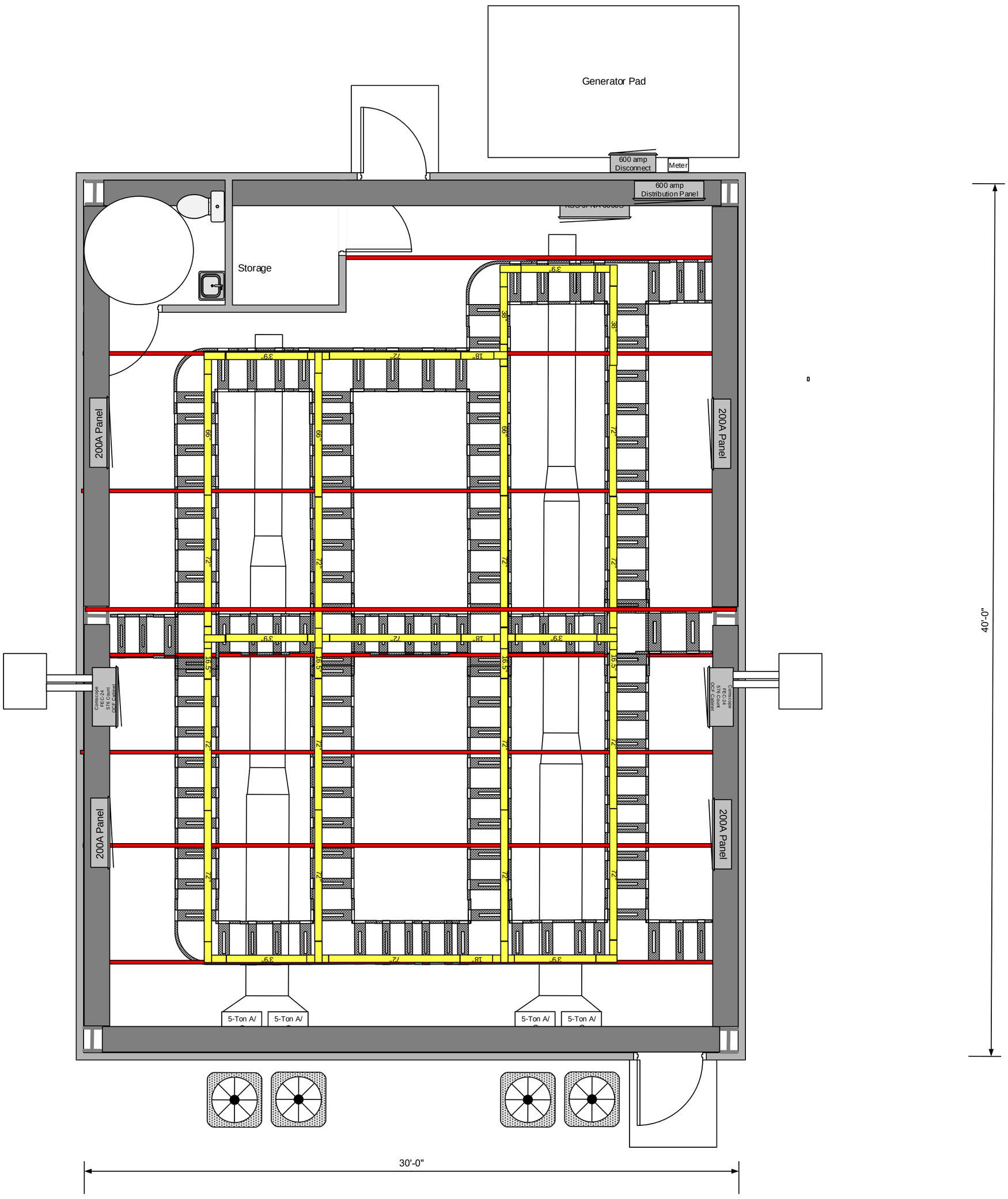
Seller:

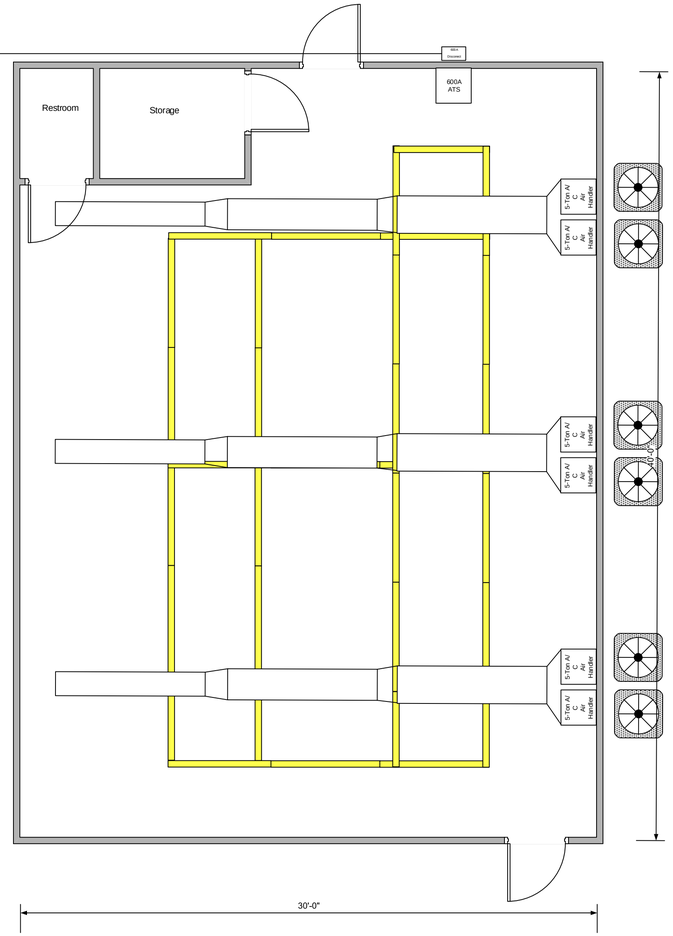
Alejandro Mayorga, member

Dated: 11-30-20

Zoning Map Amendment (Rezoning) Request
REZ 20-08 5000 Grand Avenue

Proposed Communications Building
Example Elevations


Generator Pad
600 amp
Disconnect
Meter
600 amp
Distribution Panel
Storage
200A Panel
200A Panel
200A Panel
200A Panel
Commscope
FEC-24
576 Count
OCP Cabinet
Commscope
FEC-24
576 Count
OCP Cabinet
5-Ton A/
5-Ton A/
5-Ton A/
5-Ton A/
30'-0"
40'-0"


Restroom
Storage
600A
ATS
5 Ton AC Heater
5 Ton AC Heater
5 Ton AC Heater
5 Ton AC Heater
5 Ton AC Heater
5 Ton AC Heater
30'-0"

28 - pairs wire ladder clamps 3/8"
38 - pairs of plates
11- 144" x 24" wire ladder
3 – 24" 90 degree elbows
3 – 24" Crosses
5 – 24" Tee's
2 - 144" x 12" wire ladder
9 – 20' 2" unistrut
60 – 3/8" unistrut nuts
8 – 3/8" unistrut 90 degree brackets

DAVENPORT
DEVELOPMENT &
NEIGHBORHOOD SERVICES

Public Hearing Notice | Committee of the Whole

Date: 2/3/2021
Time: 5:30 PM

Location: Council Chambers | City Hall | 226 W. 4th ST.
Subject: Public Hearing for a Rezoning Request Before the Committee of the Whole

To: All property owners within 200 feet of the subject property located at **5000 Grand Avenue**

There is on file in the Development and Neighborhood Services Department (DNSD), on behalf of the Plan and Zoning Commission, the following request:

> **Case REZ20-08: Request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables [Ward 7].**

At its January 19, 2021 meeting, the Plan and Zoning Commission recommended approval of the aforementioned case with the following findings:

Findings:

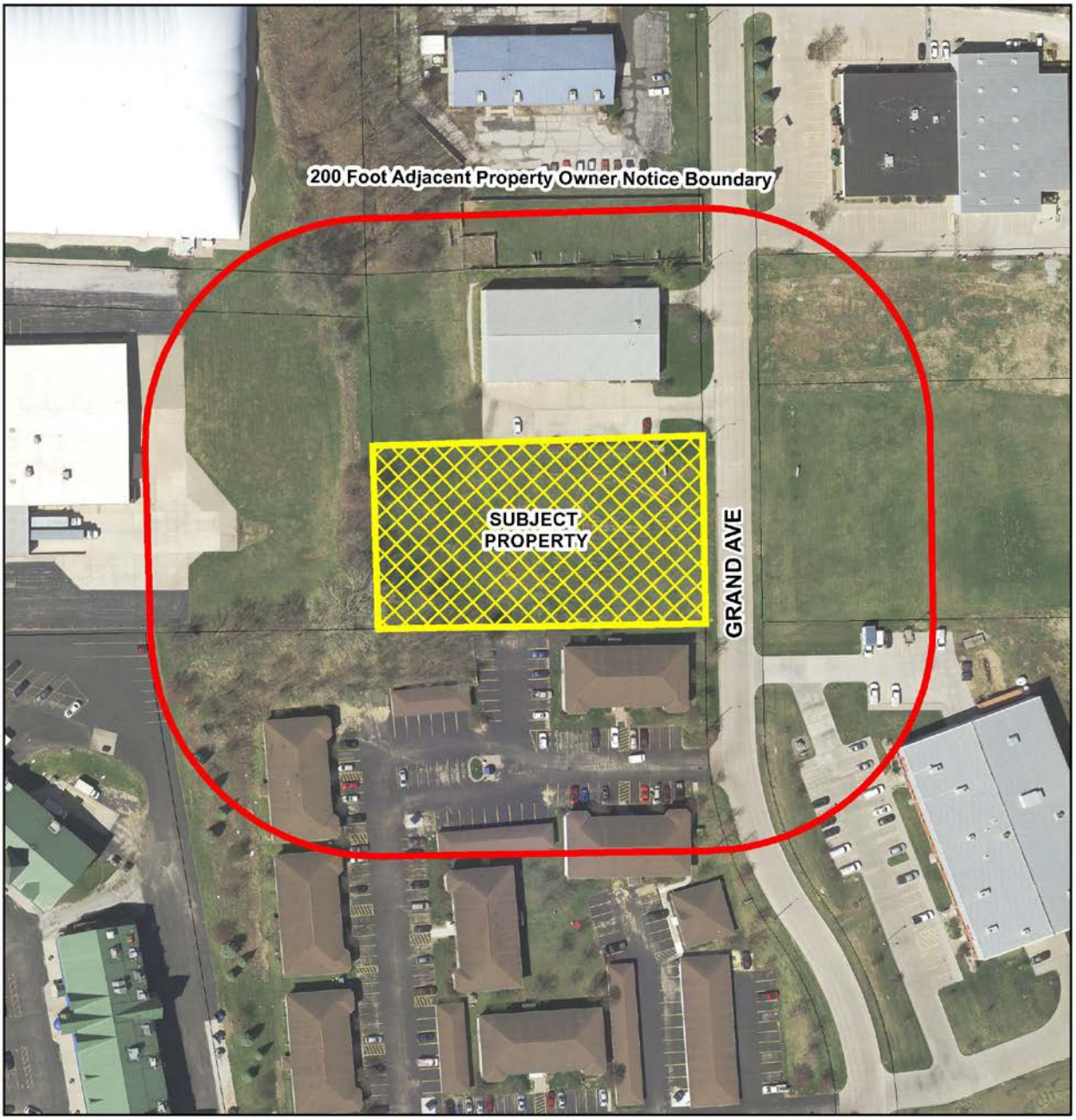
1. The proposed I-1 Light Industrial District is compatible with the zoning of nearby property.
2. The established neighborhood character is primarily industrial to the north and east of the subject property. To the south, there is an apartment complex and several smaller scale multi-family residential developments. The proposed low intensity use of the site will serve as a transition between industrial and residential properties.
3. Rezoning the property to I-1 Light Industrial District does not create any nonconformities.

Condition: The City Council is requested to pass a resolution amending the Future Land Use Designation from Residential General (RG) to Industry (I).

The public hearings on the above matter is scheduled for 5:30 p.m. or as soon thereafter as possible on Wednesday, February 3, 2021 in the Council Chambers of the Davenport City Hall, 226 West 4th Street, Davenport, Iowa. You may submit written comments on the above item(s) or to attend the public hearing to express your views, or both. Interpretive services are available at no charge. Servicios interpretativos libres estan disponibles. TTY: (563) 326-6145

Any written comments to be reported at the public hearing should be received in the Development and Neighborhood Services Department, at the below address, no later than 12:00 noon on the day of the public hearing(s).

Plan and Zoning Commission
Adjacent Property Owner Notice Area



REZ20-08 5000 Grand Avenue

Private parties utilizing City GIS data do so at their own risk. The City of Davenport will not be responsible for any costs or liabilities incurred due to any differences between information provided and actual physical conditions.

0 50 100 200 Feet

N

DAVENPORT
COMMUNITY PLANNING & ECONOMIC DEVELOPMENT

Friday, January 22, 2021

Please publish the following public notice in the next available edition of the Quad City Times.

The PO number for this notice is: 2106822

Please provide proof of publication for our records. If you have any questions, please contact us at planning@ci.davenport.ia.us or 563-326-6198. Thank you!

NOTICE
PUBLIC HEARING
WEDNESDAY, FEBRUARY 3, 2021 5:30 P.M.
CITY OF DAVENPORT COMMITTEE OF THE WHOLE
COUNCIL CHAMBERS - DAVENPORT CITY HALL
226 WEST 4th STREET – DAVENPORT, IOWA

There is on file in the Development and Neighborhood Services Department (DNSD), on behalf of the Plan and Zoning Commission, the following requests:

Case REZ20-08: Request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables [Ward 7].

The legal description of the property proposed to be rezoned is as follows:

Lot 5 in Lyngholm Park 8th Addition to the City of Davenport, Scott County, Iowa.

At its January 19, 2021 meeting, the Plan and Zoning Commission recommended approval of the aforementioned case with the following findings:

Findings:

1. The proposed I-1 Light Industrial District is compatible with the zoning of nearby property.
2. The established neighborhood character is primarily industrial to the north and east of the subject property. To the south, there is an apartment complex and several smaller scale multi-family residential developments. The proposed low intensity use of the site will serve as a transition between industrial and residential properties.
3. Rezoning the property to I-1 Light Industrial District does not create any nonconformities.

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express your views, or both. Interpretive services are available at no charge. Servicios interpretativos libres estan disponibles. TTY: (563) 326-6145

Any written comments to be reported at the public hearing should be received in the Development and Neighborhood Services Department, at the above address, no later than 12:00 noon on the day of the public hearing(s). PO No. 2106822

Development and Neighborhood Services Department
E-MAIL: planning@davenportiowa.com PHONE: 563-326-6198

DAVENPORT
DEVELOPMENT & NEIGHBORHOOD SERVICES

PUBLIC HEARING NOTICE | Plan and Zoning Commission

Date: 1/5/2021 Location: Council Chambers | City Hall | 226 W. 4th ST.
Time: 5:00 PM Subject: Public Hearing for Rezoning Request before the Plan and Zoning Commission

To: All property owners within 200 feet of the subject property located at **5000 Grand Avenue.**

What is this About?
This notice is being sent to inform you that a public hearing will be held for a Rezoning Request. The purpose of the Rezoning Request is to allow for construction of a communications building.

Request/Case Description
Case REZ20-08: Request of MCC Iowa LLC on behalf of MM Development LLC to rezone 5000 Grand Avenue from R-MF Multi-Family Residential District to I-1 Light Industrial District to allow for construction of a communications building to house and operate electronics and fiber optic cables [Ward 7].

What are the Next Steps after the Public Hearing?
The Plan and Zoning Commission will hold a formal public hearing at their meeting on January 5, 2021. The Plan and Zoning Commission will vote (provide a recommendation) to the City Council at their meeting on January 19, 2021. The Commission's recommendation will be forwarded to the City Council which will then hold its own public hearing. You will receive a notice of the City Council's public hearing. For the specific dates and times of subsequent meetings, please contact the case planner below.

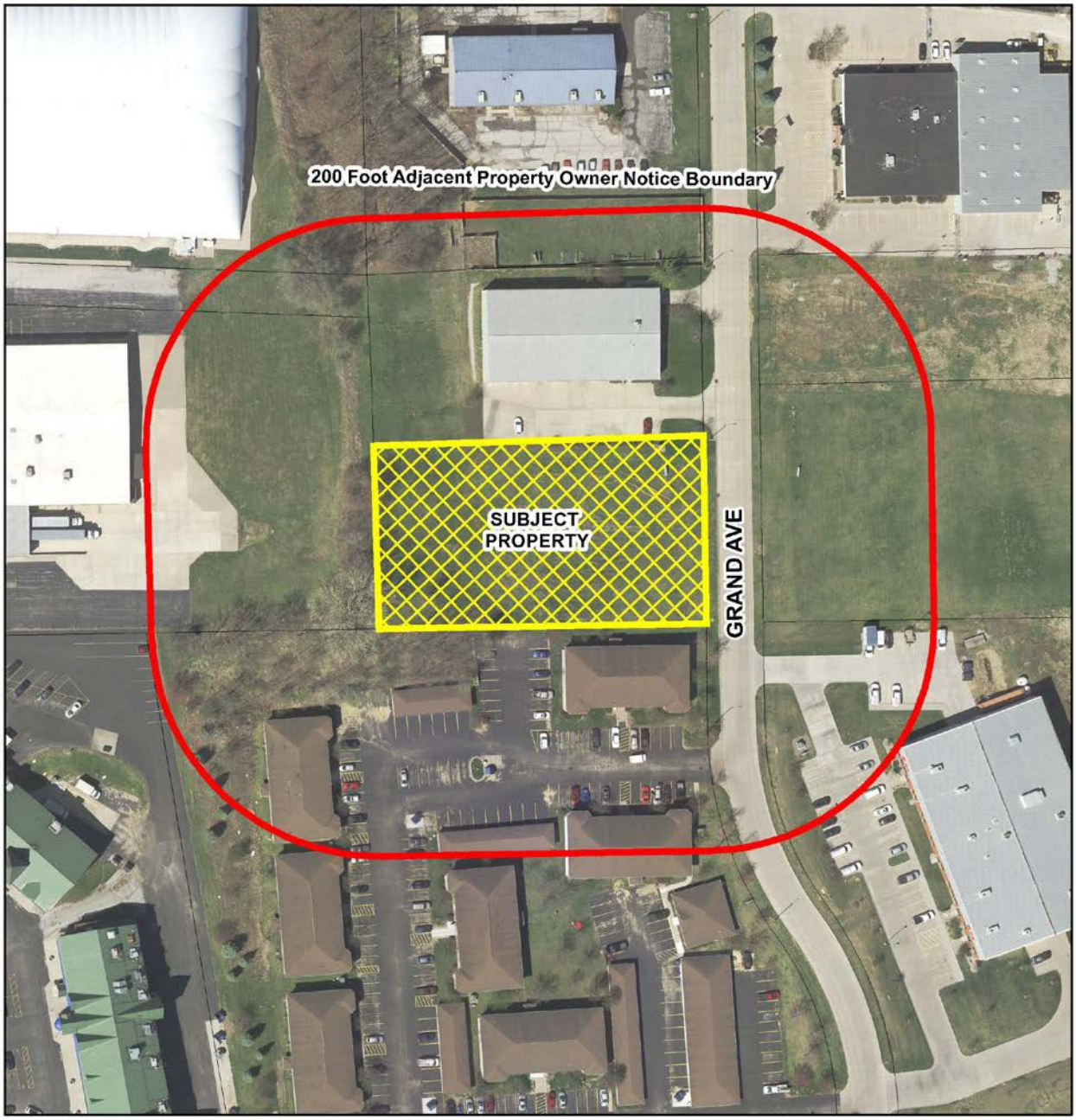
Would You Like to Submit an Official Comment?
As a neighboring property owner you may have an interest in commenting on the proposed request via email or in person at the public hearing. Send written comments to planning@davenportiowa.com (no later than 12:00 PM *one day before* the public hearing) or to: Planning, 1200 E 46th St, Davenport IA 52807.

On-line/Telephone Participation:
Persons may join the meeting virtually: https://www.gotomeet.me/Davenport_Planning/planzoning & at 1-866-899-4679 with access code: 492-653-453. All documents related to the meeting (agenda included) are at "Search Minutes & Agendas": www.cityofdavenportiowa.com/boards Mondays before the meeting/public hearing.

Do You Have Any Questions?
If you have any questions or if accommodations are needed for any reason, please contact the planner assigned to this project (Matt Werderitch) at matt.werderitch@davenportiowa.com or 563-888-2221. Interpretive services are available at no charge. Servicios interpretativos libres estan disponibles. TTY: (563) 326-6145

Please note items may be removed or tabled to a future hearing date at the request of the Applicant or Commission/Board. Those interested verifying case actions and/or tablings, please contact Planning at 563-326-6198 or planning@davenportiowa.com for updates.

Plan and Zoning Commission
Adjacent Property Owner Notice Area



REZ20-08 5000 Grand Avenue

Private parties utilizing City GIS data do so at their own risk. The City of Davenport will not be responsible for any costs or liabilities incurred due to any differences between information provided and actual physical conditions.

0 50 100 200 Feet

N

City of Davenport

Department: City Clerk
Contact Info: Brian Heyer | 563-326-7735

Action / Date
2/10/2021

Subject:
Resolution authorizing the conveyance of the vacated public right-of-way known as an east-west alley lying south of the 1900 block of West 15th Street between Wilkes Avenue and Pacific Street (City of Davenport, petitioner). [Ward 4]

Recommendation:
Adopt the Resolution.

Background:
The City of Davenport vacated this alley right-of-way in August of 1961. During a recent land sale, it was discovered that the alleyway had not been conveyed to the abutting property owners of 1907, 1911, 1921, 1923, 1927, and 1933 West 15th Street, who all own property on both sides of the vacated alley.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution
🗋	Backup Material	Map

REVIEWERS:

Department	Reviewer	Action	Date
City Clerk	Admin, Default	Approved	1/28/2021 - 11:41 AM

Resolution No. _____

Resolution offered by Alderman Gripp.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION authorizing the conveyance of the vacated public right-of-way known as an east-west alley lying south of the 1900 block of West 15th Street between Wilkes Avenue and Pacific Street (City of Davenport, petitioner).

WHEREAS, the City of Davenport currently owns vacated public right-of-way known as a portion of as an east-west alley lying south of the 1900 block of West 15th Street between Wilkes Avenue and Pacific Street, legally described as:

> Part of the Northwest Quarter of Section 27, Township 78 North, Range 3 East of the 5th Principal Meridian, and being more particularly described as follows:
>
> Beginning at the Southeast corner of Lot 8, Block 9 of Fair Ground 2nd Addition to the City of Davenport, Scott County, Iowa; thence westerly in a straight line for a distance of 300 feet, more or less, to the southwesterly corner of Lot 13, Block 9 of said Fair Ground 2nd Addition, thence southwesterly along the east line of Lot 17, Block 9 of said Fair Ground 2nd Addition a distance of 20 feet, more or less, thence easterly in a straight line parallel to the southerly lines of Lots 8, 9, 10, 11, 12, and 13, all in Block 9 of said Fair Ground 2nd Addition, a distance of 300 feet, more or less, to a point on the easterly line of said Lot 8, Block 9 of said Fair Ground 2nd Addition 20 feet, more or less, south of the southeast corner of said Lot 8, Block 9 of said Fair Ground 2nd Addition; thence northerly along said east line of said Lot 8, Block 9 of said Fair Ground 2nd Addition 20 feet, more or less, to the southeast corner of said Lot 8, Block 9, the point of beginning.

WHEREAS, the City of Davenport wishes to convey the same to the abutting property owners subject to easements and restrictions of record and existing utilities;

WHEREAS, a Public Hearing on the matter was held on Wednesday, February 3, 2021, as required by law.

NOW THEREFORE, IT IS HEREBY RESOLVED by the City Council of the City of Davenport, Iowa, that the above-described real estate be conveyed to the respective abutting property owners subject to easements and restrictions of record and existing utilities; and in addition that an easement be recorded granting access to all public utility providers, including the City of Davenport, for the maintenance, operation,

removal, repair, construction, reconstruction, placement and/or replacement of all utilities within the vacated right-of-way; and

BE IT FURTHER RESOLVED that the proposed conveyance shall be executed by the Mayor and Deputy City Clerk on behalf of the City.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
City Clerk

1900 Block of W 15th Street Proposed Alley Conveyance

City of Davenport

Department: Public Safety **Action / Date**
Contact Info: Chad Dyson | 563-326-7817 **2/10/2021**

Subject:
First Consideration: Ordinance amending Chapter 12.72 entitled “Conduct in Parks” to add a new Section 12.72.095 that prohibits the use of tobacco and nicotine products in the parks and park facilities. [All Wards]

Recommendation:
Adopt the Ordinance.

Background:
The Parks and Recreation Department was contacted by Scott County Health Department regarding an Ordinance to make Davenport parks and park properties tobacco/nicotine free. The amended Ordinance will accomplish this by prohibiting the use of tobacco/nicotine products on any City park property or in any City park facility. Staff from the Scott County Health Department presented at the October 6, 2020 Parks Advisory Board meeting. The Parks Advisory Board motioned in support of a tobacco and nicotine free park Ordinance.

ATTACHMENTS:

	Type	Description
🗋	Ordinance	Ordinance

REVIEWERS:

Department	Reviewer	Action	Date
Public Safety	Admin, Default	Approved	1/28/2021 - 3:47 PM

ORDINANCE NO. _____

Ordinance amending Chapter 12.72 entitled "Conduct in Parks" to add a new Section 12.72.095 that prohibits the use of tobacco and nicotine products in the parks and park facilities.

BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF DAVENPORT, IOWA:

Section 1. That new Section 12.72.095 entitled "Tobacco and nicotine free parks and park facilities" is hereby adopted that read as follows:

12.72.095 Tobacco and nicotine free parks and park facilities.

No person, at any time, shall use a tobacco product or nicotine product of any kind while present on any City park property or in any City park facility. "Tobacco product" means any product made or derived from tobacco that is intended for human use, including any component, part, or accessory of a tobacco product including, but is not limited to, cigarettes, electronic smoking devices, cigarette tobacco, roll-your-own tobacco, smokeless tobacco, chewing tobacco and dissolvable tobacco. "Electronic smoking devices" mean any device that can be used to deliver an aerosolized solution that may or may not contain nicotine to the person inhaling from the device, including, but not limited to, an e-cigarette, e-cigar, e-pipe, vape pen, e-hookah, or other simulated smoking device. "Nicotine product" does not include any product approved by the United States Food and Drug Administration for tobacco cessation such as gum or patches.

In addition to the sanctions and remedies provided in 12.72.100, a violation of this section may be charged as a municipal infraction or simple misdemeanor; the scheduled fine shall be $100.

SEVERABILITY CLAUSE. If any of the provisions of this ordinance are for any reason illegal or void, then the lawful provisions of this ordinance, which are separable from said unlawful provisions shall be and remain in full force and effect, the same as if the ordinance contained no illegal or void provisions.

REPEALER. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed as are any motions or resolutions of council that purport to give authority to a council standing committee to make a determination as all such determinations shall henceforth be made by the city council.

EFFECTIVE DATE. This ordinance shall be in full force and effective after its final passage and publication as by law provided.

First Consideration _____

Second Consideration _____

Approved _____

Published in the *Quad City Times* on _____

Attest:

_____
Mike Matson
Mayor

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Public Works - Engineering
Contact Info: Gary Statz | 563-326-7754

Action / Date
2/10/2021

Subject:
First Consideration: Ordinance amending Schedule XI of Chapter 10.96 entitled “Resident Parking Only” by adding Sturdevant Street along the west side from the alley north of 12th Street to 13th Street. [Ward 4]

Recommendation:
Adopt the Ordinance.

Background:
The four homes in this zone have little off-street parking and the parking in front of the homes is often occupied when there are events at Beyond the Baseline across the street. Beyond the Baseline patrons can park in the adjacent parking lots or along the front, west side, or back of the building on the streets that surround the property.

ATTACHMENTS:

	Type	Description
🗋	Ordinance	Ordinance

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:08 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:08 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:09 PM

ORDINANCE NO. _____

AN ORDINANCE AMENDING CHAPTER 10.96 ENTITLED SCHEDULES OF THE MUNICIPAL CODE OF DAVENPORT, IOWA, BY AMENDING SCHEDULE XI "RESIDENT PARKING ONLY" THERETO BY ADDING STURDEVANT STREET ALONG THE WEST SIDE FROM THE ALLEY NORTH OF 12TH STREET TO 13TH STREET.

Section 1. That Schedule XI "Resident Parking Only" of the Municipal Code of Davenport, Iowa, be and the same is hereby amended by adding the following:

Sturdevant Street along the west side from the alley north of 12th Street to 13th Street.

SEVERABILITY CLAUSE. If any of the provisions of this ordinance are for any reason illegal or void, then the lawful provisions of this ordinance, which are separable from said unlawful provisions shall be and remain in full force and effect, the same as if the ordinance contained no illegal or void provisions.

REPEALER. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

EFFECTIVE DATE. This ordinance shall be in full force and effective after its final passage and publication as by law provided.

First Consideration _____

Second Consideration _____

Approved _____

Published in the *Quad City Times* on _____

Attest:

_____
Mike Matson
Mayor

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Public Safety **Action / Date**
Contact Info: Jim Odean | 563-326-7739 **2/10/2021**

Subject:
Motion approving beer and liquor license applications.

A. Annual license renewals (with outdoor area as noted):

Ward 1

Hy-Vee #1 (Hy-Vee, Inc) - 3019 Rockingham Rd - License Type: Class E Liquor - Carry Out

Sub Express & Gas (Keya Food Mart Inc) - 4307 W Locust St - License Type: Class E Liquor - Carry Out

Ward 2

California Pho (Binh Van Nguyen) - 3559 W Kimberly Rd, Ste 4, 5, & 6 - License Type: Beer/Wine - On Premise

Ward 3

Boozies Bar And Grill (BZE Holdings, Inc) - 114 1/2 W 3rd St - License Type: Class C Liquor - On Premise

Kcbrothers (Kc 2 Brothers, Inc) - 214 Myrtle St - License Type: Class E Liquor - Carry Out

Lopiez Pizza (Lopez Curse, Llc) - 429 E 3rd St, Ste 1 - License Type: Class C Liquor - On Premise

Sam's Food (Sam Food Llc) - 648 N Marquette St - License Type: Class E Liquor - Carry Out

Ward 5

Stadium Club (SIS Inc) - 2828 Brady St - License Type: Class C Liquor - On Premise

Ward 8

GD Xpress (Ram II LLC) - 4607 N Pine St - License Type: Class E Liquor - Carry Out

Recommendation:
Pass the Motion.

Background:
The following applications have been reviewed by the Police, Fire, and Zoning Departments.

REVIEWERS:

Department	Reviewer	Action	Date
Public Safety	Merritt, Mallory	Approved	1/27/2021 - 11:44 AM
Public Safety Committee	Merritt, Mallory	Approved	1/27/2021 - 11:44 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:02 PM

City of Davenport

Department: Public Works - Admin
Contact Info: Laura Berkley | 563-888-3553

Action / Date
2/10/2021

Subject:
Second Consideration: Ordinance amending Chapter 15.44 entitled "Flood Damage Prevention" of the Davenport Municipal Code to adopt the new Flood Insurance Study and flood maps, and to align the Ordinance with Iowa Department of Natural Resources and FEMA standards and regulations. [All Wards]

Recommendation:
Adopt of the Ordinance.

Background:
On June 26, 2019, the Federal Emergency Management Agency (FEMA) notified the City of Davenport of proposed modifications to the Flood Insurance Study and Flood Insurance Rate Maps for the City of Davenport. FEMA has determine that the proposed modifications are now considered final and will be effective as of March 23, 2021.

As a condition of continued eligibility of the National Flood Insurance Program, the City must amend the regulations in Chapter 15.44 entitled Flood Damage Prevention to meet the standards of the National Flood Insurance Act of 1968, as amended. The Iowa Department of Natural Resources has reviewed Chapter 15.44 and provided amendments that would ensure Davenport remains in compliance with both FEMA and State of Iowa regulations. The regulations are required to be adopted prior to March 23, 2021.

The amendments include:

- Adopting the new Flood Insurance Study and Flood Insurance Rate Maps
- Addition and amendments to definitions in Section 15.44.070
- Clarification on the standards for flood hazard reduction in all flood zones
- Clarification on flood hazard reduction standards in floodways
- Assigning an Administrator of the ordinance
- Changes the elevation datum used to National American Vertical Datum of 1988
- Reduces the cumulative damage period from 1978 forward to a rolling 10-year period

The regulations are required to be adopted prior to March 23, 2021.

ATTACHMENTS:

	Type	Description
🗋	Ordinance	Ordinance changes

REVIEWERS:

Department	Reviewer	Action	Date
City Clerk	Admin, Default	Approved	1/15/2021 - 3:03 PM

ORDINANCE NO.

AN ORDINANCE AMENDING CHAPTER 15.44 OF THE MUNICIPAL CODE OF DAVENPORT, IOWA, ENTITLED "FLOOD DAMAGE PREVENTION", BY AMENDING VARIOUS SUBSECTIONS THERETO.

BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF DAVENPORT, IOWA:

Section 1. That subsection 15.44.020 of the Municipal Code of Davenport, Iowa, be and the same is hereby amended by adding a new subsection (C) to read as follows:

C. This ordinance relies upon engineering methodology for analyzing flood hazards which is consistent with the standards established by the Iowa Department of Natural Resources.

Section 2. That section 15.44.060 of the Municipal Code of Davenport, Iowa, be and the same is hereby amended to read as follows:

15.44.060 Basis for establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Insurance Administration through a scientific and engineering report entitled "The Flood Insurance Study for Scott County, Iowa No. 19163CV000C~~A~~ DATED March 23, 2021 ~~February 18, 2011~~," with accompanying Flood Insurance Rate Maps and any revision thereto are adopted by reference and declared to be a part of this chapter. The Flood Insurance Rate Map (FIRM) for Scott County and Incorporated Areas: ~~Map No. 19163CIND0A~~; City of Davenport: Panels 19163C00335G, 0340G, 0345G, 0355G, 0360G, 0365G, 0367G, 0370G, 0376G, 0378G, 0433G, 0434G, 0453G, 0454G, 0456G, 0458G, 0460G, and 0476G; ~~0335F, 0340F, 0345F, 0355F, 0360F, 0365F, 0367F, 0370F, 0376F, 0378F, 0456F, 05458F, 0460F and 0476F~~; dated March 23, 2021 ~~February 18, 2011~~, which were prepared as part of the Flood Insurance Study for is (are) hereby adopted by reference and declared to be the Official Floodplain Map. The flood profiles and all explanatory material contained with the Flood Insurance Study are also declared to be a part of this chapter.

Section 3. That section 15.44.070 of the Municipal Code of Davenport, Iowa, be and the same is hereby amended by adding new definitions or amending current definitions to be read as follows:

APPURTENANT STRUCTURE - Shall mean a structure which is on the same parcel of the property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.

EXISTING CONSTRUCTION - Shall mean any structure for which the start of construction commenced before the effective date of the first floodplain management regulations adopted by the community.

EXISTING FACTORY-BUILT HOME PARK OR SUBDIVISION - shall mean a factory-built home park or subdivision for which the construction of facilities for servicing the lots on which the factory-

built homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the first floodplain management regulations adopted by the community.

EXPANSION OF EXISTING FACTORY-BUILT HOME PARK OR SUBDIVISION - Shall mean the preparation of additional sites by the construction of facilities for servicing the lots on which the factory-built homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads.

FACTORY-BUILT HOME PARK - Shall mean a parcel or contiguous parcels of land divided into two or more factory-built home lots for sale or lease.

500-YEAR FLOOD - Shall mean a flood, the magnitude of which has a two-tenths percent chance of being equaled or exceeded in any given year or which, on average, will be equaled or exceeded at least once every 500 years.

FLOODWAY - Shall mean the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood (design storm) so that confinement of flood flows within the floodway area will not cumulatively increase the water surface elevation of the base flood by more than one foot ~~result in increased flood levels and/or flow velocities~~.

HIGHEST ADJACENT GRADE - shall mean the highest natural elevation of the ground surface prior to construction next to the proposed walls of the structure.

LOWEST FLOOR - Shall mean the lowest floor of the lowest enclosed area, including basement. An exception results when all of the following criteria are met:

a. The enclosed area is designed to flood, to equalize hydrostatic pressure during floods with walls or openings that satisfy the provisions of Section 15.44.110C~~B~~ (please refer to FEMA Technical Bulletin No. 1 entitled "Openings in Foundation Walls and Walls of Enclosures"); and

b. The enclosed area is unfinished (not carpeted, drywalled, etc.) and used solely for low damage potential uses such as building access, parking or storage; and

c. Machinery and service facilities contained within the enclosed area are protected from flood water to a height of at least one foot above the base flood elevation; and

d. The enclosed area is not defined as a "basement" in this section; and

e. Provided the enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this chapter.

In cases where the lowest enclosed area satisfies criteria stated in paragraphs a through d above, the lowest floor is the floor on the next highest enclosed area that does not satisfy the criteria above.

MAXIMUM DAMAGE POTENTIAL DEVELOPMENT - Shall mean hospitals and like institutions; buildings or building complexes containing documents, data, or instruments of great public value; buildings or building complexes containing materials dangerous to the public or fuel storage facilities; power installations needed in emergency or other buildings or building complexes similar in nature or use.

MEAN SEA LEVEL - Shall mean, for the purposes of the National Flood Insurance Program (NFIP), the ~~National Geodetic Vertical Datum (NGVD) of 1929~~, National American Vertical Datum of 1988 (NAVD 88) or other datum, to which base flood elevations shown on the community's Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) are referenced.

MINOR PROJECTS - Shall mean small development activities (except for filling, grading, and excavating) valued at less than $500.00.

NAVD 88 - Shall mean National American Vertical Datum of 1988, which supersedes the National Geodetic Vertical Datum of 1929 (NGVD)~~, however, the NGVD is used for the existing FIRM~~.

NEW FACTORY-BUILT HOME PARK OR SUBDIVISION - Shall mean a factory-built home park or subdivision for which the construction of facilities for servicing the lots on which the factory-built homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the first floodplain management regulations adopted by the community.

ROUTINE MAINTENANCE OF EXISTING BUILDINGS AND FACILITIES - Shall mean repairs necessary to keep a structure in a safe and habitable condition that do not trigger a building permit, provided they are not associated with a general improvement to the structure or repair of a damaged structure. Such repairs include:

a. Normal maintenance of structures such as re-roofing, replacing roofing tiles and replacing siding.

b. Exterior and interior painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.

c. Basement sealing.

d. Repairing or replacing damaged or broken window panes.

e. Repairing plumbing systems, electrical systems, heating or air conditioning systems, and repairing wells or septic systems.

SPECIAL FLOOD HAZARD AREA - shall mean the land within a community subject to the base flood. This land is identified on the community's Flood Insurance Rate Map as Zone A, A1-30, AE, AH, AO, AR and/or A99 ~~In the floodplain within a community subject to a one percent or greater chance of flooding in any given year~~.

SUBSTANTIAL DAMAGE - Shall mean damage of any origin sustained by a structure whereby the cumulative percentage of damage during a ten- year period, ~~since the City entered the regular program of the NFIP (3-1-1978),~~ the cost of which equals or exceeds 50% of the market value of the structure before the damage occurred regardless of the actual repair work performed.

WATER SURFACE ELEVATION - Shall mean the height, in relation to the ~~National Geodetic Vertical Datum (NGVD) of 1929~~, National American Vertical Datum of 1988 or other datum, where specified, of floods of various magnitudes and frequencies in the flood plains of riverine or other areas.

Section 4. That section 15.44.080 of the Municipal Code of Davenport, Iowa, be and the same is hereby amended to read as follows"

15.44.080 General standards for flood hazard reduction.

All development must be consistent with the need to minimize flood damage and meet the following applicable performance standards. Where base flood elevations have not been provided in the Flood Insurance Study, the Iowa Department of Natural Resources shall be contacted to determine:

a. Whether the land involved is either wholly or partly within the floodway or floodway fringe; and

b. The Base Flood Elevation.

Until a regulatory floodway is designated, no development may increase the Base Flood Elevation more than one (1) foot. The application will be responsible for providing the Department of Natural Resources with sufficient technical information to make such determination.

Review by the Iowa Department of Natural Resources is not required for the proposed construction of new or replacement bridges or culverts where:

a. The bridge or culvert is located on a stream that drains less than two (2) square miles; and

b. The bridge or culvert is not associated with a channel modification that constitutes a channel change as specified in 567-71.2(2), Iowa Administrative Code.

~~In all areas of special flood hazards the following provisions are required:~~

A. All new construction and substantial improvement including factory-built housing shall be:

1. Designed and adequately anchored to prevent flotation, collapse or lateral movement of the structure;

2. Constructed with materials and utility equipment resistant to flood damage;

3. Constructed by methods and practices that minimize flood damage;

4. Done in a manner that does not cause any net loss of flood plain and any diminishment of flood carrying capacity. This shall be accomplished by matching each cubic yard or fill dirt added to the site with a corresponding yard of fill dirt removed from another area of the property. However, the requirement stated in the preceding sentence shall have no application to the Mississippi River flood plain.

B. All new and replacement water supply systems and/or sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.

C. On-site waste disposal and water supply systems shall be located to avoid impairment to them or contamination from them during flooding.

D. Water supply and/or waste water treatment facilities shall be provided with flood protection equal to or greater than one foot above the 100-year flood elevation.

E. Utilities such as gas or electrical systems shall be located and constructed to minimize or eliminate flood damage to the system and the risk associated with such flood damaged or impaired systems.

F. The storage or processing of materials that are in time of flooding buoyant, flammable, explosive, or could be injurious to human, animal or plant life is prohibited.

G. Storage of other material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation or if readily removable from the area within the time available after flood warning.

H. Structural flood control works such as levees, flood walls, etc., shall provide at a minimum, protection from a 100-year flood with a minimum of three feet of design freeboard and shall provide for adequate interior drainage. Approval of such structural work shall also be obtained from the Iowa Department of Natural Resources.

I. No use and or development shall affect the capacity of conveyance of the channel or floodway of any tributary to the mainstream, drainage ditch or other drainage facility or system. In addition, such alterations must be approved by the Iowa Department of Natural Resources.

J. Detached garages, sheds, fences, flag poles and similar structures are exempted from the requirements of this chapter when all of the following conditions are met:

    1. The structure is not used for habitation;

    2. The structure has been designed to have a low flood damage potential;

    3. The structure is constructed and placed on the building site so as to offer minimum resistance to the flow of floodwaters;

4. The structure is firmly anchored to prevent flotation which may result in damage to other structures and/or downstream; and

5. The structure's service facilities such as electrical and heating are elevated or floodproofed a minimum of one foot above the base flood elevation.

6. The structure shall be designed to how low flood damage potential. Its size shall not exceed 600 sq. ft. in size. Those portions of the structure located less than one (1) foot above the Base Flood Elevation must be constructed of flood-resistant materials.

K. Any permanent exposed slopes or fills and any cut faces of earth excavation which are to be vegetated shall be no steeper than three feet horizontal to one-foot vertical.

L. Any and all development or man-made changes to improved or unimproved real estate shall utilize the principle of no net loss of flood plain with all fill being offset by corresponding grade reductions or cuts. However, the requirement stated in the preceding sentence shall have no application to the Mississippi River flood plain.

M. Require that recreational vehicles placed on sites within Zones A1 - A30, AH and AE on a community's FIRM either: (i) be on the site for fewer than 180 consecutive days; (ii) be fully licensed and ready for highway use; (iii) meet the requirements of Section 15.44.120. A recreational vehicle is ready for highway use if it is on wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

N. Maximum Damage Potential Development - All new or substantially improved maximum damage potential development shall have the lowest floor (including basement) elevated to a minimum of one (1) foot above the elevation of the 500-year flood, or together with attendant utility and sanitary systems, be floodproofed to such a level. When floodproofing is utilized, a professional engineer registered in the State of Iowa shall certify that the floodproofing methods used are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the 0.2% annual chance flood; and that the structure, below the 0.2% annual chance flood elevation is watertight with walls substantially impermeable to the passage of water. A record of the certification indicating the specific elevation (in relation to North American Vertical Datum) to which any structures are floodproofed shall be maintained by the Administrator. Where 0.2% chance flood elevation data has not been provided in the Flood Insurance Study, the Iowa Department of Natural Resources shall be contacted to compute such data. The applicant will be responsible for providing the Iowa Department of Natural Resources with sufficient technical information to make such determinations.

O. Residential Construction – All new or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated a minimum of one foot above the base flood elevation. Construction shall be upon compacted fill which shall, at all points, be no lower than one foot above the base flood elevation at least

18 feet beyond the limits of any structure erected thereon. All fill shall be offset by corresponding grade reductions or cuts in order that there be no net loss of flood plain. However, the requirement stated in the preceding sentence shall have no application to the Mississippi River flood plain. Alternate methods of elevating may be allowed subject to favorable consideration by both the City plan and zoning commission and the Iowa Department of Natural Resources. The alternative method selected shall be adequate to support the structure as well as withstand the various forces and hazards associated with flooding, increased flood heights and/or erosion, and shall meet the requirements of this chapter.

All new residential structures located in areas that would become isolated due to flooding of surrounding ground shall be provided a means of access that will be passible by wheeled vehicles during the Base Flood. However, this criterion shall not apply where the Administrator determines there is sufficient flood warning time. Consideration shall be given to the criteria listed in 567-75.2(3), Iowa Administrative Code.

P. Nonresidential construction -

1. All new construction or substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to a minimum of one foot above the base flood elevation or, together with attendant utility and sanitary facilities, be floodproofed to that level so that the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

    a. A registered professional engineer or architect shall develop and/or review structural design specifications, and plans for the construction, and shall certify that the designs and methods of construction are in accordance with accepted standards of practice for meeting the applicable standards.

    b. Such certification shall be provided to and maintained by the official as set forth in Section 15.44.180.

2. If the structure is elevated through the use of fill, all fill shall be offset by corresponding grade reductions or cuts in order that there be no net loss of flood plain as measured in net cubic yards. However, the requirement stated in the preceding sentence shall have no application to the Mississippi River flood plain.

3. All new construction or substantial improvement that contains fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be certified by a registered professional engineer or architect or meet and/or exceed the following criteria:

    a. A minimum of two openings having a total net opening of not less than one

square inch for every square foot of enclosed area subject to flooding.

b. The bottom of all openings shall be no higher than one foot above grade.

c. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

4. New and substantially improved structures must be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

5. New and substantially improved structures shall be constructed with electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities (including ductwork) elevated or floodproofed to a minimum of one (1) foot above Base Flood Elevation.

Q. Factory-Built Housing -

1. No factory-built housing shall be placed in a floodway ~~except in a factory-built home park or subdivision in existence prior to the adoption of this code~~ and shall meet the requirements of this chapter.

2. All factory-built homes shall be anchored to resist flotation, collapse, or lateral movement by providing over-the-top and frame ties to ground anchors. Specific requirements shall be that:

a. Over-the-top ties be provided at each of the four corners of the factory-built home, with two additional ties per side;

b. All components of the anchoring system be capable of carrying a force of 4,800 pounds; and

c. Any additions to the factory-built home be similarly anchored.

3. All factory built housing to be placed or substantially improved including those placed in a factory-built home park or subdivision in existence prior to the effective date of the chapter shall be elevated on a permanent foundation such that the lowest floor of the factory built home is a minimum one foot above the base elevation. If this grade is achieved through the use of fill, all fill shall be offset by corresponding grade reductions or cuts in order that there be no net loss of flood plain as measured in net cubic yards. However, this requirement stated in the preceding sentence shall have no application to the Mississippi River flood plain.

Section 5. That sections 15.44.090, 15.44.100, 15.44.110 and 15.44.120 of the Municipal Code of Davenport, Iowa, are deleted.

Section 6. That section 15.44.130 of the Municipal Code of Davenport, Iowa, shall be renumbered as 15.44.090 and shall read as follows:

15.44.090. Flood hazard reduction — Floodways.

In addition to the General Floodplain Standards, development within the floodway must meet the following applicable standards. The floodway is the portion of the floodplain which must be protected from development encroachment to allow the free flow of flood waters. Where floodway data has been provided in the Flood Insurance Study, such data shall be used to define the floodway. Where no floodway data has been provided, the Iowa Department of Natural Resources shall be contacted to provide a floodway delineation. The applicant will be responsible for providing the Iowa Department of Natural Resources with sufficient technical information to make such determination.

~~Located within areas of special flood hazard established in Section 15.44.070 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and have erosion potential, the following provisions shall apply:~~

A. Prohibit encroachments, including fill, new construction, substantial improvements and other developments unless certification by a professional registered engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood discharge.

B. All development within the floodway shall:

   1. Be consistent with the need to minimize flood damage.

   2. Use construction methods and practices that will minimize flood damage.

   3. Use construction materials and utility equipment that are resistant to flood damage.

C. No development shall affect the capacity or conveyance of the channel or floodway of any tributary to the main stream, drainage ditch or any other drainage facility system.

D. If subsection A of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Sections 15.44.080 ~~through 15.44.150~~ and shall be constructed or aligned to present the minimum possible resistance to flood flows.

E. ~~Prohibit the placement of any factory-built home except in a factory-built home park or subdivision in existence prior to the effective date of the chapter.~~ Structures, if permitted, shall have a low flood damage potential and shall not be for human habitation.

F. Storage of materials or equipment that are buoyant, flammable, explosive or injurious to human, animal or plant life is prohibited. Storage of other material may be allowed in readily removable from the floodway within the time available after flood warning.

G. Watercourse alterations or relocations (channel changes and modifications) must be designed to maintain the flood carrying capacity within the altered or related portion.

In addition, such alterations or relocations must be approved by the Iowa Department of Natural Resources.

H. Any fill allowed within the floodway must be shown to have some beneficial purpose and shall be limited to the minimum amount necessary. All fill shall be offset by corresponding grade reductions or cuts in order that there be no net loss of flood plain as measured in net cubic yards. However, the requirement stated in the preceding sentence shall have no application to the Mississippi River flood plain.

I. Pipeline river or stream/creek crossings shall be buried in the stream bed and banks or otherwise sufficiently protected to prevent rupture due to channel degradation and meandering or due to the action of flood waters.

J. Any permanent exposed slopes of fills and any cut faces of earth which are to be vegetated shall not be steeper than three feet horizontal to one-foot vertical.

Section 7. That section 15.44.140 of the Municipal Code of Davenport, Iowa, shall be renumbered as 15.44.100.

Section 8. That section 15.44.150 of the Municipal Code of Davenport, Iowa, shall be renumbered as section 15.44.110 to be read as follows:

15.44.110. Standards for subdivision proposals including factory-built home parks and subdivisions in all Special Flood Hazard Areas.

A. All subdivision proposals shall be consistent with the need to minimize flood damage.

B. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.

C. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards.

D. Base flood elevation data shall be provided for all subdivision proposals and other proposed development which is intended for the construction of any structure.

E. Subdivision proposals intended for residential development shall provide all lots with a means of vehicular access that will remain dry during occurrence of the 100-year flood.

Section 9. That section 15.44.160 of the Municipal Code of Davenport, Iowa, shall be renumbered as section 15.44.120 to be read as follows:

15.44.120. Nonconforming uses.

A. A structure or the use of a structure or premises which was lawful before the passage or amendment of the chapter but which is not in conformity with the provisions of this chapter may be continued subject to the following conditions:

1. No such use or substantial improvement of that use shall be expanded, changed, enlarged, or altered in a way which increases its non-conformity.

2. If such use is discontinued for 12 consecutive months, any future use of the building premises shall conform to this chapter. The department of construction and engineering shall notify the Administrator ~~designated official~~ in writing of instances of nonconforming uses where utility services have been discontinued for a period of 12 months.

3. Uses or adjuncts thereof which are or become nuisances shall not be entitled to continue as nonconforming uses.

B. If any nonconforming use or structure is destroyed by any means, including flood, it shall not be reconstructed if the cost is more than 50% of the market value of the structure before the damage occurred except that if it is re-constructed in conformity with the provisions of this chapter. This limitation does not include the cost of any alteration to comply with existing state or local health, sanitary, building, or safety code specifications or regulations which have been identified by the Administrator ~~designated official~~ and which are the minimum necessary to assure safe living conditions, or the cost of any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

Section 10. That section 15.44.170 of the Municipal Code of Davenport, Iowa, shall be renumbered as section 15.44.130.

Section 11. That section 15.44.180 of the Municipal Code of Davenport, Iowa, shall be renumbered as section 15.44.140 to be read as follows:

15.44.140. Permit procedures.

A Floodplain Development Permit issued by the Administrator shall be secured prior to any floodplain development (any man0made change to improved and unimproved real estate, including but not limited to buildings or other structures, mining, filling, grading, paving, storage of materials and equipment, excavation or drilling operations), including the placement of factory-built homes. Application for a development permit shall be made to the Administrator designated official on forms furnished by the Administrator ~~him~~ and may include, but not be limited to the following: plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required but not limited to:

A. Elevation in relation to mean sea level (NAVD88 ~~NGVD~~), of the lowest floor (including basement) of all structures and/or the elevation (NAVD88 ~~NGVD~~) to which any nonresidential structure has been floodproofed;

B. Provide a certificate from a registered professional engineer or architect that the non-residential floodproofed structure shall meet the flood-proofing criteria in Section

15.44.110;

C. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

D. Description of the work to be done and all necessary site and/or construction plans;

E. The legal description of the property and the street address if assigned;

F. Elevation of the 100-year flood in relation to NGVD;

G. For a structure being improved or rebuilt the square footage of the improvement and the original structure and/or the estimated cost of the improvement and market value prior to the improvement or damage; and

H. An indication of the occupancy or use of the structure.

I. The designated official shall within a reasonable time, make determination as to whether the proposed flood plain development meets the applicable standards as set forth in this chapter and shall approve or disapprove the application. Upon disapproval the applicant shall be informed in writing of the specific reasons for the disapproval.

J. Actual construction and/or development at variance with the approved and/or authorized plans shall be deemed a violation of the permit and the regulations of this chapter.

Section 12. That section 15.44.190 of the Municipal Code of Davenport, Iowa, shall be renumbered as section 15.44.150 to be read as follows:

15.44.150. Variance procedures.

A. The City Plan and Zoning Commission as established by the City shall hear and decide appeals and requests for variances from the requirements of this chapter.

B. The City Plan and Zoning Commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Administrator ~~designated official~~ in the enforcement or administration of this chapter.

C. Any person aggrieved by the decision of the City Plan and Zoning Commission or any taxpayer may appeal such decision to the district court of Scott County as provided by law.

D. Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

E. In passing upon such applications, the City Plan and Zoning Commission shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and:

1. The danger that materials may be swept onto other lands or downstream to the injury of others;

2. The danger to life and property due to flooding, increased flood heights or erosion damage;

3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

4. The proposed water supply and sanitation systems and the ability of the systems to prevent contamination, disease and unsanitary conditions;

5. The importance of the services provided by the proposed facility to the community;

6. The necessity to the facility of a flood plain and or waterfront location;

7. The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;

8. The compatibility of the proposed use with existing development and development anticipated in the foreseeable future;

9. The relationship of the proposed use to the comprehensive plan and floodplain management program for the community and that area;

10. The safety of access to the property in times of flood for ordinary and emergency vehicles;

11. The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and

12. The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges;

13. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing subdivisions E1 through E12 have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.

F. Upon consideration of the factors listed above and the purposes of this chapter, the City plan and zoning commission may attach such conditions to the granting of variances as it deems necessary to further the purposes of this chapter. Such conditioning may include but not be limited to:

1. Modification of the water supply and/or waste disposal systems;

2. Limitation of the periods of use and operation;

3. Imposition of operational controls, sureties and/or deed restrictions;

4. Requirements for channel modification, dikes, levees and/or other protective measures provided such are approved by the Iowa Department of Natural Resources and are deemed the only practical alternative to achieve the stated purposes of this chapter.

G. Variances shall not be issued within any designated floodway, if any increase in flood levels during the base flood discharge would result.

H. Conditions for variances.

1. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

2. Variances shall only be issued upon:

a. Showing of good and sufficient cause;

b. Determination that failure to grant the variance would result in exceptional hardship to the applicant; and

c. Determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.

3. Any applicant to whom a variance is granted shall be given a written notice that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation and that such construction increases the risk to life and property.

4. The Administrator ~~designated official~~ shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

5. All variances granted shall have the concurrence or approval of the Department of Natural Resources.

Section 13. That section 15.44.200 of the Municipal Code of Davenport, Iowa, shall be renumbered as section 15.44.160 to be read as follows:

15.44.160. Administration

The Development & Neighborhood Services Director ~~designated official~~ shall administer and implement the provisions of this chapter and will herein be referred to as the Administrator.

Section 14. That section 15.44.210 of the Municipal Code of Davenport, Iowa, shall be renumbered as section 15.44.170 to be read as follows:

15.44.170. Duties and responsibilities of the Administrator ~~designated official~~.

Duties of the Administrator ~~designated official~~ shall include, but not be limited to:

A. Review of all permit applications to determine whether proposed building sites will be reasonably safe from flooding;

B. Review of all permit applications for proposed development to assure that all necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required;

C. Notify adjacent communities and/or counties and the Iowa Department of Natural Resources prior to any alteration or relocation of a watercourse, and shall submit evidence of such notification to the Federal Emergency Management Agency;

D. Assure that maintenance is provided within the altered or relocated portion of the watercourse so that the flood-carrying capacity is not diminished;

E. Verify and record the actual elevation (in relation to mean sea level - NAVD 88 ~~NGVD~~) of the lowest floor including basement of all new or substantially improved structures;

F. Verify and record the actual elevation (in relation to mean sea level - NAVD 88 ~~NGVD~~) to which the new or substantially improved structures have been floodproofed;

G. When floodproofing is utilized for a particular structure, the Administrator ~~designated official~~ shall obtain certification from a registered professional engineer or architect:

H. Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), the Administrator ~~designated official~~ shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Sections 15.44.180 through 15.44.210;

I. When base flood elevation data has not been provided in accordance with Section 15.44.070, then the Administrator ~~designated official~~ shall obtain, review, and reasonably utilize any base flood elevation data available from a federal, state or other source, in order to administer the provisions of Sections 15.44.080 through 15.44.210.

J. All records pertaining to the provisions of this chapter shall be maintained in the office of the Administrator ~~designated official~~ and shall be open for public inspection.

Section 15. That sections 15.44.220, 15.44.230, 15.44.240, 15.44.250, 15.44.260, and 15.44.270 shall be renumbered as sections 15.44.180, 15.44.190, 15.44.200, 15.44.210, 15.44.220, and 15.44.230 respectively.

SEVERABILITY CLAUSE. If any of the provisions of this ordinance are for any reason illegal or void, then the lawful provisions of this ordinance, which are separable from said unlawful provisions shall be and remain in full force and effect, the same as if the ordinance contained no illegal or void provisions.

REPEALER. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

EFFECTIVE DATE. This ordinance shall be in full force and effective after its final passage and publication as by law provided.

First Consideration _____

Second Consideration _____

Approved _____

_____
Mike Matson
Mayor

Attest: _____
Brian Krup
Deputy City Clerk

Published in the *Quad City Times* on _____

City of Davenport

Department: Public Works - Engineering
Contact Info: Noah Jones | 563-327-5168

Action / Date
2/10/2021

Subject:
Resolution approving the plans, specifications, form of contract, and estimate of cost for the Harrison Street Reconstruction (Northbrook Drive to 5003 Harrison Street) project, CIP #35047. [Ward 7]

Recommendation:
Adopt the Resolution.

Background:
This project shall be a full width reconstruction, including pavement removal, subdrain installation, new subbase, PCC paving with integral curbing, PCC sidewalk and driveway approaches, ADA ramps, topsoil, and seeding for Harrison Street between Northbrook Drive and 5003 Harrison Street.

Estimate of cost is $186,000.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:26 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:26 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:28 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION approving the plans, specifications, forms of contract, and estimate of cost for the Harrison Street Reconstruction (Northbrook Drive to 5003 Harrison Street) project, CIP #35047.

WHEREAS, plans, specifications, form of contract, and estimate of cost were filed with the City Clerk of Davenport, Iowa for the Harrison Street Reconstruction (Northbrook Drive to 5003 Harrison Street) project; and

WHEREAS, notice of Hearing on the plans, specifications, and form of contract was published as required by law.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that, said plans, specifications, form of contract, and estimate of cost are hereby approved as the plans, specifications, form of contract, and estimate of cost for the Harrison Street Reconstruction (Northbrook Drive to 5003 Harrison Street) project.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Public Works - Engineering
Contact Info: Noah Jones | 563-327-5168

Action / Date
2/10/2021

Subject:
Resolution approving the plans, specifications, form of contract, and estimate of cost for the West 43rd Street Reconstruction (Michigan Avenue to Elsie Avenue) project, CIP #35047. [Ward 2]

Recommendation:
Adopt the Resolution.

Background:
This project shall be a full width reconstruction, including pavement removal, subdrain installation, new subbase, PCC paving with integral curbing, PCC sidewalk and driveway approaches, ADA ramps, topsoil, and seeding for West 43rd Street from North Michigan Avenue to North Elsie Avenue and North Elsie Avenue from West 43rd Street to West 42nd Street.

Estimate of cost is $418,000.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:29 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:29 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:32 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION approving the plans, specifications, form of contract, and estimate of cost for the West 43rd Street Reconstruction (Michigan Avenue to Elsie Avenue) project, CIP #35047.

WHEREAS, plans, specifications, form of contract, and estimate of cost were filed with the City Clerk of Davenport, Iowa, for the West 43rd Street Reconstruction (Michigan Avenue to Elsie Avenue) project.

WHEREAS, notice of Hearing on the plans, specifications, and form of contract was published as required by law.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that, said plans, specifications, form of contract, and estimate of cost are hereby approved as the plans, specifications, form of contract, and estimate of cost for the West 43rd Street Reconstruction (Michigan Avenue to Elsie Avenue) project.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Public Works - Engineering
Contact Info: Nichole Kriz | 563-326-7784

Action / Date
2/10/2021

Subject:
Resolution approving the plans, specifications, form of contract, and estimate of cost for the Sheffield Drive Reconstruction project, CIP #35047. [Ward 2]

Recommendation:
Adopt the Resolution.

Background:
This project will remove the existing concrete pavement on Sheffield Drive from 115' north of North Thornwood Avenue to Hillandale Road and replace it with new sub-drains, drainable base, and asphalt pavement. Driveway approaches and sidewalks will also be removed and replaced as necessary.

Funding is available through CIP #35047. The estimated project cost is $420,000.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:27 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:27 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:33 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION approving the plans, specifications, form of contract, and estimate of cost for the Sheffield Drive Reconstruction project, CIP #35047.

WHEREAS, plans, specifications, form of contract, and estimate of cost were filed with the City Clerk of Davenport, Iowa for the Sheffield Drive Reconstruction Project, CIP #35047.

WHEREAS, Notice of Hearing on the plans, specifications, and form of contract was published as required by law.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that said plans, specifications, form of contract, and estimate of cost are hereby approved as the plans, specifications, form of contract, and estimate of cost for the Sheffield Drive Reconstruction project, CIP #35047.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Public Works - Engineering
Contact Info: Nichole Kriz | 563-326-7784

Action / Date
2/10/2021

Subject:
Resolution approving the plans, specifications, form of contract, and estimate of cost for the Heatherton Drive Reconstruction project, CIP #35047. [Ward 2]

Recommendation:
Adopt the Resolution.

Background:
This project will remove the existing concrete pavement on Heatherton Drive from Fairmount Street to North Michigan Avenue and replace it with new sub-drains, drainable base, and asphalt pavement. Driveway approaches and sidewalks will also be removed and replaced as necessary.

Funding is available through CIP #35047. The estimated project cost is $420,000.

ATTACHMENTS:

	Type	Description
	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:26 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:26 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:34 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION approving the plans, specifications, form of contract, and estimate of cost for the Heatherton Drive Reconstruction project, CIP #35047.

WHEREAS, plans, specifications, form of contract and estimate of cost were filed with the City Clerk of Davenport, Iowa for the Heatherton Drive Reconstruction project, CIP #35047.

WHEREAS, notice of Hearing on the plans, specifications, and form of contract was published as required by law.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that said plans, specifications, form of contract, and estimate of cost are hereby approved as the plans, specifications, form of contract, and estimate of cost for the Heatherton Drive Reconstruction project, CIP #35047.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Public Works - Engineering
Contact Info: Noah Jones | 563-327-5168

Action / Date
2/10/2021

Subject:
Resolution approving the plans, specifications, form of contract, and estimate of cost for the E 38th St Reconstruction (Spring Street to Belle Avenue) project, CIP #35047. [Ward 6]

Recommendation:
Adopt the Resolution.

Background:
This project shall be a full width reconstruction, including pavement removal, subdrain installation, new subbase, PCC paving with integral curbing, PCC sidewalk and driveway approaches, ADA ramps, topsoil, and seeding for East 38th Street from east of Spring Street to west of Belle Avenue (south).

The estimate of cost is $347,000.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:24 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:24 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:37 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION approving the plans, specifications, form of contract, and estimate of cost for the East 38th Street Reconstruction (Spring Street to Belle Avenue) project, CIP #35047.

WHEREAS, plans, specifications, form of contract, and estimate of cost were filed with the City Clerk of Davenport, Iowa, for the East 38th Street Reconstruction (Spring to Belle) project.

WHEREAS, notice of Hearing on the plans, specifications, forms of contract was published as required by law.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that said plans, specifications, form of contract, and estimate of cost are hereby approved as the plans, specifications, form of contract, and estimate of cost for the East 38th Street Reconstruction (Spring Street to Belle Avenue) project.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Public Works - Engineering **Action / Date**
Contact Info: Nick Schmuecker | 563-327-5162 **2/10/2021**

Subject:
Resolution approving the plans, specifications, form of contract, and estimate of cost for the West 53rd Street Patching project, CIP #35046. [Wards 7 & 8]

Recommendation:
Adopt the Resolution.

Background:
The stretch of West 53rd Street between Northwest Boulevard and Candlelight Creek was selected for full depth patching by the City's pavement management program due to good panel structure but deteriorating joints along with a relatively high traffic count. This project will rehabilitate the joints and add pavement life before the pavement deteriorates to the point of needing full reconstruction.

The program is scheduled to be bid yet this winter with construction not to start until the end of this school year. Funding for the West 53rd Street Patching project is established within CIP #35046. The current estimate is $1,060,000.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:29 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:30 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:38 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of City of Davenport.

RESOLUTION approving the plans, specifications, form of contract, and estimate of cost for the West 53rd Street Patching project, CIP #35046.

WHEREAS, on the 25th day of January, 2021, plans, specifications, form of contract, and estimate of cost were filed with the City Clerk of Davenport, Iowa, for the West 53rd Street Patching project.

WHEREAS, notice of Hearing on plans, specifications, and form of contract was published as required by law.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that said plans, specifications, form of contract, and estimate of cost are hereby approved as the plans, specifications, form of contract, and estimate of cost for said West 53rd Street Patching project.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Public Works - Engineering
Contact Info: Sandy Doran | 563-326-7756

Action / Date
2/10/2021

Subject:
Resolution approving the plans, specifications, form of contract, and estimate of cost for the Water Pollution Control Plant Gray Water Conversion project, CIP #39005. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
The proposed project includes the installation of pump skid including concrete pad, water work, plumbing, electrical, and control integration; installing water lines within and between WPCP buildings as well as completing water line disconnects and tie-overs; and installing new horizontally drilled 2-inch water line between the Raw Pump Building and Control Building.

This project is in conjunction with the UV Disinfection Project and has been identified in the Iowa Department of Natural Resources Consent Order. Estimated construction cost is $260,640.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution
🗋	Backup Material	WPCP Gray Water Conversion Project Plan Set
🗋	Backup Material	WPCP Gray Water Conversion Project Specifications

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Moses, Trish	Approved	1/27/2021 - 11:30 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:30 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:39 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION approving the plans, specifications, form of contract, and estimate of cost for the Water Pollution Control Plant Gray Water Conversion project, CIP #39005.

WHEREAS, on the 26th day of January, 2021, plans, specifications, form of contract, and estimate of cost were filed with the City Clerk of Davenport, Iowa for the Water Pollution Control Plant Gray Water Conversion project within the City of Davenport, Iowa; and

WHEREAS, notice of Hearing on plans, specifications and form of contract was published as required by law:

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport, Iowa that said plans, specifications, form of contract, and estimate of cost are hereby approved as the plans, specifications, form of contract, and estimate of cost for said Water Pollution Control Plant Gray Water Conversion project.

Passed and approved this 10th day of February, 2021.

Approved:

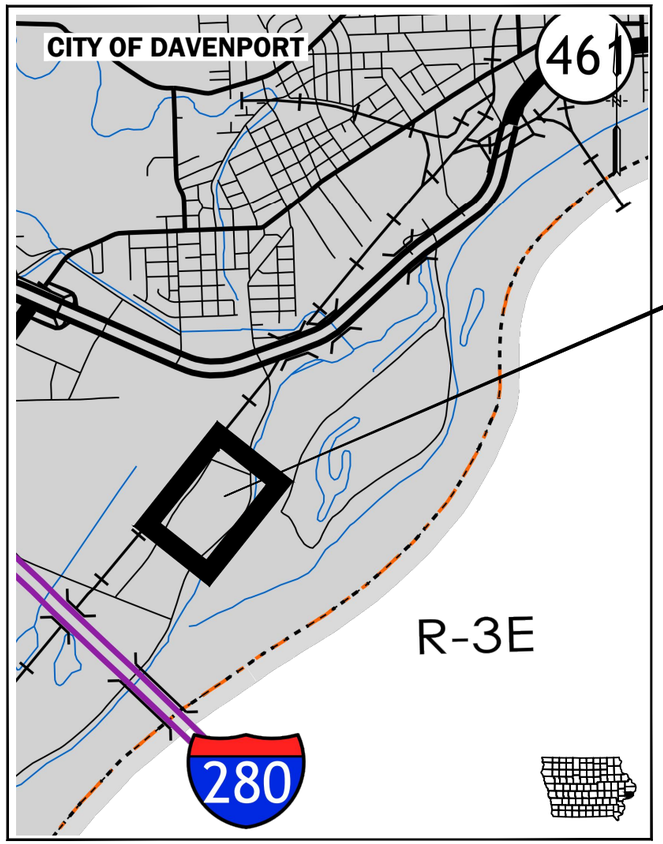
_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

PLOTTED: Wednesday, January 20, 2021 4:38:21 PM

PLANS FOR
WPCP GRAY WATER CONVERSION
DAVENPORT, IOWA



VICINITY MAP
NOT TO SCALE

DRAWING INDEX

NO.	DRAWING TITLE
G.01	TITLE SHEET & INDEX
G.02	DETAILS
G.03	DETAILS
G.04	DETAILS
C.01	OVERALL SITE PLAN
C.02	GENERAL PIPE ROUTING
C.03	GRAY WATER PIPE PLAN & PROFILE
C.04	RAW SEWAGE PUMP STATION
C.05	CONTROL BUILDING SERVICE
C.06	GRAY WATER PUMP
C.07	THICKENER CONTROL STRUCTURE
C.08	WEST TUNNEL
C.09	GRIT FACILITY
C.10	TRAVELING BAR SCREEN
C.11	DIGESTER BUILDING
X.01	SLUDGE BUILDING
E.01	CONTROL BUILDING ELECTRICAL PLAN
E.02	ELECTRICAL PHOTOS

IOWA ONE CALL
1-800-292-8989 | 811
www.iowaonecall.com

GENERAL NOTES

1. ALL ELEVATIONS ARE TO NAVD88 DATUM.
2. REMOVE AND REPLACE ALL STREET SIGNS AS DIRECTED BY ENGINEER. COST IS INCIDENTAL TO CONSTRUCTION.
3. SHAPE ALL DITCHES TO DRAIN AFTER CONSTRUCTION.
4. CONFIRM LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES AS REQUIRED TO ELIMINATE CONFLICTS PRIOR TO CONSTRUCTION. ALLOW UTILITY PERSONNEL TO RELOCATE UTILITIES WHERE CONFLICTS OCCUR.
5. DO NOT INTERRUPT EXISTING UTILITIES OR INDIVIDUAL SERVICES UNLESS DIRECTED BY ENGINEER.
6. LOCATIONS OF CONSTRUCTION LIMIT LINES SHOWN ON PLANS ARE APPROXIMATE. ENGINEER WILL LOCATE CONSTRUCTION LIMITS IN FIELD. CONFINE ALL CONSTRUCTION OPERATIONS, INCLUDING ACCESS TO WORK, TO CONSTRUCTION LIMITS.
7. SET MANHOLE COVERS FLUSH WITH PROPOSED GRADES UNLESS OTHERWISE NOTED.
8. STATIONING IS ALONG CENTER LINE OF PIPE, UNLESS OTHERWISE NOTED.
9. PROTECT UTILITY POLES, LINES AND APPURTENANCES NOT SHOWN FOR RELOCATION.
10. RESET ALL PROPERTY PINS DISTURBED BY CONSTRUCTION; PINS RESET BY REGISTERED LAND SURVEYOR; COST IS INCIDENTAL TO CONSTRUCTION.
11. PROTECT ALL SURFACING, NOT INDICATED BY SHADING FOR REMOVAL AND REPLACEMENT FROM DAMAGE DURING CONSTRUCTION.
12. ALL SAFETY AND NOTIFICATION REQUIREMENTS OF THE DAVENPORT WPCP SHALL BE FOLLOWED WHILE ON SITE.
13. CONTRACTOR SHALL VERIFY ALL EXISTING PIPE SIZES, LOCATIONS, AND ALIGNMENTS IN THE FIELD PRIOR TO BEGINNING CONSTRUCTION WORK.
14. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL PROPOSED TIE-OVER CONNECTIONS, ABANDONMENTS, AND PIPE HANGER/ANCHOR LOCATIONS FOR NEW PIPE.
15. SEE DETAILS 490 THROUGH 498 FOR PIPE HANGER SYSTEMS; PIPING SHALL BE SUPPORTED THROUGHOUT.
16. ALL WORK SHALL COMPLY WITH CURRENT CITY OF DAVENPORT BUILDING AND PLUMBING CODES, SUDAS SPECIFICATIONS AS AMENEDED BY THE CITY OF DAVENPORT, AND SPECIFICATIONS ACCOMPANYING THIS PLAN SET
17. CONTRACTOR SHALL FIELD VERIFY LOCATION AND POSITION OF IN-LINE FILTER AND GRAY WATER PUMP SKID, AND VERIFY HEIGHTS AND DISTANCE REQUIREMENTS ARE MET FOR THE PROPER OPERATION AND MAINTENANCE OF ALL COMPONENTS AND ALL REQUIRED SET-BACK DISTANCES ARE MET.
18. EXISTING PIPE INSULATION SHALL BE REVIEWED BY CONTRACTOR FOR POTENTIAL ASBESTOS AND HANDLED ACCORDINGLY.

PROTECTION OF VEGETATION

TREES AND OTHER VEGETATION WHICH MAY BE REMOVED ARE MARKED WITH AN "X" OVER THE APPROPRIATE SYMBOL. FOR EXAMPLE ⊠ 12" INDICATES THE REMOVAL OF A 12" TREE. REPLACEMENT, BY CONTRACTOR, OF THESE ITEMS IS NOT REQUIRED. TUNNEL, INSTALL TIGHT SHEETING, HAND EXCAVATE OR EMPLOY OTHER MEANS APPROVED BY ENGINEER TO PROTECT EXPOSED PORTIONS AND ROOT SYSTEMS OF TREES AND OTHER VEGETATION NOT SCHEDULED FOR REMOVAL. IF TREES AND OTHER VEGETATION NOT SCHEDULED FOR REMOVAL ARE DAMAGED DURING CONSTRUCTION, REPLACE IN KIND AND SIZE AT NO COST TO CITY OR PROPERTY OWNER.

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE: _____
NAME: JACOB D. LUCAS
DATE: 6/29/2020
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2021
PAGES COVERED BY THIS SEAL: ALL E SHEETS

LICENSED PROFESSIONAL ENGINEER — JACOB D. LUCAS NO.23240 — IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE: _____
NAME: CHRIS A. PARIZEK
DATE: 6/29/2020
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2021
PAGES COVERED BY THIS SEAL: ALL G AND C SHEETS AND ALL X SHEETS

LICENSED PROFESSIONAL ENGINEER — CHRIS A. PARIZEK NO.24728 — IOWA

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

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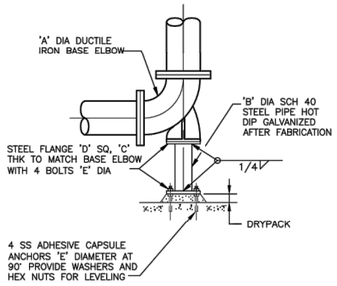
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

TITLE SHEET & INDEX

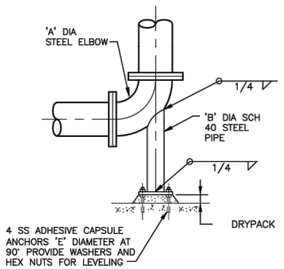
DWG. NO. G.01
PROJECT 222107

X-REFS:
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 TITLE SHEET AND INDEX

PLOTTED: Wednesday, January 20, 2021 4:38:27 PM
X-REFS:
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 TITLE SHEET AND INDEX



DUCTILE IRON BEND

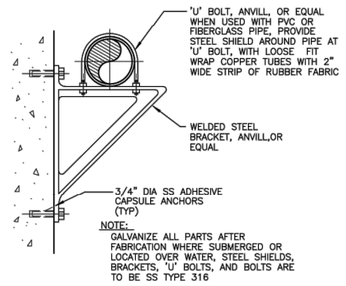


STEEL BEND

BEND 'A' DIA	DIMENSIONS IN INCHES 'B' DIA	'C' THICK	'D' SQ	'E' DIA
4	2	3/8	6	5/8
6	2 1/2	3/8	7	5/8
8	4	1/2	9	5/8
10	4	1/2	9	5/8
12	6	1/2	11	3/4
14	6	1/2	11	3/4
16	6	1/2	11	3/4
18	8	1/2	13 1/2	3/4
20	8	1/2	13 1/2	3/4
24	8	1/2	13 1/2	3/4
30	10	3/4	16	7/8
36	12	3/4	19	7/8
42	16	3/4	23 1/2	1
48	18	3/4	25	1 1/8

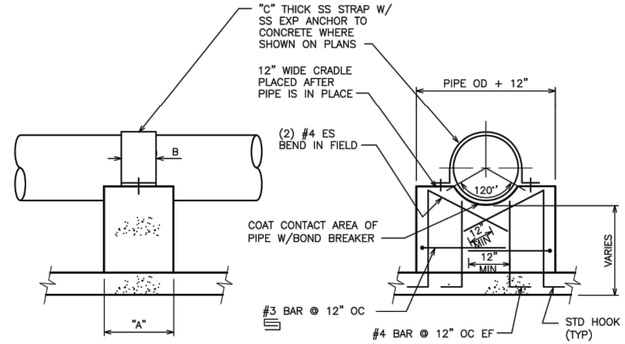
NOTE:
1. MATERIAL FINISH TO MATCH PIPE.
2. FOR CONSTRUCTION BEND SUPPORT SEE DETAIL (310)

BEND SUPPORT DETAIL (493)
NO SCALE



NOTE:
GALVANIZE ALL PARTS AFTER FABRICATION WHERE SUBMERGED OR LOCATED OVER WATER, STEEL SHIELDS, BRACKETS, 'U' BOLTS, AND BOLTS ARE TO BE SS TYPE 316

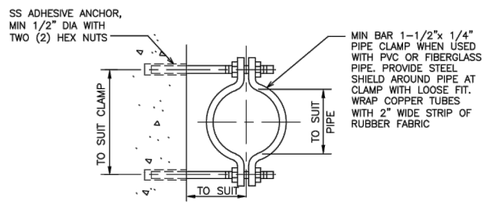
PIPE BRACKET DETAIL (494)
NO SCALE



NOTE:
WHEN ATTACHING TO EXISTING CONCRETE PROVIDE EQUIVALENT SIZE THREADED ANCHORS.

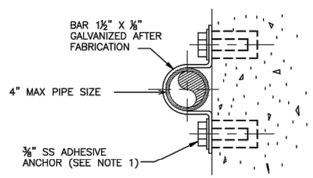
CONCRETE PIPE SUPPORT (495)
NO SCALE

NOMINAL PIPE SIZE	DIMENSIONS IN INCHES "A"	"B"	"C"
6"	12"	4"	1/4"
8"	12"		
10"	12"		
12"	12"		
14"	12"		
16"	12"		
18"	12"		
20"	12"	5"	3/8"
22"	12"		
24"	12"		
26"	12"		
30"	12"		
34"	15"		
36"	15"	6"	
42"	18"		
48"	18"		
54"	18"		
60"	18"		



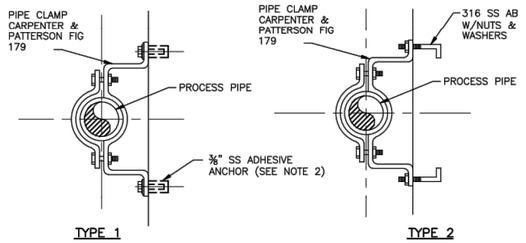
NOTE:
GALVANIZE ALL PARTS AFTER FABRICATION. WHERE SUBMERGED OR LOCATED ON OR ABOVE TOP OF WALL OF HYDRAULIC STRUCTURE, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL.

PIPE CLAMP DETAIL (496)
NO SCALE



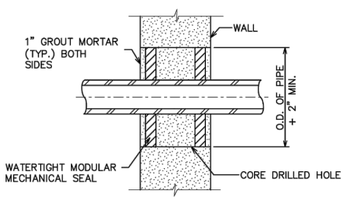
NOTES:
1. WHERE SUBMERGED OR LOCATED ON OR ABOVE TOP OF WALL OF HYDRAULIC STRUCTURE, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL.
2. WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE STEEL SHIELD AROUND PIPE AT CLAMP WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" WIDE STRIP OF RUBBER FABRIC.

PIPE CLAMP DETAIL FOR INDIVIDUAL PIPES (497)
NO SCALE



NOTES:
1. DO NOT USE FOR PIPE LARGER THAN 8" IN DIAMETER.
2. ALL INSTALLATIONS IN SUBMERGED OR LOCATED ON OR ABOVE TOP OF WALL OF HYDRAULIC STRUCTURE SHALL BE FABRICATED OF TYPE 316 SS, ALL OTHERS SHALL BE GALVANIZED FOLLOWING FABRICATION.

PIPE CLAMP DETAIL FOR INDIVIDUAL PIPES (498)
NO SCALE



EXISTING CONCRETE WALL PENETRATION (419)
NO SCALE

DATE	REVISIONS		
		SCALE	AS NOTED
		DRAWN	CAP
		CHECKED	LFF
		APPROVED	CAP
		DATE	10/30/2019
		ISSUED FOR	BID

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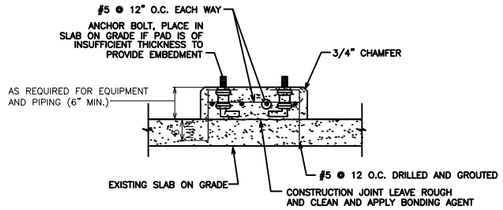
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

DETAILS

DWG. NO. G.02
PROJECT 222107

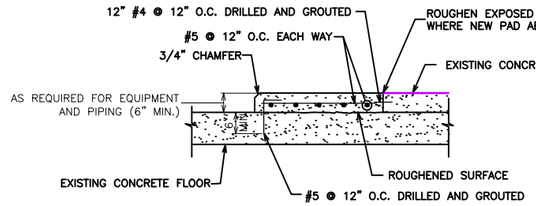
PLOTTED: Wednesday, January 20, 2021 4:38:30 PM



NOTES:

1. ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE AT INTERFACE WITH NEW CONCRETE.
2. INSTALL L BARS AROUND PERIMETER OF PAD 6" FROM EDGE OF PAD. DRILL AND EPOXY GROUT 6" INTO FLOOR.
3. APPLY BONDING AGENT TO FLOOR AND CUT SURFACE OF EXISTING PAD PRIOR TO PLACING CONCRETE PAD.
4. INSTALL ANCHOR BOLTS AS REQUIRED BY PUMP MANUFACTURER.

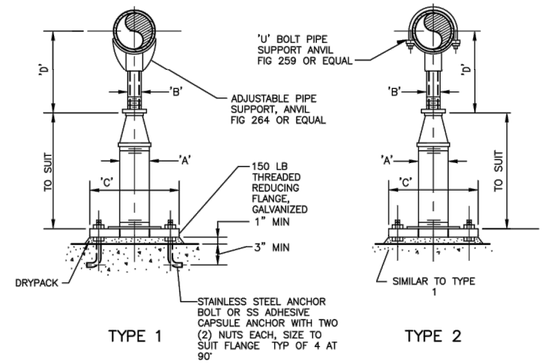
ANCHOR BOLT DETAIL 309A
NO SCALE



NOTES:

1. ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE AT INTERFACE WITH NEW CONCRETE.
2. INSTALL L BARS AROUND PERIMETER OF PAD 6" FROM EDGE OF PAD. DRILL AND EPOXY GROUT 6" INTO FLOOR.
3. APPLY BONDING AGENT TO FLOOR AND CUT SURFACE OF EXISTING PAD PRIOR TO PLACING CONCRETE PAD.
4. ENSURE REINFORCING BAR PLACEMENT ANTICIPATES ANCHOR BOLT LOCATIONS FOR PUMP SKID.

EQUIPMENT PAD DETAIL 309B
NO SCALE



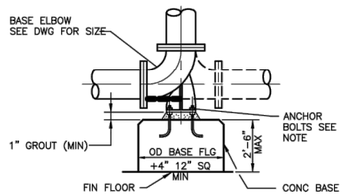
NOTE:

1. UNDER VALVES, METERS OR OTHER SPECIAL APPURTENANCES A FABRICATED SUPPORT PIECE MAY BE UTILIZED AS ACCEPTABLE TO ENGINEER

PIPE SUPPORT DETAIL 490
NO SCALE

ADJUSTABLE PIPE SUPPORT
APPROX DIMENSIONS IN INCHES

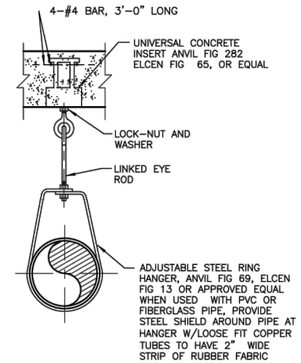
PIPE SIZE	A	B	C	D MIN	D MAX
2 1/2	2 1/2	1 1/2	9	8	11 1/2
3	2 1/2	1 1/2	9	8 1/4	11 3/4
3 1/2	2 1/2	1 1/2	9	8 1/2	12
4	3	2 1/2	9	10 1/4	14
6	3	2 1/2	9	11 5/8	15 1/4
8	3	2 1/2	9	13 5/8	16 1/2
10	3	2 1/2	9	14 5/8	18 1/4
12	3	2 1/2	9	15 5/8	19 3/4
14	4	3	11	18 5/8	20 3/4
16	4	3	11	19 7/8	22 1/4
18	6	3 1/2	13 1/2	21 1/4	24
20	6	3 1/2	13 1/2	23 1/4	25 1/2
24	6	4	13 1/2	26 1/2	28 1/4
30	6	4	13 1/2	29 5/8	31 1/2
32	6	4	13 1/2	30 5/8	32 3/4
36	6	4	13 1/2	32 5/8	34 3/4



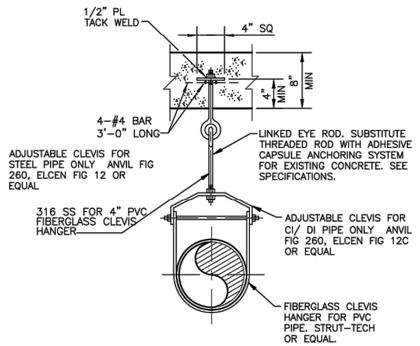
NOTE:

(4) STAINLESS STEEL 'E' DIA ANCHOR BOLTS WITH (2) S.S. HEX NUTS AND WASHERS FOR LEVELING AFTER INSTALLATION. SEE DETAIL 493 FOR 'E' DIAMETER

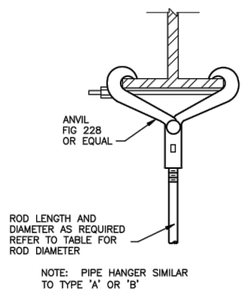
FLOOR SUPPORT DETAIL 491
NO SCALE



TYPE 'A' FOR HANGER RODS 3/4" DIA AND SMALLER



TYPE 'B' FOR HANGER RODS 7/8" DIA AND LARGER, AND MIN 8" THICK CONCRETE



TYPE 'C' BEAM CLAMP

PIPE HANGER DETAIL 492
NO SCALE

PIPE HANGER RODS & SUPPORT SPACING

PIPE DIA (INCHES)	ROD DIA (INCHES)	MAX SUPPORT SPACING (FEET) STL PIPE	MAX SUPPORT SPACING (FEET) CI/DI PIPE	WEIGHT LIMIT (LBS) TYPE 'A'	WEIGHT LIMIT (LBS) TYPE 'B'
1 & SMALLER	3/8	5	MIN 1 HANGER PER PIPE LENGTH AND FITTING MAX SPACING 5 FEET– LOCATE HANGER CLOSE TO EACH CONNECTION	610	———
1 ± TO 2	3/8	5		610	———
2 ± TO 3 ±	1/2	10		1130	———
4 TO 5	5/8	10*		1430	———
6	3/4	10		1430	3800
8,10,12	7/8	10		———	3800
14,16	1	10		———	3800

* 7.5' MAX. SPACING FOR 4" SCH. 80 PVC

NOTE:

GALVANIZE ALL PARTS AFTER FABRICATION UNLESS OTHERWISE NOTED.

DATE	REVISIONS		
		SCALE	AS NOTED
		DRAWN	CAP
		CHECKED	LFF
		APPROVED	CAP
		DATE	10/30/2019
		ISSUED FOR	BID

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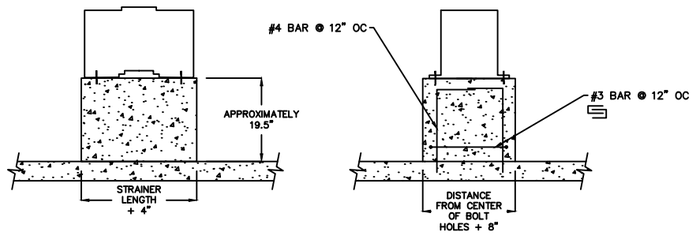
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

DETAILS

DWG. NO. G.03

PROJECT 222107

X-REFS:
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 TITLE SHEET AND INDEX



NOTES:

1. VERIFY FINAL DIMENSIONS OF DUPLEX STRAINER BEFORE CONSTRUCTING PEDESTAL. VERIFY VERTICAL PLACEMENT OF STRAINER.
2. INSTALL L BARS AROUND PERIMETER OF PAD 6" FROM EDGE OF PAD. DRILL AND EPOXY GROUT 6" INTO FLOOR.
3. APPLY BONDING AGENT TO FLOOR PRIOR TO PLACING CONCRETE PEDESTAL.
4. INSTALL ANCHOR BOLTS AS REQUIRED BY STRAINER MANUFACTURER.

DUPLEX STRAINER PEDESTAL DETAIL 310
NO SCALE

PLOTTED: Wednesday, January 20, 2021 4:38:33 PM
X-REFS:
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 TITLE SHEET AND INDEX

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

VEENSTRA & KIMM, INC.
1800 5th Ave • Rock Island, Illinois 61201
309-786-7590 • 309-797-0996(FAX) • 877-241-8010(WATS)

WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

DETAILS

DWG. NO.
G.04
PROJECT 222107

PLOTTED: Wednesday, January 20, 2021 4:38:52 PM
X-REFS: 222107 AERIAL & 222107 TOPO
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 SITE PLAN

SCALE: 1" = 50'
0' 50' 100'

EXISTING YARD HYDRANT (TYP.)
STRUCTURE 60 RAS BUILDING
STRUCTURE 50 AERATION TANKS
STRUCTURE 40 SLUDGE BUILDING SEE DETAILS ON SHEET X.01
STRUCTURE 30 GRIT FACILITY SEE DETAILS ON SHEET C.09
SERVICE TUNNEL FROM CONTROL BUILDING TO GRIT FACILITY
STRUCTURE 20 TRAVELING BAR SCREEN SEE DETAILS ON SHEET C.10
CHLORINE BUILDING
PROPOSED GRAY WATER LINE TO DIGESTER BUILDING AND RAS BUILDING
PROPOSED WATER LINE CONVERSION IN WEST TUNNEL SEE DETAILS ON SHEET C.08
EXISTING INFLUENT GRAY WATER LINE TO PUMP
FUTURE UV DISINFECTANT BUILDING
DIGESTER BUILDING SEE DETAILS ON SHEET C.11
THICKENER CONTROL STRUCTURE SEE DETAILS ON SHEET C.07
STRUCTURE 90 CONTROL BUILDING
PROPOSED GRAY WATER LINE CONNECTION SEE DETAILS ON SHEET C.05
MAINTENANCE BUILDING
PROPOSED GRAY WATER PUMPS, FILTERS/STRAINER, PRESSURE VALVE, CONTROL SYSTEM TIE IN AND ALARMS SEE DETAILS ON SHEET C.06
PROPOSED 2" GRAY WATER LINE SEE DETAILS ON SHEET C.05
STAGING AREA
EXISTING GRAY WATER LINE TO BELT FILTER PRESS
PROPOSED DIRECTIONALLY BORED GRAY WATER LINE INTO CONTROL BUILDING SEE SHEET C.03
STRUCTURE 10 RAW SEWAGE PUMP STATION SEE DETAILS ON SHEET C.04
EXISTING POTABLE WATER LINE
EXISTING 6" POTABLE WATER SERVICE FEED FROM WATER DISTRIBUTION SYSTEM

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE
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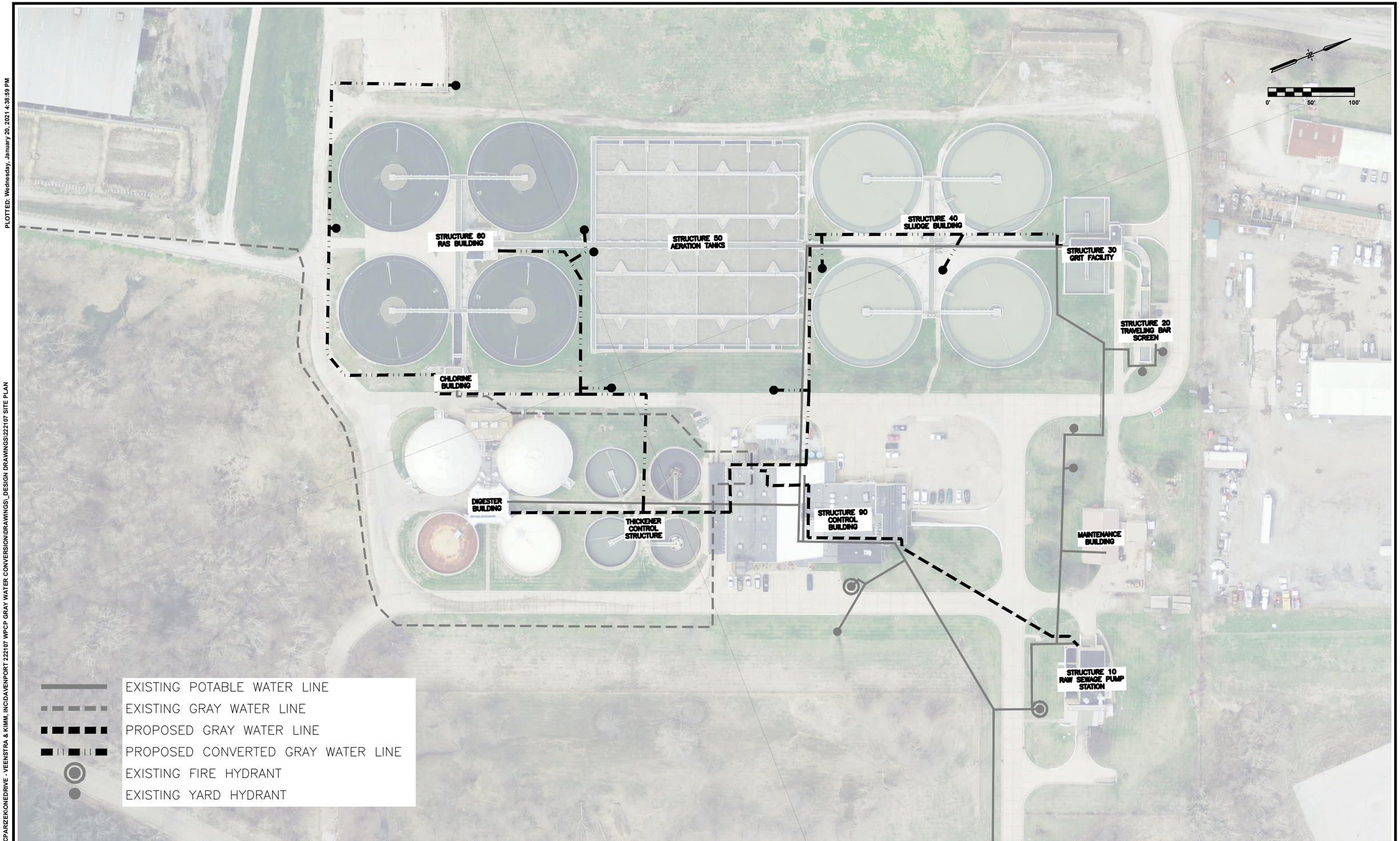
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

OVERALL SITE PLAN

DWG. NO. C.01
PROJECT 222107



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X-REFS: 222107 AERIAL & 222107 TOPO
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DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

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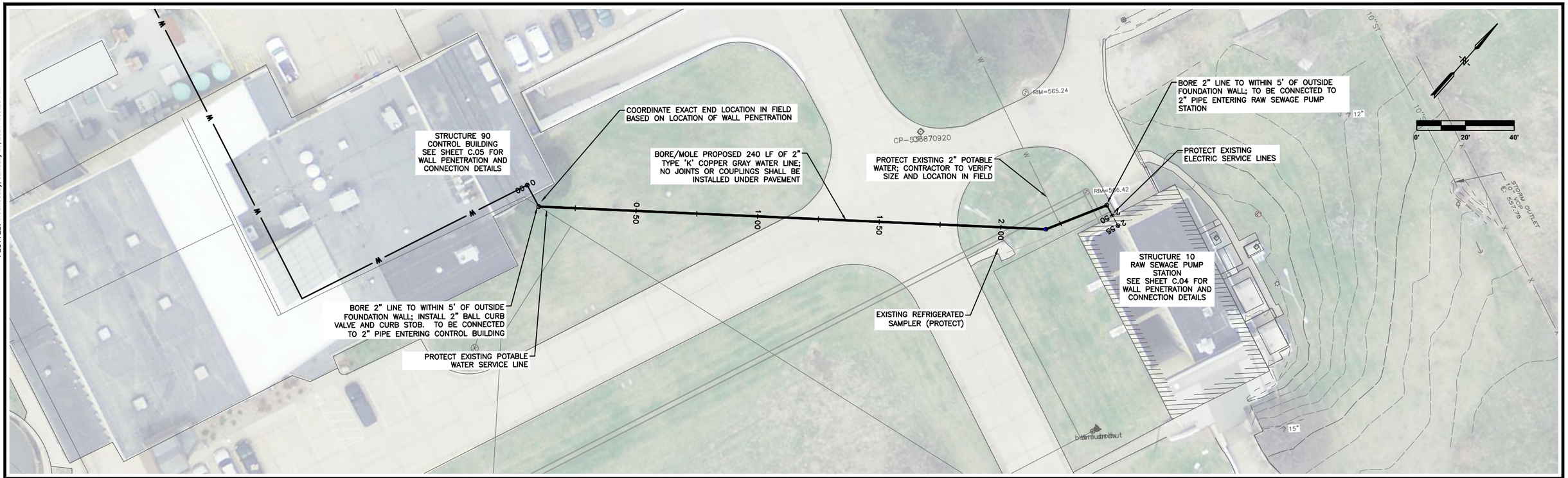
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

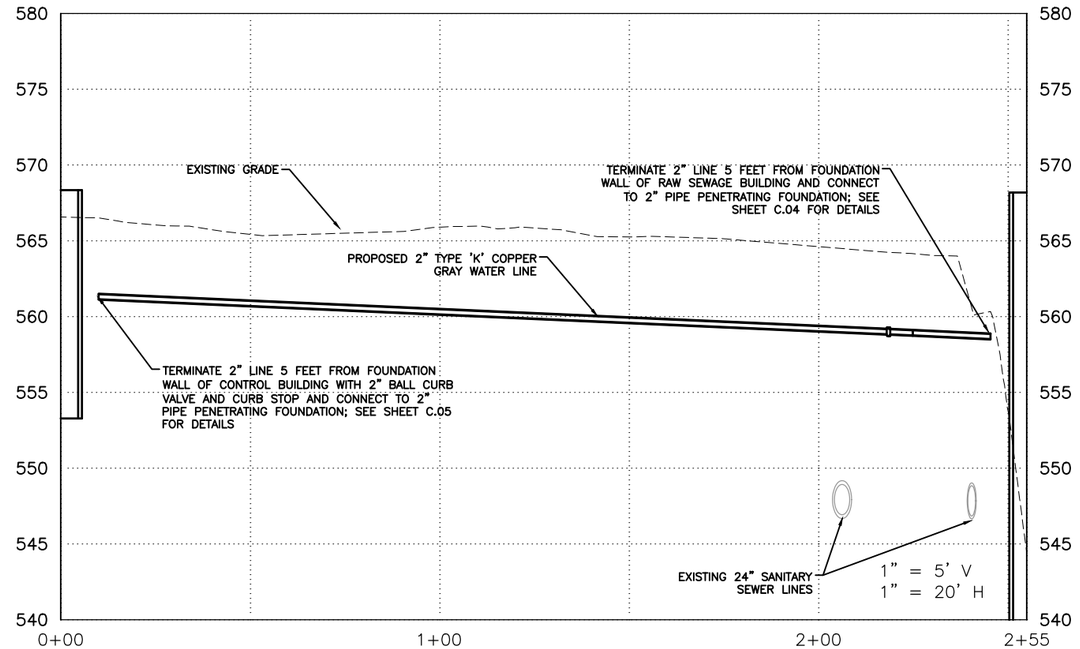
GENERAL PIPE ROUTING

DWG. NO.
C.02

PROJECT 222107

PLOTTED: Wednesday, January 20, 2021 4:39:23 PM





X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 PLAN & PROFILE

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

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0 1"
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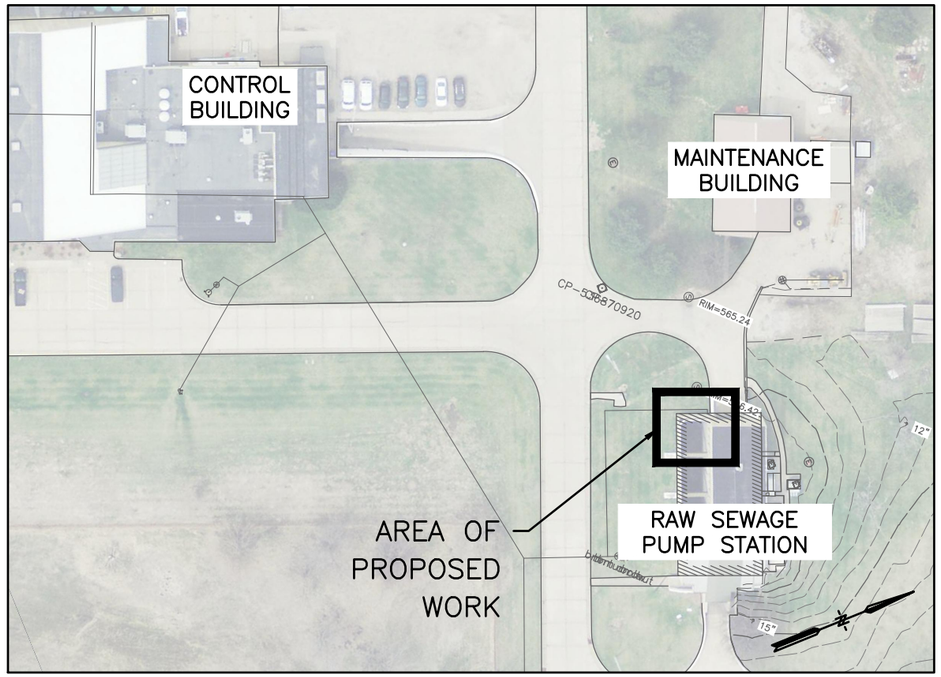
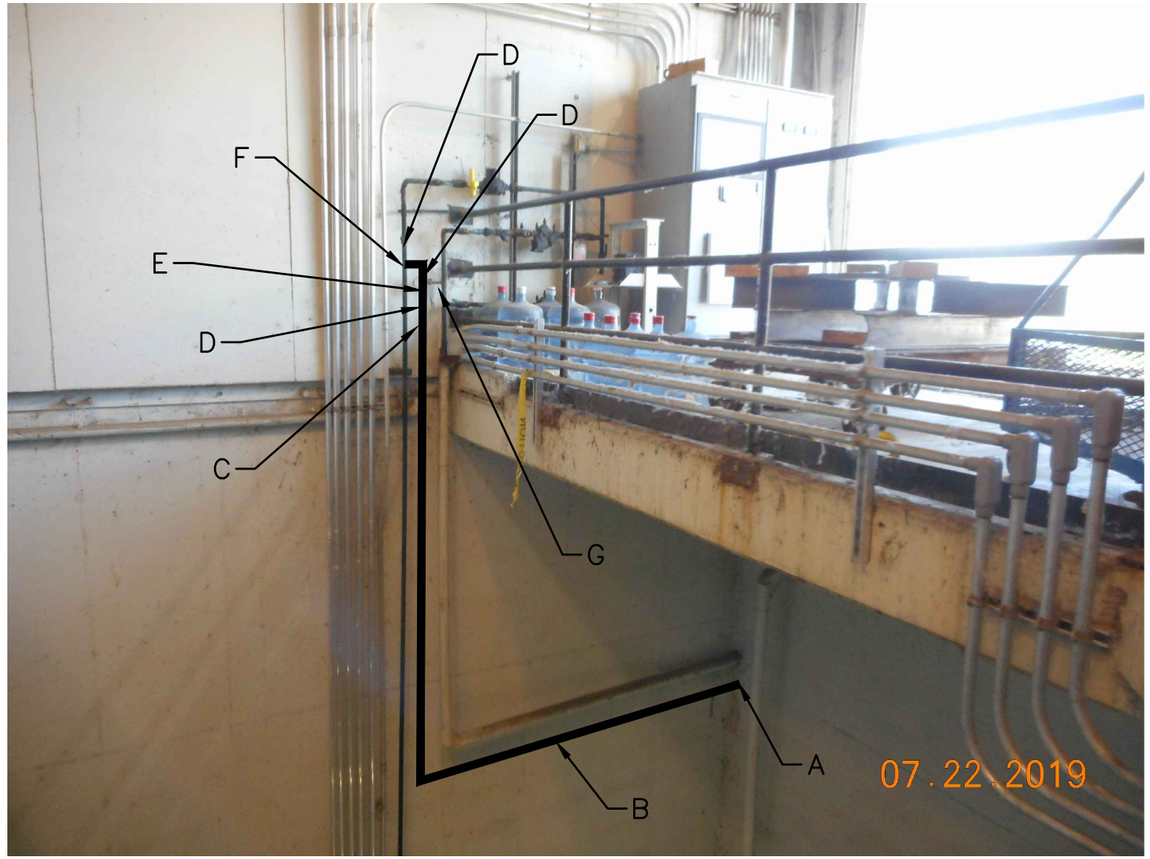
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

GRAY WATER PIPE PLAN & PROFILE

DWG. NO.
C.03
PROJECT 222107



GENERAL LOCATION REFERENCE
NOT TO SCALE



PIPING AND CONNECTION DETAIL
NOT TO SCALE

DETAIL LEGEND:

A PROPOSED WALL PENETRATION LOCATION FOR PROPOSED 2" GRAY SERVICE LINE. SEE WALL PENETRATION DETAIL ON SHEET G.03.

B PROPOSED 2" GRAY WATER LINE.

C PROPOSED 2"x1" REDUCER.

D PROPOSED 1" VALVE.

E PROPOSED PRESSURE GAUGE.

F PROPOSED TIE-IN OF PROPOSED GRAY WATER LINE INTO EXISTING WATER LINE. PROPOSED 1"x1"x1" TEE.

G ADJUST PLACEMENT OF EXISTING PRESSURE GAUGE AS NECESSARY.

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE
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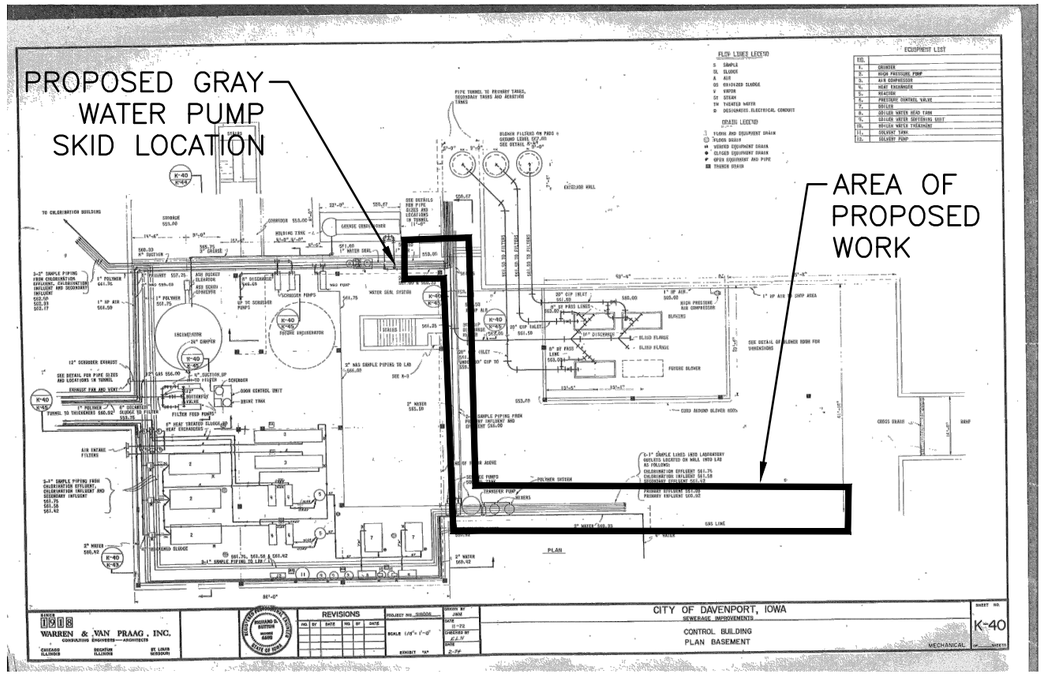
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

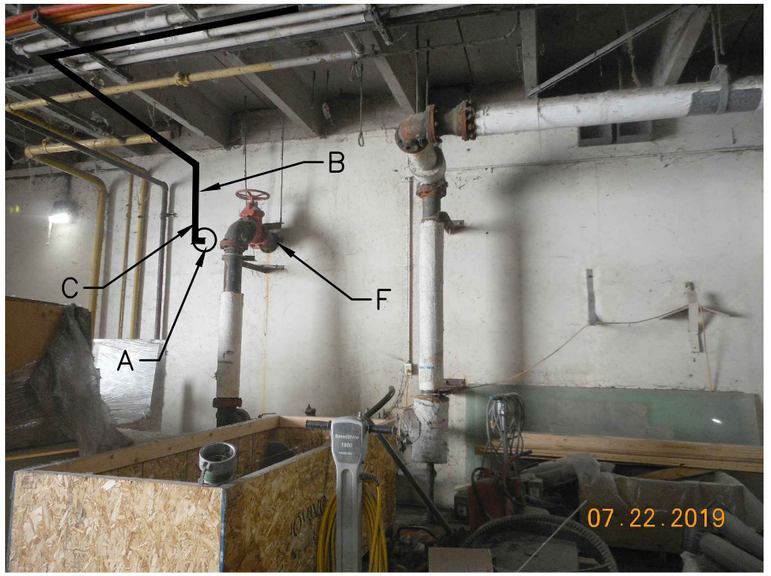
RAW SEWAGE PUMP STATION

DWG. NO. C.04
PROJECT 222107

PLOTTED: Wednesday, January 20, 2021 4:39:51 PM
X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS



GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE



PIPING AND CONNECTION DETAIL
NOT TO SCALE

DETAILS AND REFERENCE LEGEND:

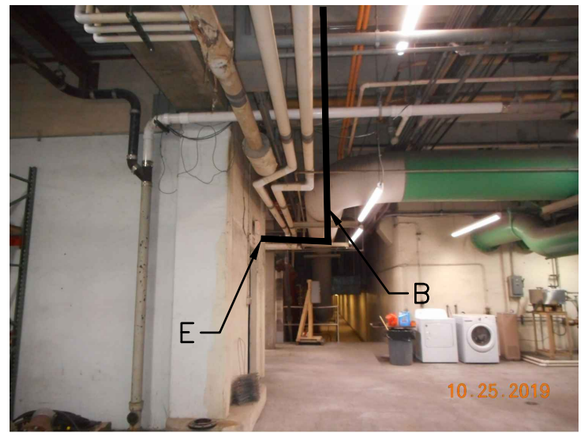
A PROPOSED WALL PENETRATION LOCATION FOR NEW 2" GRAY SERVICE LINE. SEE WALL PENETRATION DETAIL ON SHEET G.03. PIPE SHOULD ENTER BUILDING FOUNDATION A MINIMUM OF 5' FROM EXISTING 6" POTABLE WATER SERVICE LINE.

B PROPOSED 2" GRAY WATER LINE. PROPOSED ALIGNMENT SHOWN FOR GENERAL INFORMATION ONLY. CONFIRM LOCATION OF PROPOSED ALIGNMENT FOR 2" GRAY WATER LINE. SEE HANGER DETAILS ON SHEETS G.02 AND G.03.

C PROPOSED 2" VALVE.

E CONTINUE PROPOSED 2" GRAY WATER LINE TO PROPOSED GRAY WATER PUMP SKID.

F EXISTING 6" POTABLE WATER SERVICE LINE.



PIPING RUN REFERENCE
NOT TO SCALE

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	12-27-2018
ISSUED FOR	BID

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

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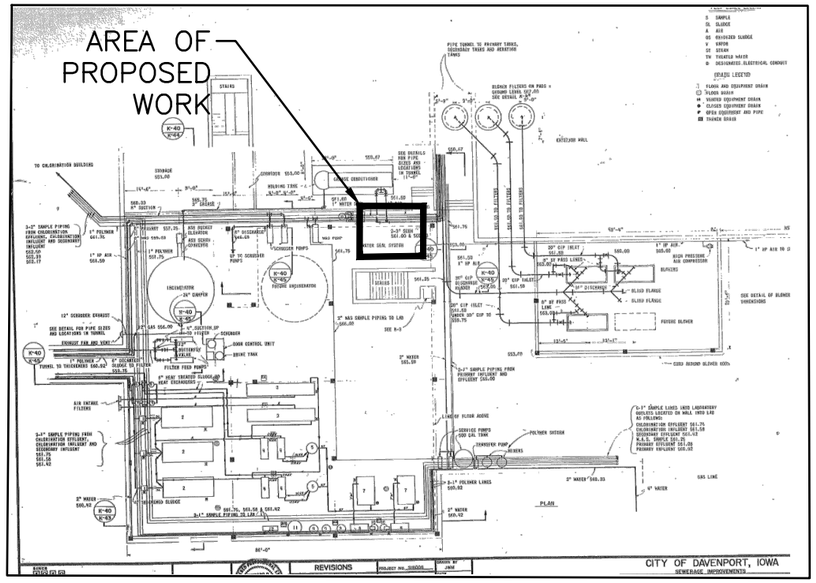
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

CONTROL BUILDING SERVICE

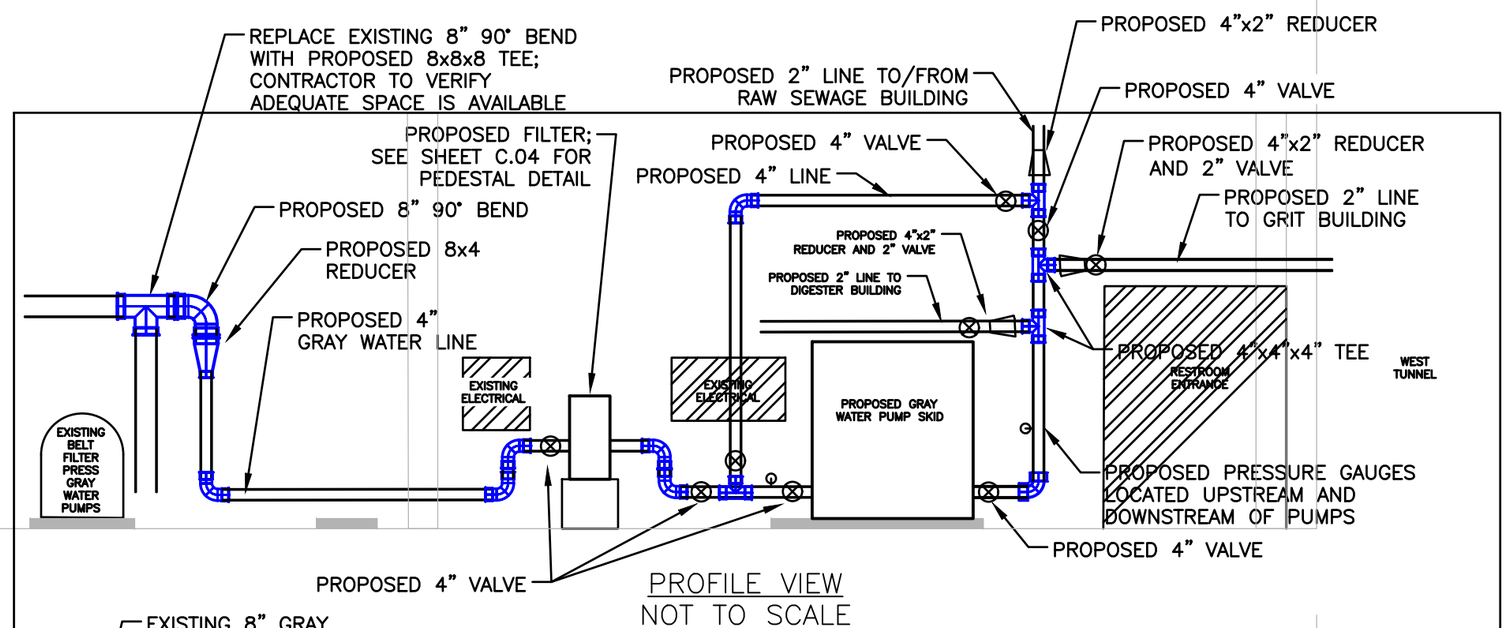
DWG. NO. C.05

PROJECT 222107

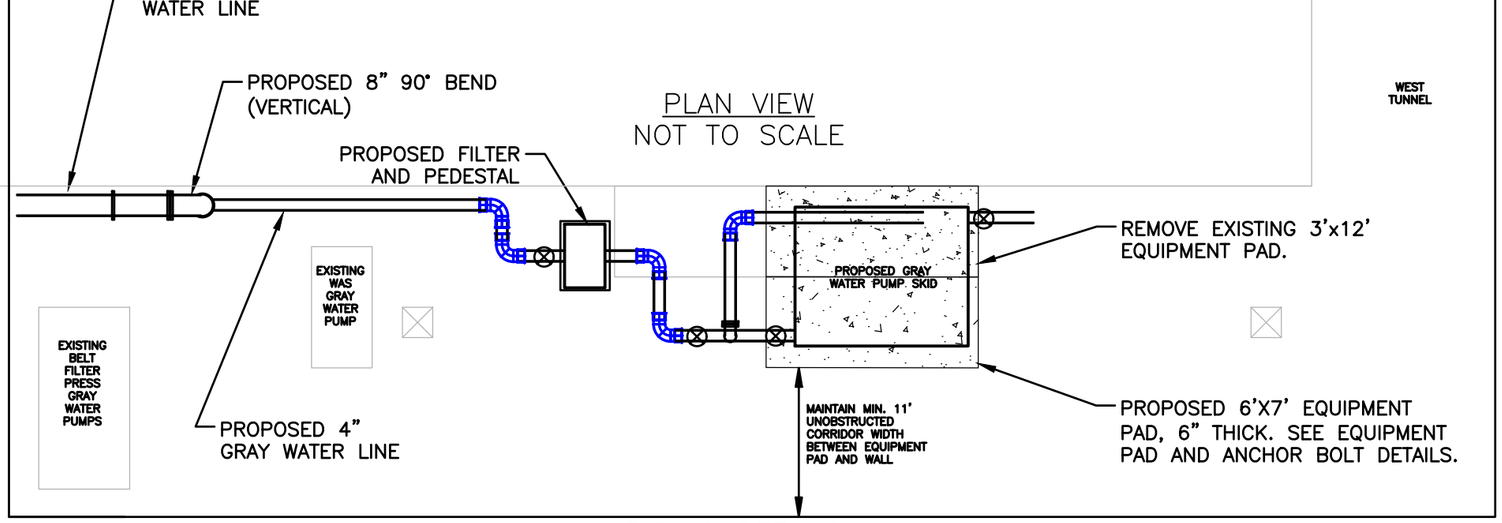
PLOTTED: Wednesday, January 20, 2021 4:39:57 PM
X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS



GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE



PROFILE VIEW
NOT TO SCALE



PLAN VIEW
NOT TO SCALE

PIPING DETAILS
NOT TO SCALE

DETAILS LEGEND:

A REMOVE EXISTING 8" ELBOW AND INSTALL PROPOSED 8"x8"x8" TEE.

B EXISTING BELT FILTER PRESS GRAY WATER PUMPS.

GRAY WATER FEED CONNECTION LOCATION DETAIL
NOT TO SCALE

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

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WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

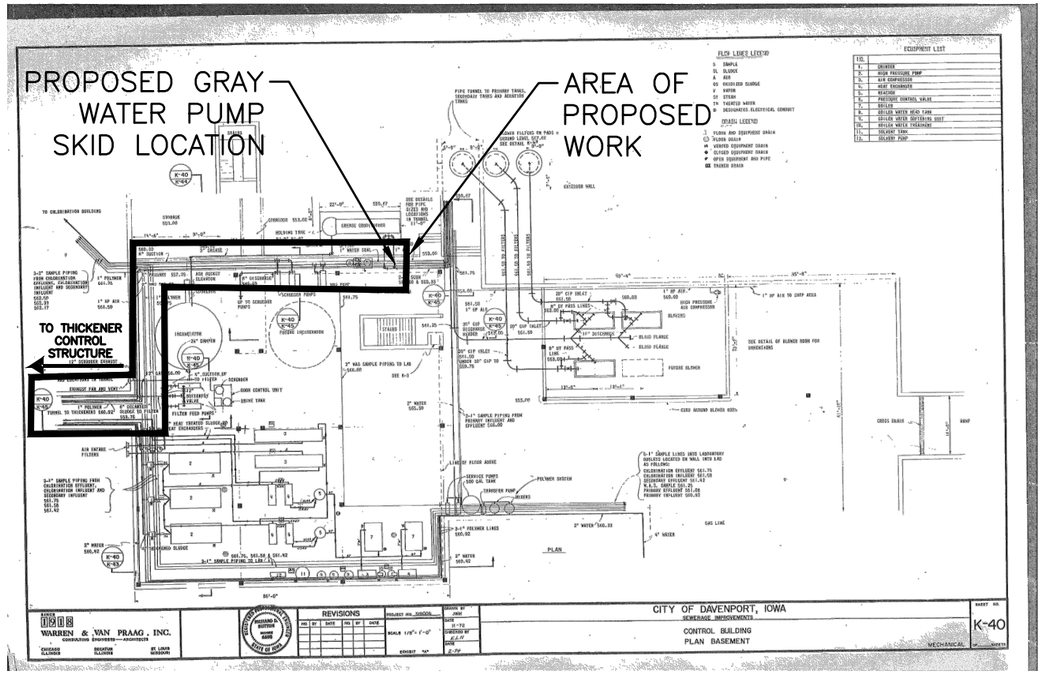
GRAY WATER PUMP

DWG. NO. C.06

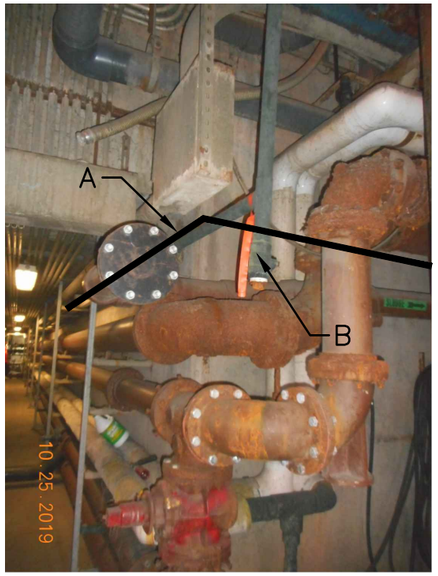
PROJECT 222107

PLOTTED: Wednesday, January 20, 2021 4:40:00 PM
X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS

PLOTTED: Wednesday, January 20, 2021 4:40:34 PM



GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE



WEST TUNNEL ENTRANCE
NOT TO SCALE

DETAILS LEGEND:

A PROPOSED 2" GRAY WATER LINE; RUN FROM PROPOSED GRAY WATER PUMP. PROPOSED ALIGNMENT DRAWN FOR GENERAL REFERENCE LOCATION ONLY.

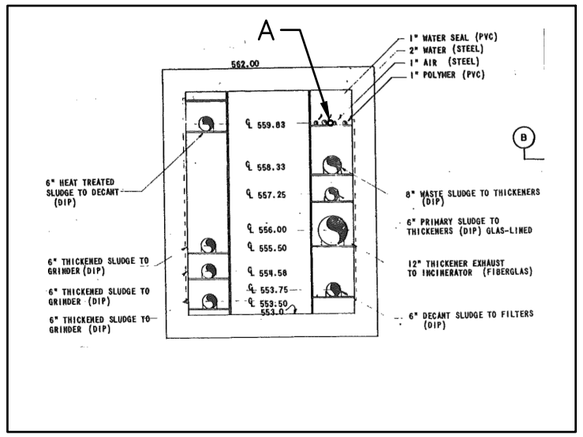
B EXISTING POTABLE WATER LINE.

C CUT EXISTING POTABLE WATER LINE BRANCH SERVING RAS BUILDING AND TIE INTO PROPOSED 2" GRAY WATER LINE. CAP ALL CUT PIPE ENDS.

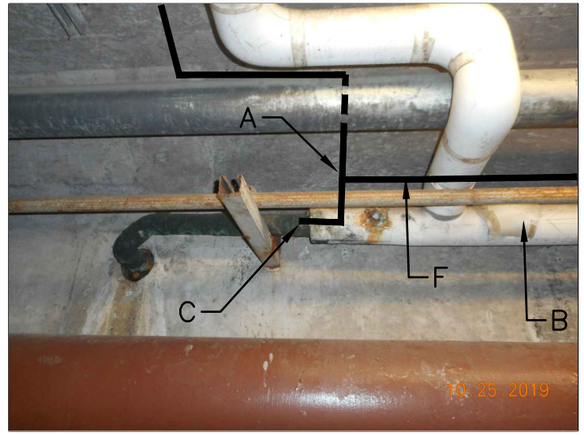
D PROPOSED 2" GRAY WATER SERVICE RUN THROUGH EXISTING CHASE IN WALL OF THICKENER CONTROL STRUCTURE.

E REMOVE CAP FROM ABANDONED 4" PIPE AND USE AS CASING FOR PROPOSED 2" GRAY WATER LINE TO DIGESTER BUILDING. SEE SHEET C.13 FOR DIGESTER BUILDING DETAILS. SEE SPECIFICATIONS FOR END-SEAL AND SPACER DETAILS.

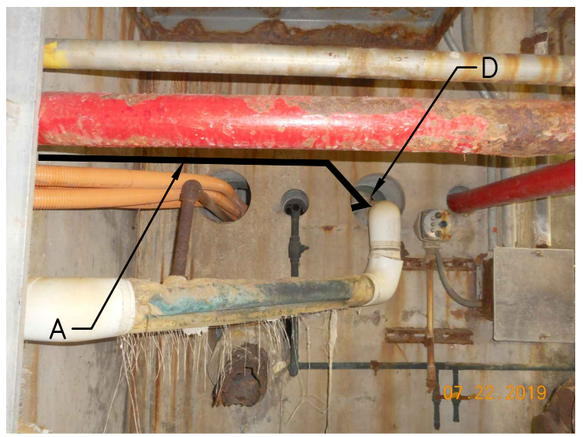
F INSTALL PRESSURE GAUGE ON GRAY WATER LINE BEFORE SERVICE BRANCHES.

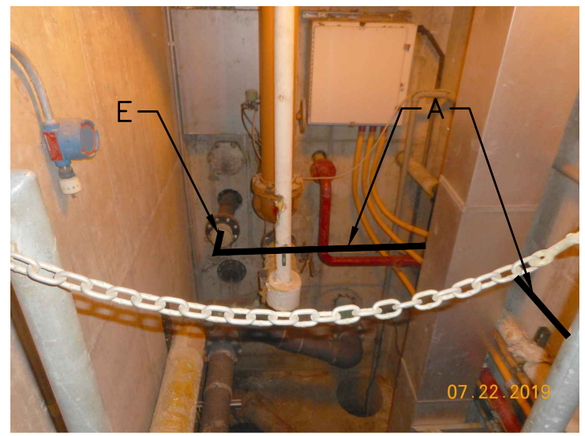


WEST TUNNEL PIPE LOCATION
NOT TO SCALE



RAS LINE TIE-OVER DETAIL
NOT TO SCALE





PIPING DETAILS IN THICKENER CONTROL STRUCTURE
NOT TO SCALE

DATE	REVISIONS		
		SCALE	AS NOTED
		DRAWN	CAP
		CHECKED	LFF
		APPROVED	CAP
		DATE	10/30/2019
		ISSUED FOR	BID

VERIFY SCALE
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WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

THICKENER CONTROL STRUCTURE

DWG. NO. C.07

PROJECT 222107

X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARZEKI\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS

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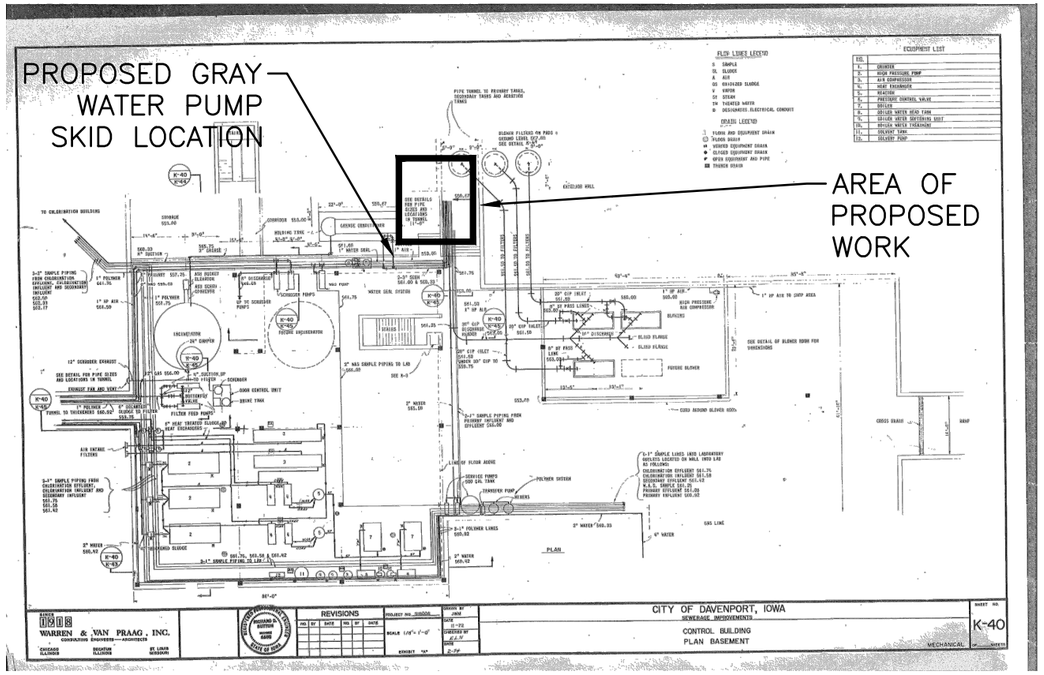

GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE

PIPING AND CONNECTION DETAIL
NOT TO SCALE

DETAIL LEGEND:

A CUT AND CAP EXISTING 2" POTABLE WATER SERVICE ABOVE EXISTING TEE.

B CUT OUT EXISTING 90° BEND AND INSTALL 2" VALVE FOR PROPOSED GRAY WATER LINE CONVERSION.

C PROPOSED 2" GRAY WATER LINE.

DATE	REVISIONS

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WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

WEST TUNNEL

DWG. NO.
C.08
PROJECT 222107

X-REFS: 222107 TOPO & 222107 AERIAL
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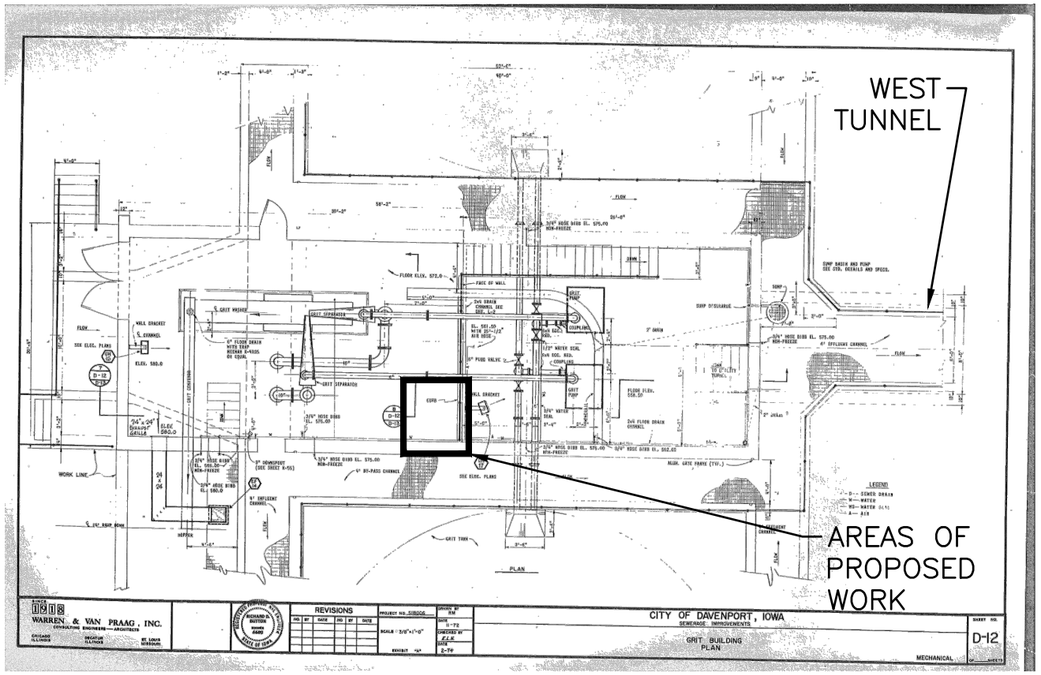
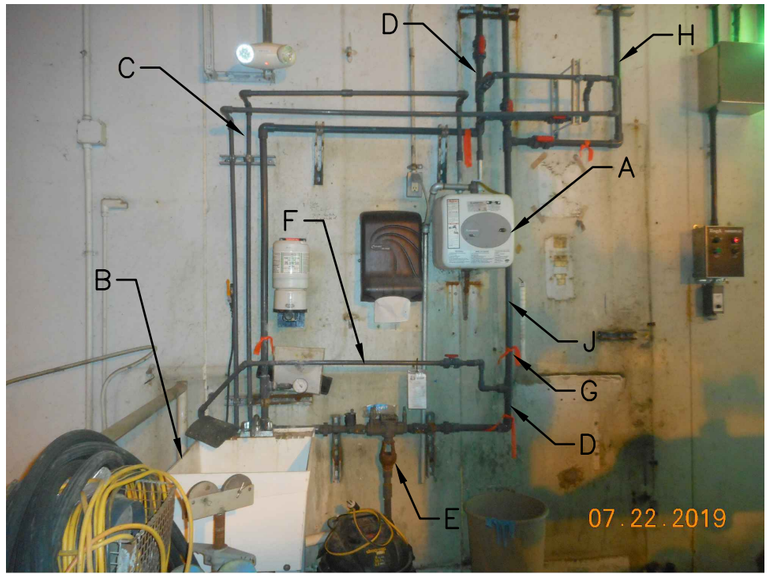


GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE



REMOVAL DETAIL
NOT TO SCALE

PIPING AND REMOVAL DETAILS LEGEND:

A REMOVE EXISTING WATER HEATER.

B REMOVE EXISTING SINK AND SALVAGE TO WPCP.

C REMOVE ALL SERVICE PLUMBING DEDICATED TO REMOVED WATER HEATER AND SINK.

D CUT AND CAP WATER SERVICE LINES.

E REMOVE EXISTING BACKFLOW PREVENTOR AND DRAIN LINE.

F EXISTING FEED FOR PUMP SEAL WATER SYSTEM (TO REMAIN IN SERVICE).

G ADD WALL ANCHOR AND SECURE EXISTING PIPE.

H EXISTING FEED TO HOSE BIBS (TO REMAIN IN SERVICE).

J CUT IN PROPOSED PRESSURE GAUGE.

DATE	REVISIONS

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DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
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VERIFY SCALE
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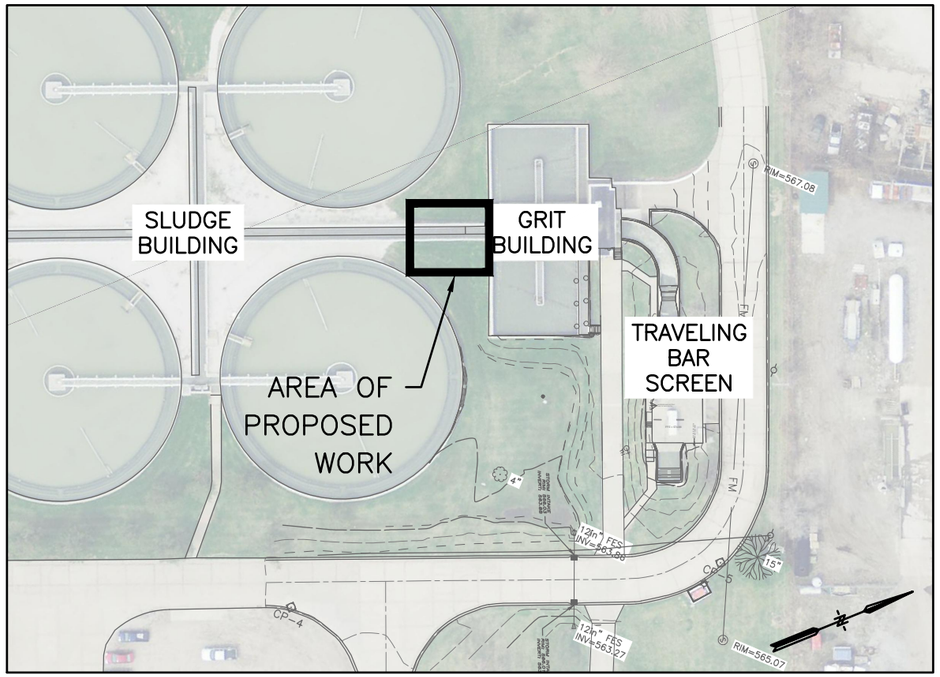
WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

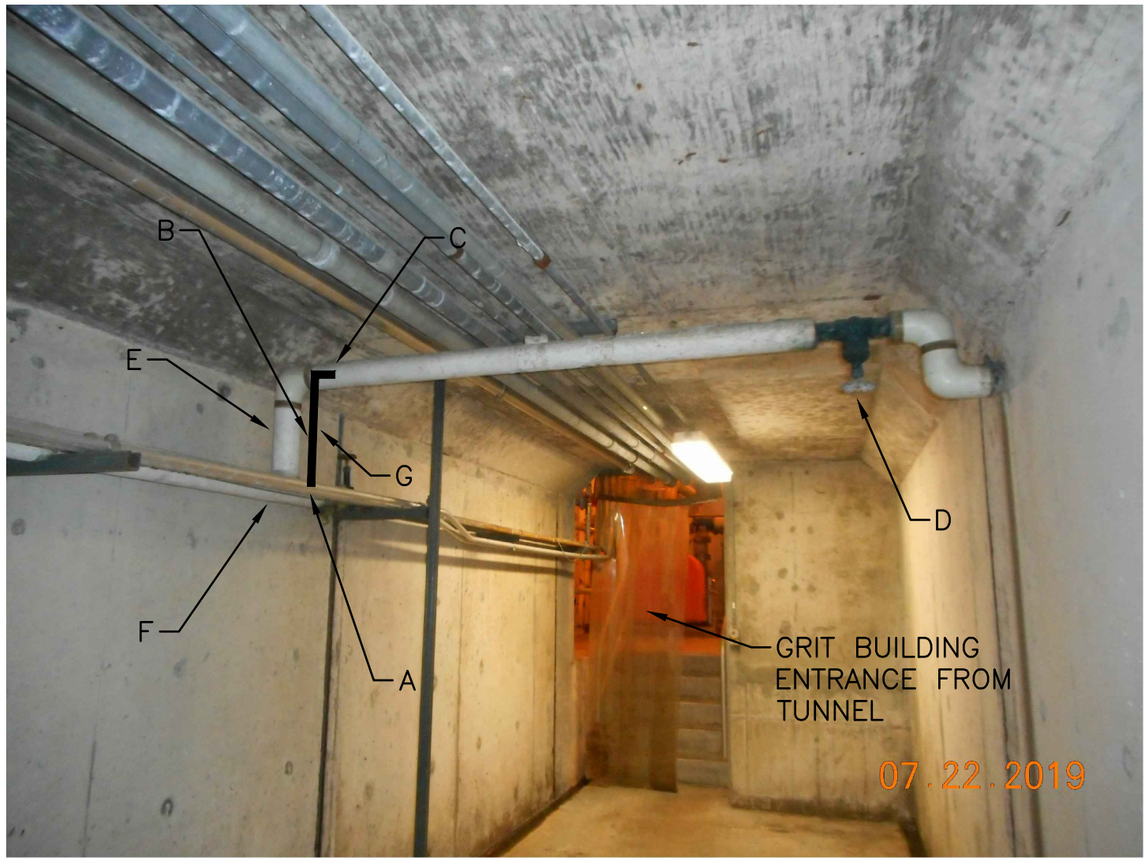
GRIT FACILITY CONVERSION

DWG. NO. C.11
PROJECT 222107

PLOTTED: Wednesday, January 20, 2021 4:40:40 PM
X-REFS: 222107 TOPO & 222107 AERIAL
FILE PATH: C:\USERS\CPARIZEK\ONEDRIVE - VEENSTRA & KIMM, INC\DAVENPORT 222107 WPCP GRAY WATER CONVERSION\DRAWINGS_DESIGN DRAWINGS\222107 BUILDING PLAN SHEETS



GENERAL LOCATION REFERENCE
NOT TO SCALE



PIPING DETAIL IN WEST TUNNEL
NOT TO SCALE

DETAIL LEGEND:

A CUT–IN PROPOSED 2" POTABLE WATER TEE INTO EXISTING 2" POTABLE WATER LINE.

B PROPOSED 2" POTABLE WATER PIPE AND FITTINGS.

C PROPOSED CONNECTION OF 2" POTABLE WATER PIPE TO EXISTING POTABLE WATER LINE FEEDING TRAVELING BAR SCREEN.

D REPLACE EXISTING WATER VALVE WITH 2" VALVE.

E REMOVE EXISTING PIPE, FITTINGS, AND PIPE INSULATION.

F REMOVE EXISTING TEE AND REPAIR (CONVERTED) GRAY WATER LINE, INCLUDING EXISTING INSULATION.

G INSTALL PRESSURE GAUGE.

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

VEENSTRA & KIMM, INC.
1800 5th Ave • Rock Island, Illinois 61201
309-786-7590 • 309-797-0996(FAX) • 877-241-8010(WATS)

WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

TRAVELING BAR SCREEN

DWG. NO. C.10
PROJECT 222107

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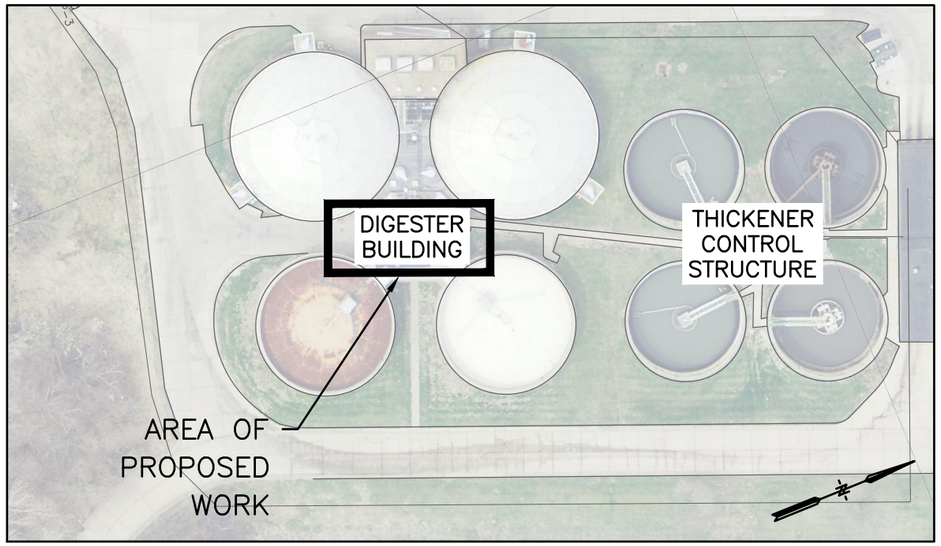

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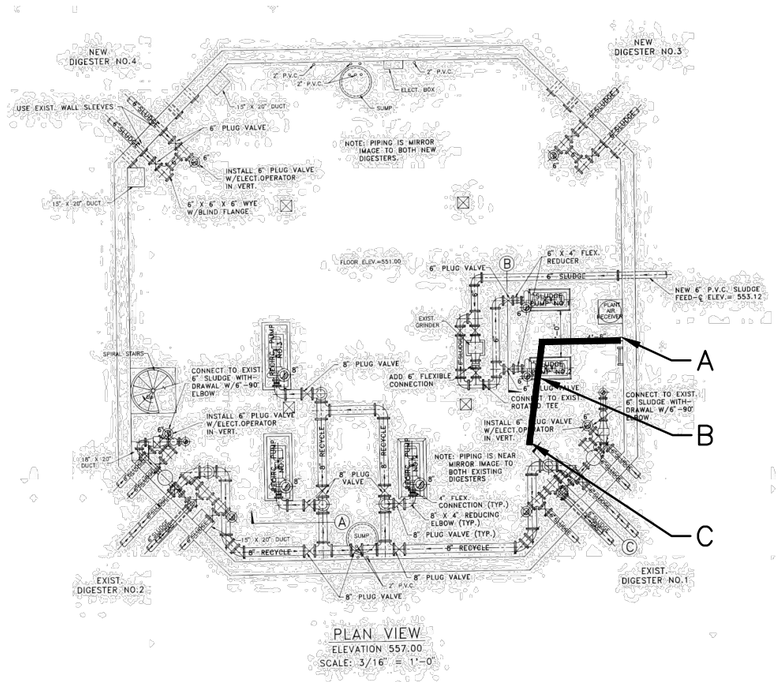


PLAN VIEW
ELEVATION 557.00
SCALE: 3/16" = 1'-0"

FLOOR PLAN DETAIL REFERENCE
NOT TO SCALE

DETAILS LEGEND:

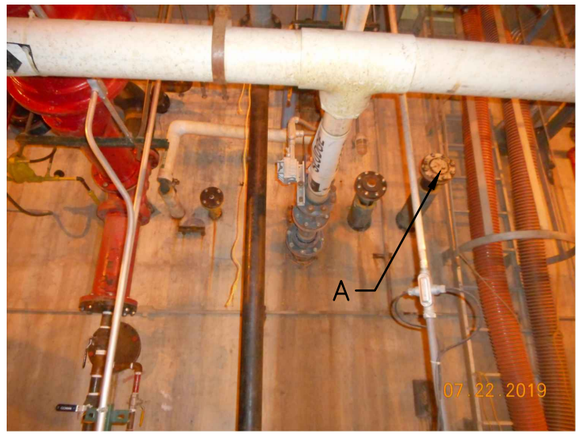
A REMOVE CAP. ABANDONED 4" PIPE REPURPOSED FOR AS CASING FOR PROPOSED GRAY WATER LINE FED FROM THICKENER CONTROL STRUCTURE. LOCATED ON NORTH WALL IN BASEMENT LEVEL. INSTALL PIPE END-SEAL.

B PROPOSED 2" GRAY WATER PIPE. ANCHOR TO EXISTING UTILITY HANGERS. PROPOSED ALIGNMENT SHOWN FOR GENERAL REFERENCE ONLY; CONTRACTOR SHALL FIELD VERIFY.

C REDUCE PROPOSED 2" GRAY WATER LINE DOWN TO 1" LINE, REMOVE EXISTING CAP, AND CONNECT TO EXISTING GRAY WATER PIPE STUB.

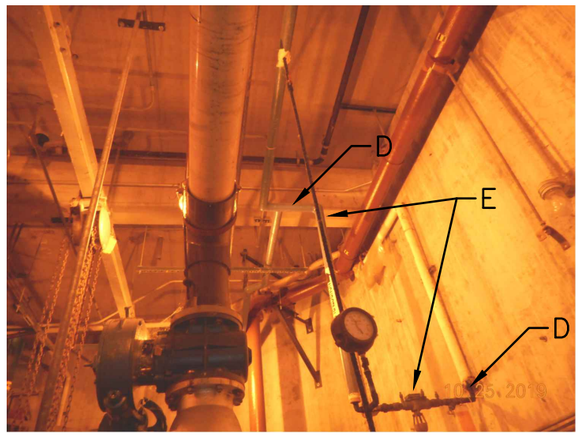
D CUT EXISTING 1" SERVICE LINE FEEDING SEAL WATER LINES AND CAP STUBS.

E REMOVE EXISTING INSULATED 1" PIPE, BACKFLOW DEVICE, AND ASSOCIATED DRAIN LINE.



PIPING FEED DETAIL
NOT TO SCALE

PIPING CONNECTION DETAIL
NOT TO SCALE



PIPING DISCONNECTION DETAIL
NOT TO SCALE

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE
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0 1"
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V&K
VEENSTRA & KIMM, INC.

WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

1800 5th Ave • Rock Island, Illinois 61201
309-786-7590 • 309-797-0996(FAX) • 877-241-8010(WATS)

DIGESTER BUILDING

DWG. NO.
C.11
PROJECT 222107

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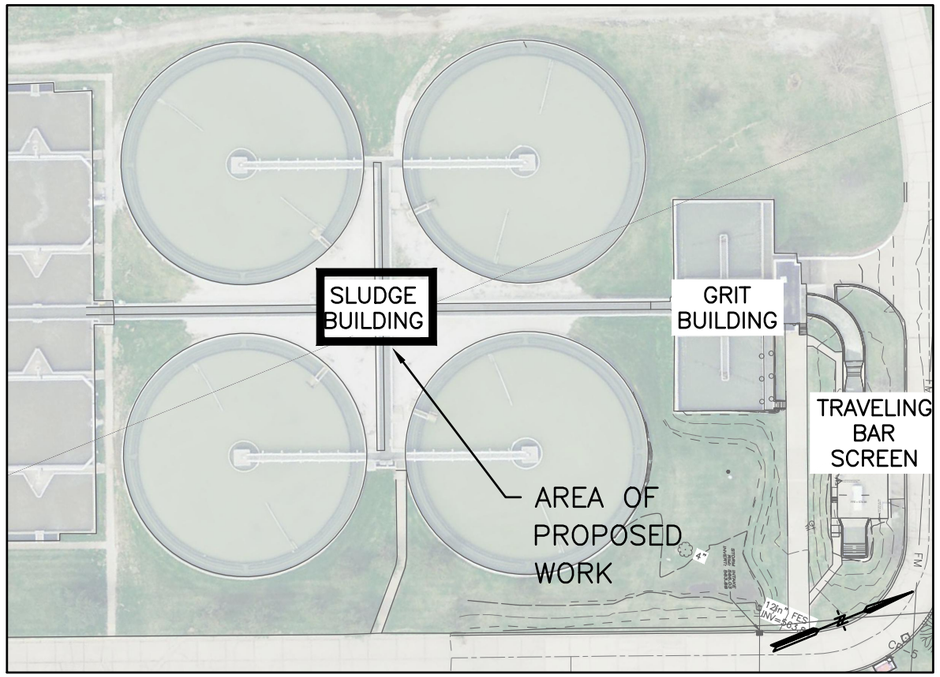


GENERAL LOCATION REFERENCE
NOT TO SCALE

PIPING DETAIL
NOT TO SCALE

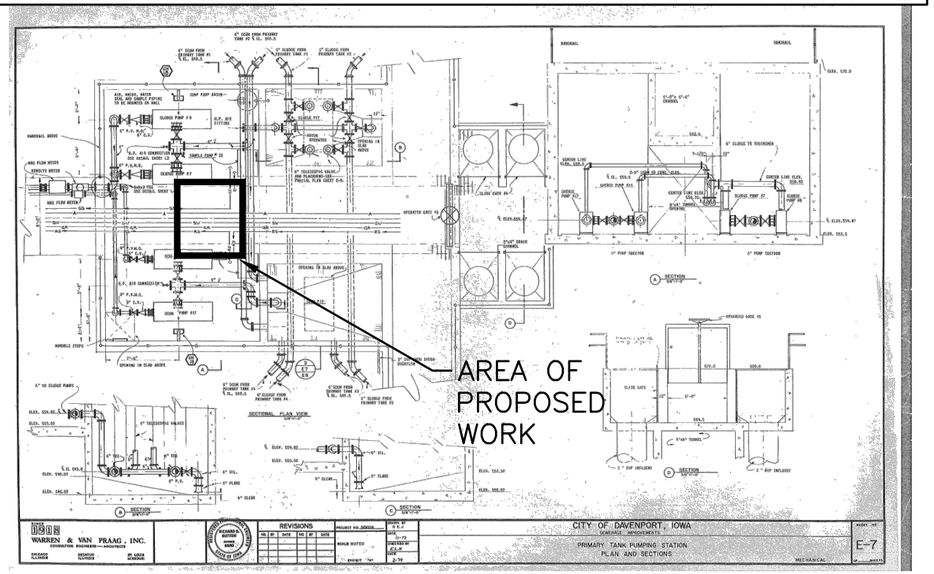
DETAIL LEGEND:

A PROPOSED CONNECTION TO EXISTING 2" LINE (CONVERTED TO GRAY WATER) AND PRESSURE GAUGE. REPAIR DISTURBED INSULATION.

B PROPOSED $\frac{1}{2}$" GRAY WATER LINE.

C CUT EXISTING $\frac{1}{2}$" GRAY WATER LINE AND CONNECT TO PROPOSED $\frac{1}{2}$" LINE.

D CUT OUT EXISTING 1"x$\frac{1}{2}$" TEE AND REPAIR EXISTING 1" PIPE WITH PIPE AND COUPLING MATERIALS TO MATCH EXISTING.



GENERAL REFERENCE LOCATION IN BUILDING
NOT TO SCALE

DATE	REVISIONS

SCALE	AS NOTED
DRAWN	CAP
CHECKED	LFF
APPROVED	CAP
DATE	10/30/2019
ISSUED FOR	BID

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

VEENSTRA & KIMM, INC.
1800 5th Ave • Rock Island, Illinois 61201
309-786-7590 • 309-797-0996(FAX) • 877-241-8010(WATS)

WPCP GRAY WATER CONVERSION
CITY OF DAVENPORT

SLUDGE BUILDING

DWG. NO. X.01

PROJECT 222107

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SPECIFICATIONS

FOR

WPCP GRAY WATER CONVERSION

DAVENPORT, IOWA

STATE REVOLVING FUND PROJECT NO. CS1920896 01

VEENSTRA & KIMM, INC.

SPECIFICATIONS
FOR
WPCP GRAY WATER CONVERSION
DAVENPORT, IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signed: Date:

6/29/2020

Chris A. Parizek, P.E.
Iowa License No. 24728
My license renewal date is December 31, 2021

Pages covered by this seal:

ALL DIVISIONS EXCEPT 16 AND 17

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signed: Date:

6/29/2020

Jacob D. Lucas, P.E.
Iowa License No. 23240
My license renewal date is December 31, 2021

Pages covered by this seal:

Divisions 16 and 17

Prepared by
VEENSTRA & KIMM, INC.
Rock Island
Illinois

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GRAY WATER CONVERSION PROJECT
WATER POLLUTION CONTROL PLANT
DAVENPORT, IOWA

State Revolving Fund Project No. CS1920896 01

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END OF SECTION

FOR THE WPCP GRAY WATER CONVERSION PROJECT AND WORK INCIDENTAL THERETO IN AND FOR THE CITY OF DAVENPORT, IOWA:

Sealed bids will be received by the City of Davenport's eBidding website, until **February 25, 2021 at 2:00 p.m.** for the related work as described in the plans, specifications and contract documents now on file at www.cityofdavenportiowa.com/purchasing click on "BIDS". Bids shall be acted upon by the Davenport City Council at a subsequent meeting.

*There will be a pre-bid meeting on **February 11, 2021 at 10:00 a.m.** at the Public Works Center, 1200 E. 46th Street, Davenport, IA. All contractors and subcontractors interested in this project are encouraged to attend this meeting.*

A. Project involves installation of pump skid, including concrete pad, water work and plumbing, electricial, and control integration; running new water lines within and between campus buildings and completeing water line disconnections and tie-overs; and install new horizontally drilled 2-inch water line between the Raw Pump Building and Control Building. Project includes demolition, removal, excavation, erosion control, site restoration, and seeding.
B. All work shall be done in strict compliance with the plans and specifications prepared by the office of the City Engineer. Copies of said plans and specifications may be obtained from the City of Davenport Purchasing Division's eBidding website at the website provided: www.cityofdavenportiowa.com/purchasing click on "Bids". There is no charge for a copy of the plans and specifications. Contractors must be logged in to download the plans at https://davenport.ionwave.net.
C. Each bid shall be made in the electronic form furnished for Bid WPCP Gray Water Conversion Project. Vendors must be registered as a vendor in order to submit an electronic bid. Late bids will not be accepted by the eBidding site. Faxed or emailed bids are not acceptable.
D. Prices in bid should be free of all sales taxes. Pursuant to Iowa Code sections 422.42 (15) & (16), the awarded contractor will be issued a tax exemption certificate to purchase construction materials (within the state of Iowa) that will be incorporated into real property for this project tax free.
E. For bid amounts $100,000 or greater, the bid must be accompanied by a bid bond, certified check, or a cashier's check, of which a claim may be made against as specified in the "Instructions to Bidders". Each bid bond or check shall be in the amount of five percent (5%) of the bid amount and must be submitted in a separate electronic attachment titled "Bid Surety". Bids submitted without a bid bond, when necessary, will not be considered. If a bid bond is necessary, scan a copy and attach it to the electronic bid, low bid's bid bond will be physically collected.
F. The awarded contractor will be required to furnish a Performance and Maintenance Bond, if contract amount is $100,000 or greater, in an amount equal to one hundred percent (100%) of the contract amount, and said bond to be issued by a responsible surety approved by the City and shall guarantee the faithful performance of the contract and the workmanship and materials for a period of four years from the date of acceptance of the project by the City.
G. Manufacturer's written warranties and guarantees shall also be required from the awarded bidder.
H. Bidders will be required to comply with the President's Executive Order No. 11246. The requirements for bidders and contractors under this order are explained in the Federal loan documents.
I. Any bidder or equipment supplier whose firm or affiliate is listed in the GSA publication "List of Parties Excluded from Federal Procurement and Nonprocurement Programs" will be prohibited from the bidding process. Anyone submitting a bid who is listed in this publication will be determined to be a nonresponsive bidder in accordance with 40 CFR Part 31.
J. A Contractor's Suspension/Debarment Certification is contained in the specifications; however, this certification should not preclude any interested party from ascertaining whether the certifying person is actually on the "List of Parties Excluded from Federal Procurement and Nonprocurement

Programs".

K. On the basis of the bids received, the City Council may propose award for the contract. Final award will not be made until the proposed award is approved by the Department of Natural Resources of the State of Iowa. It is anticipated that such approval will be made within thirty (30) days after application for approval of the proposed award. No claims for compensable delay shall arise as the result of delay in the approval of award.

L. The selected contractor will be required to submit to the City a Certificate of Insurance for General Liability, Workers Compensation, and Vehicle insurance coverages. The limits of the policies shall be as specified in the "General Contract Conditions", which may be obtained from the City's website (www.cityofdavenportiowa.com).

M. Specifications and contract documents governing the proposed improvements and also proceedings of the City Council referring to this proposed improvement are hereby made part of this notice and a proposed contract shall be executed in compliance with the "Instructions to Bidders" and with the "General Contract Conditions".

N. Payments to the contractor for such improvement will be made monthly in warrants as specified in the "General Contract Conditions".

O. By virtue of the statutory authority, preference will be given to products and provisions grown and coal produced within the State of Iowa and as specified in the "General Conditions".

P. The City reserves the right to reject any or all bids and to waive technicalities and irregularities, if it is deemed in the public interest to do so.

Q. Attention is called to the fact that the contractor must ensure that employees and applicants for employment are not discriminated against because of race, color, creed, religion, sex, national origin or ancestry, age, marital status, familial status, gender identity or expression, physical or mental disabilities, or political beliefs and affiliations.

R. Potential prime contractors are required to comply with the City's Disadvantaged Business Enterprise (DBE) program. Bidders shall complete the applicable certification attached to the proposal. For a listing of certified DBE contractors, visit the State of Iowa's website at http://www.iowadot.gov/civilrights/dbe_program.html.

S. As the project will be funded with Iowa State Revolving Fund (SRF) financing, regulations related to American Iron and Steel, Davis-Bacon wages, and all other funding related requirements included in the specifications will apply to this project.

GENERAL INSTRUCTIONS TO BIDDERS
WPCP GRAY WATER CONVERSION PROJECT

Following are general requirements for all vendors submitting bids to the City of Davenport. If the instructions below conflict with the specific instructions given for an individual bid, individual bid instructions take precedence. Failure to fully follow these instructions may result in bid rejection.

1. Complete the line items in each bid. Enter the unit price. The electronic bid submission will do the extended price with the quantity give.
2. Unless otherwise specified, only new items of the current model may be bid, and full warranty is to be provided for a minimum of 90 days from City acceptance date, with all repairs/replacements at no cost to the City.
3. Bids may be for any or all items listed. Unit prices are required for each item bid, the electronic bid submission system will extend the price times the quantity of units. Pay careful attention to the quantities and units of measure requested.
4. Only one price may be submitted per line item. Specifications are written to provide a common basis for competitive bidding, and are not intended to eliminate substantially similar items. Any deviations from specifications must be clearly noted on your bid. Alternative bids must be clearly marked "ALTERNATE," and submitted on separate sheets attached in the Response Attachments area of your bid.
5. Bid prices are to include all delivery costs, unless specifically noted on the bid submission. Vendor is responsible for delivery to location specified, within time period committed. Any changes must be pre-approved in writing by the City Purchasing Division, or the purchase award is subject to cancellation.
6. Electronic bids received by the stated opening date and time will be opened and recorded publicly in the Purchasing Division, and are available for public inspection. Paper, Fax, or emailed bids received will not be considered. The electronic bid submission system will not allow late bids.
7. Generally, award(s) will be made to the lowest responsive and responsible bidder(s), who comply with the bid requirements and specifications. However, the City reserves the right, in its sole discretion, to split bid awards between vendors, change quantities ordered, waive irregularities or nonconformance, reject any or all bids in whole or in part, or cancel the bid in entirety, if deemed in the City's best interest. Final award will not be made until the proposed award is approved by the Department of Natural Resources of the State of Iowa.
8. The City makes no representation that an award be made to any bidder responding to this request. Bidders are responsible for all costs incurred to participate in the City bidding process. The City reserves the right to request bid clarifications, samples and/or product testing.
9. Vendors submitting bids must abide by city, state, and federal Affirmative Action and Equal Opportunity Employment regulations, as well as regulations regarding patents, licenses, bonds and permits for the products or services.
10. The City of Davenport is exempt from paying various sales and excise taxes as a municipal government. Proof of exemption will be furnished upon request.
11. Bids may be modified or withdrawn prior to the bid opening, following the same submission requirements of #1 above. All bid prices and terms are to be honored by the bidder for 60 days after bid opening unless the vendor provides prompt notification and documentation of an honest error or omission.

12. Awards of bids may not be assigned to another vendor without written authorization from the Purchasing Division. Vendors are responsible for all acts and performance of any subcontractors and secondary suppliers, including full responsibility for their direct payment. Failure to meet terms and conditions of an awarded bid authorizes the City Purchasing Division to purchase the items or services elsewhere and charge the full increase of cost to the defaulting vendor.
13. This project will be funded using the Iowa State Revolving Fund and all regulations regarding the use of SRF funds are applicable. The following forms must be submitted with the bid documents:
    A. Certification of Non-Segregated Facilities Form
    B. Debarment and Suspension/Certification Regarding Debarment and Suspension Form
    C. Disadvantaged Business Enterprise Certification Form
    D. DBE Program Subcontractor Performance Form
    E. DBE Program Subcontractor Utilization Form
14. Other Federal Requirements Language
    A. Standard Equal Employment Opportunity Specifications
    B. Federal Labor Standards Provisions (including Davis-Bacon prevailing wage rates)
    C. Preservation of Open Competition and Government Neutrality
    D. Historical and Archeological Finds
    E. Prohibitions on Procurement from Violating Facilities
15. Right of Entry and Records Retention requirements are required for this project.
16. Special requirements for American Iron and Steel enacted by Congress on January 17, 2014, are included in this project.

BID CHECK LIST
MUST BE COMPLETED AND RETURNED WITH BID FORMS

The following items are being submitted as required with the completed bid forms for the **WPCP Gray Water Conversion Project.**

_____ 1. Bid Form w/ Statement of Intent

_____ 2. Bidder Status Form

_____ 3. Bid Bond for 10% of bid amount

_____ 4. Non-Collusion Affidavit

_____ 5. Affirmative Action Program Package

_____ 6. Certification of Non-Segregated Facilities

_____ 7. Certification Regarding Debarment

_____ 8. DBE Subcontractor Contact Information with required documentation

_____ 9. DBE Subcontractor Performance Form

_____ 10. DBE Subcontractor Utilization Form

Firm Name: _____

Signature: _____

Date: _____

BID FORM
(STIPULATED PRICE BASIS)

1. BID RECIPIENT

   1.1 This Bid is submitted to:

   Owner: City of Davenport, Iowa

   Address: Purchasing Division

   226 West Fourth Street

   Davenport, Iowa 52801

   Project Identification: WPCP Gray Water Conversion Project

   1.2 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2. BIDDER'S ACKNOWLEDGEMENTS

   2.1 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 120 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

3. BIDDER'S REPRESENTATIONS

   3.1 In submitting this Bid, Bidder represents that:

      3.1.1 Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

Addendum No.	**Addendum Date**

(Bidder shall insert number of each Addendum received.)

      3.1.2 Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

      3.1.3 Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, and performance of the Work.

3.1.4 Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

3.1.5 Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

3.1.6 Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

3.1.7 The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

3.1.8 Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

4. FURTHER REPRESENTATIONS

4.1 Bidder further represents that:

4.1.1 This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;

4.1.2 Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

4.1.3 Bidder has not solicited or induced any individual or entity to refrain from bidding; and

4.1.4 Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

5. BASIS OF BIDS

5.1 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Item No.	Item Description	Unit	Estimated Quantity	Unit Price	Extended Price
1	Gray Water Conversion	LS	1		
			TOTAL BID (ITEM 1)		

6. TIME OF COMPLETION

6.1 Bidder agrees that the Work, and any Milestones, will be substantially complete and will be completed and ready for final payment in accordance with the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.2 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work, and any specified Milestones, within the Contract Times.

7. ATTACHMENTS TO THIS BID

7.1 The following documents are attached to and made a condition of this Bid:

7.1.1 As defined in the General Conditions.

7.1.2 Bidder Status Form

8. DEFINED TERMS

8.1 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders and the General Conditions.

9. BID SUBMITTAL

9.1 This Bid submitted by:

If Bidder is:

An Individual

Name *(typed or printed)*: _____

By *(signature)*: _____

Doing business as: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner – attach evidence of authority to sign)

Name *(typed or printed)*: _____

A Corporation

Corporation Name:_____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature – attach evidence of authority to sign)

Name *(typed or printed)*: _____

Title: _____ (CORPORATE SEAL)

Attest: _____
(Signature of Corporate Secretary)

Date of Qualification to do business is:_____

A Joint Venture

Joint Venture Name: _____ (SEAL)

By: _____
(Signature of joint venture partner – attach evidence of authority to sign)

Name *(typed or printed)*: _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address: _____

_____

Phone No.: FAX No.: _____

BID SUBMITTED on _____, 20____

Iowa Contractor's License No.: _____

Contractor's License Class (where applicable): _____

Bidder is a resident of Iowa: Yes No

The following "Statement of Intent, Nondiscrimination and Equal Opportunity Statement" shall be completed by each bidder and returned in duplicate with other bid documents.

STATEMENT OF INTENT
NONDISCRIMINATION
AND
EQUAL OPPORTUNITY STATEMENT

The Contractor does hereby certify to the City of Davenport, Iowa, that no person shall, in any way, be favored or discriminated against because of his/her race, color, creed, religion, sex, national origin or ancestry, age, marital status, physical or mental disability, or political beliefs and affiliations. If selected as the successful bidder, this Contractor hereby agrees to file a nondiscrimination and equal opportunity statement and an Affirmative Action Program, as required subject to the requirements of the City of Davenport's Affirmative Action Programs.

_____
COMPANY

_____
EXECUTIVE OFFICER

WPCP GRAY WATER
CONVERSION PROJECT
(PROJECT NAME)

_____
AFFIRMATIVE ACTION OFFICER

ADDRESS OF THE AFFIRMATIVE ACTION OFFICER

_____

_____

PHONE NUMBER _____

END OF SECTION

Bidder Status Form

To be completed by all bidders — Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No My company has an office to transact business in Iowa.

☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders — Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

You may attach additional sheet(s) if needed. City, State, Zip: _____

To be completed by non-resident bidders — Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:

_____

2. Does your company's home state or foreign country offer preferences to bidders who are residents? ☐ Yes ☐ No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

_____

_____

You may attach additional sheet(s) if needed.

To be completed by all bidders — Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

You must submit the completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156.
This form has been approved by the Iowa Labor Commissioner.

Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.

☐ Yes ☐ No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.

☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

CITY OF DAVENPORT

BOND REQUIREMENTS

For all bids over $100,000, the City of Davenport requires a Bid Bond for 5% be submitted with the bid. The front page of the bid bond should be scanned and attached with the electronic bid. Bids over $100,000, received without a bid bond, will be considered non-responsive.

For all bids over $100,000, the awarded contractor will be required to submit a Performance/Maintenance Bond for 100% of the total amount of the project, and a 4-year Maintenance Bond.

NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

State of _____)
) ss.
County of _____)

Deposes and says that:

1. He is _____
(Owner, partner, officer, representative or agent)

of _____, the Bidder that has

submitted the attached Bid:

2. He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such bid:

3. Such Bid is genuine and is not a collusive or sham Bid;

4. Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or lawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed)_____

(Title)_____

Subscribed and sworn to before me

This _____day of _____, 20___

_____

_____

_____
(Title)

My commission expires _____

CITY OF DAVENPORT
AFFIRMATIVE ACTION PROGRAM

Dear Vendor:

As a potential prime contractor for the City of Davenport, we ask your cooperation in completing this package, which is designed to comply with the City of Davenport's commitment to Affirmative Action.

After completing this package, please return it to the City of Davenport, Purchasing Division, 226 - West 4th Street, Davenport, Iowa 52801.

This form will be kept on file in the Purchasing Division for a period of three (3) years from the date submitted below and will be applicable to any contract your firm may be awarded during this time.

If you have any questions, please contact the Purchasing Division at (563) 326-7760.

Affirmative Action Reporting For:

Company Name_____

Company Address _____

Area Code/Phone Number _____ Fax _____

The undersigned attests that the above-named firm is an Equal Opportunity Employer.

Official Signature _____

Printed Name _____

Date _____

GENERAL INFORMATION

A. Owner(s) and/or Principal(s) of our Company are:

Name & Address	Position	Sex	Racial Origin

B. Other Areas of Interest

Please list other Branches or Subsidiaries of this Company:

Company Name	Address

C. We will utilize the Certified DBE Directory provided by the City of Davenport in seeking qualified minority and female contractors as a means of increasing minority and female entrepreneurship with our company. The Directory may be obtained through the Finance Department/Purchasing Division.

D. As a result of our Affirmative Actions, we are setting a goal to have protected class contractors/subcontractors and or suppliers in the following areas:

E. We will require timely and adequate submittals of Affirmative Action Programs from all contractors/subcontractors who propose to work on City of Davenport projects and will take whatever steps are necessary to ensure that non-protected class contractors/subcontractors have adequate protected class representation in their total work forces.

CITY OF DAVENPORT – AFFIRMATIVE ACTION PROGRAM
DATA REPORTING FORM 1

Employment Data: Please include all employees. These figures should be indicative of your present work force.

CLASSIFICATIONS	CAUCASIAN Male/Female		BLACK Male/Female		HISPANIC Male/Female		ASIAN/PACIFIC ISLANDER Male/Female		AMERICAN INDIAN Male/Female	
Officers/Managers										
Professionals										
Technicians										
Office/Clerical										
Skilled Craft Workers										
Sales Workers										
Service/ Maintenance										
Laborers										
Apprentices										
(On the Job) Trainees										

CITY OF DAVENPORT – AFFIRMATIVE ACTION PROGRAM
DATA REPORTING FORM 2

PROTECTED CLASS EMPLOYEES

List the name, address, date hired, discipline or trade, classification and protected class membership for each protected class person with your company.

Name & Address	Discipline Or Trade	Classification	Date Hired	Protected Class Membership
Example: Janice Smith 711 American St. Dav. IA 52804	Electrician	Journeyman	10/7/70	Female
1.				
2.				
3.				
4.				
5.				
6.				

Use additional sheets as necessary

FEDERALLY ASSISTED PROGRAM ONLY

We (including areas of interest as applicable) currently have contracts on other Federally-assisted projects in Iowa, Kansas, Missouri and Nebraska, as follows:

NAME	PROJECT TYPE	LOCATION	CONTRACT AMOUNT

2. Past contractual experience (including areas of interest, as applicable) on Federally assisted contracts in Iowa, Kansas, Missouri, and Nebraska has been: _____

_____

_____

3. We (including areas of interest) have _____ number of Federally assisted contracts in the United States; these total $_____.

NAME	TYPE	LOCATION	CONTRACT AMOUNT	YEAR

4. In conjunction with this project, we propose to subcontract the following types of work:

_____

_____

COMPLIANCE CERTIFICATE

Section 3 of the Housing and Urban Development Act

Reference Contract for: _____

The work to be performed under this contract is on a project assisted under a program providing direct Federal financial assistance from the Department of Housing and Urban Development and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701 u. Section 3 requires that to the greatest extent feasible opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns, which are located in, or owned in substantial part by persons residing in the area of the project.

The parties to this contract will comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of Housing and Urban Development set for the in 24 CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of this contract. The parties to this contract certify and agree that they are under no contractual or other disability, which would prevent them from complying with these requirements.

The contractor will send to each labor organization or representative of workers with which he has a collective bargaining agreement or other contract or understanding, if any, a notice advising the said labor organization or workers' representative of his commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.

The contractor will include the Section 3 clause in every subcontract for work in connection with the project and will, at the direction of the applicant for or recipient of Federal financial assistance, take appropriate action pursuant to the subcontract upon a finding that the subcontractor is in violation of regulations issued by the Secretary of Housing and Urban Development, CFR 135. The contractor will not subcontract with any subcontractor when it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR 135 and will not let any subcontract unless the subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.

Compliance with the provisions of Section 3, the regulations set forth in 24 CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of the contract, shall be a condition of the Federal financial assistance provided to the project, binding upon the applicant or recipient for such assistance, its successors and assigns. Failure to fulfill these requirements shall subject the applicant or recipient, its contractors and subcontractors, its successors, and assigns to those sanctions specified by the grant or loan agreement or contract through which Federal assistance is provided, and such sanctions as are specified by 24 CFR 135.

_____

Contractor's Signature

SRF Required Front-End Specifications

This packet includes the special requirements that apply only to projects subject to "American Iron and Steel" requirements enacted by Congress on January 17, 2014. Please consult with the DNR Project Manager to determine if the AIS requirements apply. If not, Attachment 9 may be removed.

Attachment 1: Certification of Non-Segregated Facilities Form *(to be completed and signed by Prime Contractor and submitted with the bid)*

Attachment 2: Statement in Advertisement for Bids on Debarment and Suspension/Certification Regarding Debarment and Suspension Form *(to be completed and signed by Prime Contractor and submitted with the bid)*

Attachment 3: Disadvantaged Business Enterprise Certification Form *(to be completed and signed by Prime Contractor and submitted with the bid)*

Attachment 4: DBE Program Subcontractor Performance Form (*to be completed and signed by Prime and DBE Subcontractor for each subcontract and submitted with the bid)*

Attachment 5: DBE Program Subcontractor Utilization Form *(to be completed and signed by Prime Contractor and submitted with the bid)*

Attachment 6: DBE Program Subcontractor Participation Form *(for voluntary use of DBEs)*

Attachment 7: Other Federal Requirements Language

A. Standard Equal Employment Opportunity Specifications
B. Federal Labor Standards Provisions (including Davis-Bacon prevailing wage rates)
C. Preservation of Open Competition and Government Neutrality
D. Historical and Archeological Finds
E. Prohibitions on Procurement from Violating Facilities

Attachment 8: Right of Entry and Records Retention

Attachment 9: Use of American Iron and Steel

Please note: *The Davis Bacon wage determination received from the Iowa Finance Authority must also be included in the front-end specifications.*

Attachment 1

SRF Required Front-End Specifications

(This form must be completed and signed by Prime Contractor and submitted with the bid.)

U.S. Environmental Protection Agency

Certification of Non-Segregated Facilities

(Applicable to contracts, subcontracts, and agreements with applicants who are themselves performing Federally assisted construction contracts, exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause.)

By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national original, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NON-SEGREGATED FACILITIES

A Certification of Non-segregated Facilities, as required by the May 9, 1967, order (33 F.R. 7808, May 28, 1968) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

_____

Signature Date

_____

Name and Title of Signer (Please Type)

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

EPA-7 5720-4.2

Attachment 2
SRF Required Front-End Specifications

(This form must be completed and signed by the Prime Contractor and submitted with the bid.)

Debarments and Suspensions

Any bidder or equipment supplier whose firm or affiliate is listed in on the U.S. General Services Administration Excluded Parties List will be prohibited from the bidding process. The excluded parties records search engine is located at the System for Award Management (SAM) website: https://www.sam.gov/SAM/. Anyone submitting a bid who is listed on this web site will be determined to be a non-responsive bidder in accordance with 40 CFR Part 31.

United States Environmental Protection Agency Washington, DC 20460

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission o f fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transaction s (Federal, State, or local) terminated or cause or default.

I understand that a false statement on this certification may be ground for rejection of this proposal or termination of the award. In addition, under 18 U SC Sec. 10 01, a false statement ma y result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.

_____

Typed Name & Title of Authorized Representative

_____

Signature of Authorized Representative Date

☐ I am unable to certify to the above statements. My explanation is attached.

Attachment 3

SRF Required Front-End Specifications

(This form must be completed and signed by Prime Contractor and submitted with the bid.)

Disadvantaged Business Enterprise (DBE) Solicitation

It is EPA's policy that recipients of EPA financial assistance through the State Revolving Fund programs award a "fair share" of subagreements to small, minority and women-owned businesses, collectively know as Disadvantaged Business Enterprises (DBEs). Iowa's Fair Share goals are:

	Minority-Owned Business Enterprise (MBE) Goal	Women-Owned Business Enterprise (WBE) Goal
Construction	1.7%	2.2%
Supplies	0.6%	5.6%
Services	2.5%	11.3%
Goods/Equipment	2.5%	10.4%
Average	1.8%	7.4%

Only work performed by certified DBEs can be counted toward the goals. In Iowa, DBEs must be certified through the Iowa Department of Transportation (IDOT). Information on certification requirements and a list of certified DBEs is on the IDOT website at https://secure.iowadot.gov/DBE/Home/Index/.

Prime contractors' DBE requirements for SRF projects include:

- Taking affirmative steps for DBE participation
- Documenting the efforts and the proposed utilization of certified DBEs

PROJECT INFORMATION

SRF Applicant:	
Bidder:	
Address:	
Contact Person:	
Signature:	
Phone Number:	
E-Mail Address:	
Check if Prime Contractor is: ☐ **Minority-Owned** ☐ **Women-Owned**	

GOOD FAITH EFFORTS CHECKLIST

Please complete the checklist to determine if you have complied with the requirement to make good faith efforts to ensure that certified DBEs have the opportunity to compete for procurements funded by EPA financial assistance funds. Bidders/offerers must make good faith efforts prior to submission of bids/proposals.

1. Did you ensure that DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities? ☐ Yes ☐ No

2. Did you make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process? This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date. ☐ Yes ☐ No

3. Did you consider in the contracting process whether firms competing for large contracts could subcontract with DBEs? This will include dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process. ☐ Yes ☐ No

4. Did you encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually? ☐ Yes ☐ No

5. Did you use the services of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce to identify potential subcontractors? ☐ Yes ☐ No

6. List the potential DBE subcontractors that were contacted. Only list those that are certified through the Iowa Department of Transportation.

Name	**How Contacted (e.g. letter, phone call, fax, e-mail)**	**Response (e.g. did not respond, not interested, not competitive)**

PROPOSED UTILIZATION OF DBE SUBCONTRACTORS

Please include Attachments 4 and 5 to document the proposed utilization of certified DBE subcontractors.

CONTRACT ADMINISTRATION PROVISIONS

Several contract provisions are required to prevent unfair practices that adversely affect DBEs. These include:

1. Prime Contractor must pay its Subcontractor for satisfactory performance no more than 30 days from the Prime Contractor's receipt of payment from the SRF loan recipient.

2. Prime Contractor must notify the SRF loan recipient in writing prior to termination of a DBE subcontractor for convenience.

3. Prime Contractor must employ the six Good Faith Efforts to solicit a replacement subcontractor if a DBE subcontractor fails to complete work under a subcontract for any reason.

Attachment 4

SRF Required Front-End Specifications

(This form must be completed and signed by Prime and DBE Subcontractor for each subcontract and submitted with the bid.)

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form

This form is intended to capture the DBE[1] subcontractor's[2] description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractor's bid or proposal package.

Subcontractor Name	Project Name	
Bid/Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact
Address		
Telephone No.	Email Address	
Prime Contractor Name	Issuing/Funding Entity	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services, Equipment or Supplies	Price of Work Submitted to the Prime Contractor

DBE Certified by ____ DOT _____ SBA _____Other: _____	Meets/exceeds EPA certification standards? _____ YES _____ NO _____ Unknown

[1]A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2]Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	**Date**

Subcontractor Signature	Print Name
Title	**Date**

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Attachment 5

SRF Required Front-End Specifications

(This form must be completed and signed by Prime Contractor and submitted with the bid if utilizing DBE subcontractors.)

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or intended use of identified certified DBE[1] subcontractors[2] and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name	Project Name	
Bid/Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact
Address		
Telephone No.	Email Address	
Issuing/Funding Entity		
I have identified potential DBE certified subcontractors _____ YES _____ NO If yes, please complete the table below. If no, please explain: _____		

Subcontractor Name/Company Name	Company Address/Phone/Email	Estimated Dollar Amount	Currently DBE Certified?

Continue on back if needed

[1]A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2]Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	Print Name
Title	**Date**

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Attachment 6
SRF Required Front-End Specifications
(This form is not required for bidding. It is for the voluntary use of DBE Subcontractors.)

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Participation Form

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE[1] subcontractor[2] the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g. in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name	Project Name	
Bid/Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact
Address		
Telephone No.	Email Address	
Prime Contractor Name	Issuing/Funding Entity	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services, Equipment or Supplies	Amount Received by Prime Contractor

[1]A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certification as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

[2]Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

OMB Control No: 2090-0030
Approved 8/13/2013
Approval Expires 8/31/2015

United States Environmental Protection Agency Disadvantaged Business Enterprise Program
DBE Subcontractor Participation Form

Please use the space below to report any concerns regarding the above EPA-funded project:

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Subcontractor Signature	Print Name
Title	**Date**

EPA FORM 6100-2 (DBE Subcontractor Participation Form)
Return to: Regional Coordinator, Small Business Utilization, U.S. Environmental Protection Agency, Region 7, 11201 Renner Blvd., Lenexa, KS 66219

The public reporting and recordkeeping burden for this collection of information is estimated to average three (3) hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Attachment 7
SRF Required Front-End Specifications

Other Federal Requirements Language

A. Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)

1. As used in these specifications:
   a. “Covered area” means the geographical area described in the solicitation from which this contract resulted;
   b. “Director” means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
   c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
   d. "Minority" includes:
      (i) Black (all persons having origin in any of the Black African racial groups not of Hispanic origin);
      (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
      (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Sub-continent, or the Pacific Islands); and
      (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 6-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor’s or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employee in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a

Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work in being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal emp1oyment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor employees are assigned to work. The Contractor, where possible will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's effort, to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The

Contractor shall provide notice of these programs to the source complied under 7b above.
f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and test to be used in the selection process.
j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
1. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
m. Ensure that seniority practices, job classifications work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
p. Conduct a review, at least annually, of all supervisors’ adherence to and performance under the Contractor’s EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetable or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps at least as extensive as those standards prescribed in paragraph 7 of these specifications so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

Federal Register, Vol. 43, No. 68 - Friday, April 7, 1978 (Corrected May 5, 1978).
Effective Date: May 8, 1978
Federal Register, Vol. 45, No. 194. Paragraph 4, revised October 3, 1980
Effective Date: September 30, 1980

APPENDICES A and B-80

Notice of Requirement for Affirmative Action To Ensure Equal Employment Opportunity

(Executive Order 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

(See Appendix B-80 and Appendix A Below)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and in the regulations in 41 CFR Part 60—4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60—4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60—4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer Identification number of the subcontractor, estimated dollar amount of the subcontract, and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the “covered area” is (State of Iowa).

APPENDIX A

The following goals and timetables for female utilization shall be included in all Federal and federally assisted construction contracts and subcontracts in excess of $10,000. The goals are applicable to the contractor’s aggregate on-site construction workforce whether or not part of that workforce is performing work on a Federal or federally assisted construction contract or subcontract.

Area covered: Goals for Women apply nationwide.

Timetable Goals (percent)
From Apr. 1, 1978 until March 31, 1979 . . . . . .3.1
From Apr. 1, 1979 until March 31, 1980 . . . . . .5.0
From Apr. 1, 1980 until March 31, 1981 . . . . . .6.9

Published, Federal Register May 5, 1978

APPENDIX B-80

Until further notice, the following goals for minority utilization in each construction craft and trade shall be included in all Federal or federally assisted construction contracts and subcontracts in excess of $10,000 to be performed in the respective geographical areas. The goals are applicable to each nonexempt contractor’s total onsite construction workforce, regardless of whether or not part of that workforce is performing work in a Federal, federally assisted or nonfederally related project, contract or subcontract. Construction contractors which are participating in an approved Hometown Plan (see 41 CFR 60—4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all their other covered construction work, such contractors are required to comply with the applicable SMSA of EA goal contained in this appendix B-80.

Economic Areas

State: Iowa Goal %

096 Dubuque IA:
SMSA Counties:
2200 Dubuque, IA …….. 0.6
IA Dubuque
Non-SMSA
Counties ……..… 0.5
IA Allamakee, IA Clayton, IA Delaware, IA, Jackson IA, Winneshiek

099 Davenport Rock Island Moline, IA-IL:
SMSA Counties:
1960 Davenport Rock Island Moline, IA-IL …..… 4.6
IL Henry, IL Rock Island Moline, IA Scott

Non-SMA
Counties ……. 3.4
IL Carroll, IL Hancock, IL Henderson, IL ,Mercer, IL Whiteside, IA Clinton, IA Des Moines, IA Henry, IA Lee, IA Louisa, IA, Muscatine, MO Clark

100 Cedar Rapids, IA:
SMSA Counties:
1360 Cedar Rapids, IA …… 1.7
IA Linn

Non-SMSA Counties ……..…… 1.5
IA Benton, IA Cedar, IA Iowa, IA Johnson, IA, Jones, IA, Washington

101 Waterloo, IA:
SMSA Counties:
8920 Waterloo-Cedar Falls, IA …… 4.7
IA Black Hawk

Non-SMSA Counties ……..… 2.0
IA Bremer, IA Buchanan, IA Butler, IA Cerro Gordo, IA Chickasaw, IA Fayette, IA Floyd, IA Franklin, IA Grundy, IA Hancock, IA Hardin, IA Howard, IA Mitchell, IA Winnebago, IA Worth

102 Fort Dodge, IA:
Non-SMSA Counties …….. 0.4
IA Buena Vista, IA Calhoun, IA Carroll, IA Clay, IA Dickinson, IA Emmet, IA Greene, IA Hamilton, IA Humboldt, IA Kossuth, IA Palo Alto, IA Pocahontas, IA Sac, IA Webster, IA Wright

103 Sioux City, IA:
SMSA Counties:
7720 Sioux City, IA-NE ……..……..… 1.9
IA Woodbury, NE Dakota

Non-SMSA Counties ……. 1.2
IA Cherokee, IA Crawford, IA Ida, IA Monona, IA O'Brien, IA Plymouth, IA Sioux, NE Antelope, NE Cedar, NE Cuming, NE Dixon, NE Knox, NE Madison, NE Pierce, NE Stanton, NE Thurston, NE Wayne, SD Bon Homme, SD Clay, SD Union, SD Yankton

104 Des Moines, IA:
SMSA Counties:
2120 Des Moines, IA ……..…… 4.5
IA Polk, IA Warren

Non SMSA Counties: ……..……. 2.4
IA Adair, IA Appanoose, IA Boone, IA Clarke, IA Dallas, IA Davis, IA Decatur, IA Guthrie, IA Jasper, IA Jefferson, IA Keokuk, IA Lucas, IA Madison, IA Mahaska, IA Marion, IA Marshall, IA Monroe, IA Poweshiek, IA Ringgold, IA Story, IA Tama, IA Union, IA Van Buren, IA Wapello, IA Wayne

143 Omaha, NE:
SMSA Counties:
5920 Omaha, NE-IA …….……..…… 7.6
IA Pottawattamie, NE Douglas, NE Sarpy

Non-SMSA Counties ……..... 5.3
IA Adams, IA Audubon, IA Cass, IA Fremont, IA Harrison, IA Mills, IA Montgomery, IA Page, IA Shelby, IA Taylor, NE Burt, NE Cass, NE Colfax, NE Dodge, NE Platte, NE Saunders, NE Washington

Published, Federal Register October 3, 1980

B. Federal Labor Standards Provisions (including Davis-Bacon prevailing wage rates)

Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

(1) Minimum wages. (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill,

except as provided in Sec. 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additionalclassification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The EPA shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records. (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency). The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/whd/programs/dbra/forms.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the (write in name of appropriate federal agency) if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the (write in name of agency), the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its

own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a ``Statement of Compliance,'' signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under Sec. 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under Sec. 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the ``Statement of Compliance'' required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's

hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rateon the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the (write in the name of the Federal agency) may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility. (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) Contract Work Hours and Safety Standards Act. The Agency Head shall cause or require the contracting officer to insert the following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Sec. 5.5(a) or 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The loan recipient shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the

subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in Sec. 5.1, the Agency Head shall cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Agency Head shall cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

C. Preservation of Open Competition and Government Neutrality Towards Government Contractors' Labor Relations on Federal and Federally Funded Construction Projects (Executive Order 13202, as amended by Executive Order 13208)

Executive Order 13202, signed February 17, 2001 and amended April 4, 2001, requires all executive agencies that issue grants to ensure Government neutrality toward contractors' labor relations. This applies to recipients of SRF assistance. The Executive Order prohibits discrimination against contractors and their employees in construction contracts based upon labor affiliation or lack thereof.

SRF assistance recipients and any construction managers acting on their behalf must ensure that bidding specifications, project agreements, and other controlling documents do not require, prohibit, or otherwise discriminate, with respect to labor affiliation or lack thereof.

D. Historical and Archeological Finds

If, during the course of construction, evidence of deposits of historical or archeological interest is found, the contractor shall cease operations affecting the find. The owner shall then notify the State Revolving Fund Environmental Review Specialist, who shall in turn notify the State Historic Preservation Office. The SRF shall consult with the SHPO and other interested parties to determine the proper course of action regarding the discovery. No further disturbance of the deposits shall ensue until the SRF Environmental Review Specialist determines that the project activities in that area may proceed. Compensation to the contractor, if any, for lost time or changes in construction to avoid the find, shall be determined in accordance with changed conditions or change order provisions of the specifications.

Authority for this derives from the National Historic Preservation Act (16 U.S.C. §§ 470 *et seq.*) and 36 CFR Part 800. If human remains are discovered then state law also applies IC 263B.

E. Prohibitions on Procurement from Violating Facilities (Section 306, Clean Air Act; Section 508, Clean Water Act; Executive Order 11738)

Both the Clean Water Act and the Clean Air Act prohibit federal agencies from extending assistance by way of loans or contracts to persons who have been convicted of violations of either law. Executive Order 11738 was issued to coordinate enforcement by the U.S. Environmental Protection Agency, which shall designate facilities which have given rise to a conviction for an offense under the criminal provisions of the Clean Air Act and the Clean Water Act.

The Executive Order also prohibits agencies from extending assistance to facilities that are not in compliance with either Act.

SRF assistance recipients may not procure goods, services, or materials from suppliers listed by the EPA as violators.

The Excluded Parties Listing search engine is located at the System for Award Management (SAM) website: https://www.sam.gov/SAM/.

Attachment 8
SRF Required Front-End Specifications

Right of Entry and Records Retention

The recipient shall provide access at all times for the Department of Natural Resources, the Iowa Finance Authority, the state auditor, and the U.S. EPA Office of the Inspector General to all project records and documents for inspection and audit purposes for a period of three years after the date of last loan payment. The same access to the project site(s) shall be provided for inspection purposes.

92.8 (2).6.e. State inspections. Personnel of the department shall have the right to examine all construction aspects of the project, including materials and equipment delivered and stored on site for use on the project.

Attachment 9
SRF Required Front-End Specifications

"American Iron and Steel" Requirements

H.R. 3547, the "Consolidated Appropriations Act, 2014," enacted January 17, 2014 by the U.S. Congress, includes "American Iron and Steel" provisions that require Clean Water and Drinking Water State Revolving Fund assistance recipients of these funds to use iron and steel produced in the United States.

H.R. 3547 includes the following language in Division G, Title IV, under the heading, "Use of American Iron and Steel":

> Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.
>
> (2) In this section, the term "iron and steel products" means the following products made primarily of iron and steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.
>
> (b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the "Administrator") find that—
>
> (1) applying subsection (a) would be inconsistent with the public interest;
>
> (2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quantity; or
>
> (3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.
>
> (c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

The final guidance and any published waivers are found at: https://www.epa.gov/cwsrf/state-revolving-fund-american-iron-and-steel-ais-requirement. In particular the contractor should pay attention to the guidance for documentation of compliance. There is also a waiver for incidental items; in order to qualify for this waiver the total materials and costs for the project must be tracked and incidental items identified.

Sample "American Iron and Steel" Contract Language

In order to fulfill the requirements, the assistance recipient must in good faith design the project and solicit bids for construction with U.S.-made iron and steel. The following information will be included in any contracts resulting from this request for bids:

The Contractor acknowledges to and for the benefit of the City of _____ ("Purchaser") and the State of Iowa (the "State") that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund and such law contains provisions commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement.

The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State.

Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

Sample Certifications

As indicated in the contract language, it will be the responsibility of the Contractor to obtain certifications that the products and materials used in the project are U.S.-made. EPA recommends the use of a step certification process for documenting compliance with AIS requirements, similar to one used by the Federal Highway Administration. Step certification creates a paper trail which documents the location of the manufacturing process involved with the production of steel and iron materials. Each handler (supplier, fabricator, manufacturer, processor, coater, etc.) of the iron and steel products certifies that their step in the process was domestically performed.

The following information is provided as a sample letter of step certification for AIS compliance. Documentation must be provided on company letterhead. In this example, there may be multiple letters from different manufacturers if one manufacturer did not perform all of the steps.

Date

Company Name
Company Address
City, State Zip

Subject: American Iron and Steel Step Certification for Project (XXXXXXXXXX)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. Xxxx

2. Xxxx

3. Xxxx

Such process took place at the following location:

_____

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the U.S. and providing detailed information on the steps involved.

The following is a template for this type of final certification.

Template American Iron and Steel Certification Letter

On Manufacturer's Letterhead

IRON & STEEL, INC.
1959 Steel Drive
Ironville, OH 12345

MATERIAL CERTIFICATION

April 30, 2015

RE: Job Name: Waterprojectville, Iowa – 2015 State Revolving Fund Water Infrastructure Project
SRF Project Number: CS1920999 01

References the SRF Project

I certify that the processes for manufacturing or fabricating the following products and/or materials provided for the subject project took place at the following U.S. locations:

Quantity	Description	Manufacturing Processes	Location Where Processes Occurred
3 count	AB123456 4" Gate Valve	Melting, poured, machined	Ironville, OH
60 count	XY654321 Reinforced Concrete Manhole	Melted, rolled, fabricated	Steel City, IA
60 count	XZ123456 Manhole Cover	Melted, cast, finished	Stainless, MS
1200 linear feet	AB654321 4" Ductile Iron Water Pipe	Melted, rolled, finished	Pipetown, CA

I further certify that the products and/or materials are in full compliance with the American Iron and Steel requirements as mandated in the U.S. Environmental Protection Agency's State Revolving Fund programs. If any of the above compliance statements change while providing material to this project we will immediately notify the supplier, prime contractor, consulting engineer, or project owner.

Specifies the Products and Quantities

Specifies the Manufacturing Processes and the U.S. Locations Where They Were Performed

On behalf of IRON & STEEL, INC.,

Jane Smith
Jane Smith
Product Quality Manager

Signature of Manufacturer's Representative

Covered and Non-Covered Items

The EPA issued a waiver for de minimus incidental components of eligible water and wastewater infrastructure projects. Funds used for such de minimus incidental components cumulatively may comprise no more than a total of 5% of the total cost of the materials used in and incorporated into a project. The cost of an individual incidental item may not exceed 1% of the total cost of the materials used in and incorporated into a project.

De minimus incidental items include miscellaneous, generally low-cost components that are essential for, but incidental to, the construction and are incorporated into the physical structure of the project. For many of these incidental components, the country of manufacture and the availability of alternatives are not readily or reasonably identifiable prior to procurement in the normal course of business. For others, the country of manufacture may be known but the miscellaneous character in conjunction with the low cost, individually and (in total) as typically procured in bulk, mark them as properly incidental.

Examples of incidental components could include small washers, screws, fasteners (i.e., nuts and bolts), miscellaneous wire, corner bead, ancillary tube, etc. Examples of items that are clearly not incidental include significant process fittings (i.e., tees, elbows, flanges, and brackets), distribution system fittings and valves, force main valves, pipes, treatment and storage tanks, large structural supports, etc.

Assistance recipients should in consultation with their contractors determine the items to be covered by this waiver, must retain relevant documentation (i.e. invoices) as to those items, and must summarize in reports to the State of Iowa the types and/or categories of items to which this waiver is applied, the total cost of incidental components for each type or category, and the calculations by which they determined the total cost of materials used in and incorporated into the project.

The successful bidder will fill out the materials spreadsheet (shown below) and submit it to the assistance recipient to indicate covered and non-covered items proposed to be procured for the project.

American Iron and Steel Materials Spreadsheet – to be Submitted by Successful Bidder
Iowa Department of Natural Resources - May 2014
Based on EPA Memorandum (4/15/2014): De Minimus Waiver of Section 436 of P.L. 113-76, Consolidated Appropriation Acts (CAA), 2014

Project:			
Bidder:		Date:	

*Covered Pr pipes or fittings; manhole covers; municipal castings; pipe clamps and restraints; valves; structural steel; hydrants, tanks; flange onstruction materials.

**Incidental lly low-cost items, often procured in bulk, such as washers, screws, fasteners, small amounts of wire, etc.

Choose an item.
Lined/unlined pipes or fittings
Manhole covers
Municipal castings
Pipes clamps or restraints
Valves
Structural steel
Hydrants
Tanks
Flanges
Reinforced precast concrete
Construction materials

		Description of Other oducts if Not Included in Covered Products	Bid Amount Covered Products	Bid Amount Incidentals	Documentation Will be Obtained	Item is Incidental and will be Claimed under de Minimus Waiver**
1	Choose an item.				☐	☐
2	Choose an item.				☐	☐
3	Choose an item.				☐	☐
4	Choose an item.				☐	☐
5	Choose an item.				☐	☐
6	Choose an item.				☐	☐
7	Choose an item.				☐	☐
8	Choose an item.				☐	☐
9	Choose an item.				☐	☐
10	Choose an item.				☐	☐

At the end of construction, the contractor will submit a final list showing covered and non-covered items.

American Iron and Steel Materials Spreadsheet with de Minimus Items
Iowa Department of Natural Resources - May 2014
Based on EPA Memorandum (4/15/2014): De Minimus Waiver of Section 436 of P.L. 113-76, Consolidated Appropriation Acts (CAA), 2014

Project:					
Contractor:		Submitted By:			
Date:		Final De Minimus List	☐		
Total Materials Cost:		Total Amount Covered Under de Minimus Waiver		Percent (must be 5% or less of total materials cost)	

*Covered Products include: Lined or unlined pipes or fittings; manhole covers; municipal castings; pipe clamps and restraints; valves; structural steel; hydrants, tanks; flanges; reinforced precast concrete; construction materials.
**Incidental items are miscellaneous, generally low-cost items, often procured in bulk, such as washers, screws, fasteners, small amounts of wire, etc.

	Covered Products*	Description if Not Included in Covered Products	Date Purchased	Dollar Amount Covered Products	Dollar Amount Incidentals	Documentation Received	Incidental**
1	Choose an item.					☐	☐
2	Choose an item.					☐	☐
3	Choose an item.					☐	☐
4	Choose an item.					☐	☐
5	Choose an item.					☐	☐
6	Choose an item.					☐	☐

These documents are available on-line at http://www.iowasrf.com/about_srf/use-of-american-iron-and-steel/.

"General Decision Number: IA20190001 07/19/2019

Superseded General Decision Number: IA20180002

State: Iowa

Construction Types: Heavy and Highway

County: Scott County in Iowa.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate,if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to

the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019
1	01/18/2019
2	03/29/2019
3	04/19/2019
4	07/19/2019

CARP0004-006 01/01/2019

	Rates	Fringes
CARPENTER	$ 30.39	25.32
PILEDRIVERMAN	$ 30.39	25.32

CARP2158-003 06/01/2017

	Rates	Fringes
MILLWRIGHT	$ 28.81	24.05

ELEC0145-004 06/04/2018

	Rates	Fringes
CABLE SPLICER	$ 36.00	22.21
ELECTRICIAN	$ 35.00	22.13

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* ENGI0150-011 06/01/2019

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 36.00	33.30
GROUP 2	$ 35.00	33.30
GROUP 3	$ 32.35	33.30
GROUP 4	$ 31.30	33.30

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane (Friction or Hydraulic, regardless of size or attachments); Tow or Push Boat

GROUP 2: Asphalt Heater-Planer Unit; Asphalt Paver; Asphalt Paver Screed; Asphalt Plant; Automatic Curbing Machine; Backfiller (throw bucket); Blastholer Self-Propelled Rotary Drill or Similar Machines; Boom Tractor or Side Boom; Boring Machine (Directional, Vertical or Horizontal); Building Hoist (1,2 or 3 drums); Caisson Auguring Machines; Central Redi-Mix Plant; Chip Spreader; Cleaning & Priming

Machine; Combination Backhoe Front End Loader; Combination Concrete Finishing Machine and Float; Concrete Breaker or Hydro-Hammer; Concrete Conveyor or Pump; Concrete Paver; Concrete Spreader; Concrete Wheel Saw (Large self-propelled); Crusher (Stone, Concrete, Asphalt, etc.); Curing-Tinning Machine; Dipper Dredge Crane man; Dipper Dredge Operator; Dual Purpose Truck (Boom, Winch, etc.); Excavator; Farm-Type Tractor Operating Scoop or Scraper or with Power Attachment; Forklift (6000 lb. capacity); Grader, Motor Grader, Motor Patrol, Auto Grader, Form Grader, Pull Grader, Sub Grader, Elevating Grader; Group Equipment Greaser; Guard Rail Post Driver; Hoists; Hydraulic Dredge Leverman or Engineer; Hydro-Vac Truck Mounted or Pull Type, and Similar Equipment; Laser Screed; Loader (Track, Rubber Tire or Articulated); Locomotive Engineer; Mechanic-Welder; Mechanical Loaded Log Chippers or Similar Machines; Milling Machine; Mucking Machine; Pile Driver; Pipe Bending; Pug Mill; Road Widener-Shoulder Spreader; Scraper (self-propelled); Self-Propelled Roller or Tire Roller (on Asphalt or Blacktop), Sheep Foot or Pad Foot Compactor; Shovel; Slip Form Paver; Steel Track-Type Tractor (Dozer, Push Cat, etc.); Transfer or Shuttle Buggy; Trenching Machine (40 H.P. & over); Work Boat.

GROUP 3: Articulated Off-Road Haul Unit; Asphalt Booster; Boiler (Engineer or Fireman); Conveyor Over 20 H.P.; Distributor; Driver on Truck Crane or Similar Machines; Elevator; Farm-Type Tractor (Without Power Attachment); Fireman & Pump Operator at Asphalt Plant; Forklift (Less

than 6000 lb. capacity); Grout Pump; Light Plant; Mechanical Broom; Mud Jack; Self-Propelled Roller (Other than listed in Group 2); Straddle Carrier; Trench Machine (Under 40 H.P.).

GROUP 4: Air Compressor (400 C.F.M. or over); Compact Loader (Rubber Tire, Track & Utility); Engine Driven Welding Machine; Mechanical Heater (other than steam boiler); Small Outboard Motor Boat (Safety Boat & Life Boat); Water Pump (More than one well point pump).

IRON0111-001 07/01/2018

	Rates	Fringes
IRONWORKER	$ 31.75	25.52

LABO0309-005 01/01/2019

SCOTT COUNTY

	Rates	Fringes
LABORERS		
GROUP 1	$ 28.13	21.07
GROUP 2	$ 28.63	21.07
GROUP 3	$ 29.26	21.07

LABORER CLASSIFICATIONS

GROUP 1 - Flagman; Dumpman; Spotter; Broom Man; Landscaper; Planting & Removal of Trees; Fencing Laborers; Cleaning of Forms or Lumber (in Bone Yard); Laying of Sod; Moving and/or Maintenance of Flares & Barricades; Operation of all Hand, Electric, Air, Hydraulic or Mechanically Powered Tools under the the Laborers' including Jackhammer, Tamper, Air Spade, Auger, Concrete Saw, Chain Saw, Utility Saw, Rock Drill, Vibrator; Mortar Mixer; Power & Hand Saw (When Clearing Timber); General Laborer; Material Handler; Form Handler; Concrete Dumper; Puddler; Explosives Handler; Center Strip Handler & Installer; Prime Mover or any Mechanical Device Taking the Place of Concrete Buggy or Wheelbarrow; Sandpoint Setter; Asphalt Kettleman; Sheeting Hammer Driver; Laying & Jointing of Telephone Conduit; Gas Distribution Man; Pipe Setter On Lateral, Drain Tile, Culvert Pipe & Storm Sewer; Catch Basin Lead; Catch Basin; Manholes; Batch Dumper; Tank Cleaner; Cofferdam Worker; Bankman on Floating Plant; Jointman With Pipelayer; Back-up Man (Corker, Joint Maker) With Pipe Setter On Sewer & Water Main; Batterboard Man or Laser Operator on Sewer & Water Main; Laborer in Ditch or Tunnel, on Sewer or Water Main & Telephone Conduit, Cutters; Burners; Torchman; Gravel Box Man; Asphalt Plant; Concrete Plant; Deck Hand; Unloading of Steel & Rebar; & Wrecking Laborers

GROUP 2 - Asphalt Raker or Luteman; Pipe Setter on Sewer or Water Main; Gunnite Nozzle Man; Asphalt or Concrete Curb

Machine Operator; Concrete Burning Machine Operator; & Coring Machine Operator; Hazardous Waste Worker; Asbestos Abatement Worker

GROUP 3 - Concrete Specialist (All work relating to but not limited to pouring, striking of & finishing all concrete surfaces)

PAIN0081-001 05/01/2017

	Rates	Fringes
Painters:		
Brush & Roller	$ 28.42	15.85
Drywall Taper	$ 28.92	15.85
Elevated Tanks, Bridges, Stacks Flag Poles, Mfg, Vessels (interior and exterior surfaces)	$ 30.42	15.85
Sign Painters	$ 16.37	15.85
Spray, Structural Steel and Sandblasting, Industrial	$ 28.92	15.85

PLAS0544-001 01/01/2019

SCOTT COUNTY

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 27.90	23.16

TEAM0371-001 05/01/2012

SCOTT COUNTY

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 31.34	10.05+a
GROUP 2	$ 31.78	10.05+a
GROUP 3	$ 32.02	10.05+a
GROUP 4	$ 32.28	10.05+a
GROUP 5	$ 33.13	10.05+a

Footnote:

a. PENSION: $40.10 per day

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Drivers on 2 axle trucks hauling less than 9 tons , air compressor and welding machines and brooms, including those pulled by separate units, warehousemen, greasers and tiremen, pick- up-trucks when hauling material, tools or men to and from and on the job site, and forklifts up to 6,000 lb capacity

GROUP 2: 2 or 3 axle trucks hauling more than 9 tons but hauling less than 16 tons. A-frame winch trucks, or similar equipment when used for transportation purposes. Forklifts over 6,000 lb capacity, winch trucks, four axle combination units, hydrolift Trucks, vactor trucks or simiolar equipment when used for transportation purposes..

GROUP 3: 2, 3, and 4 axles hauling 16 tons or more, water pulls, 5 axles or more combination units, water pulls, articulated dump trucks

GROUP 4: Oil distributors, lowboys

GROUP 5: Drivers who require special protective clothing while employed on hazardous waste work.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours

they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and

non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division

U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

JOB SITE POSTERS

NOTICE TO ALL EMPLOYEES

Working on Federal or Federally Financed Construction Projects

MINIMUM WAGES

You must be paid not less than the wage rate in the schedule posted with this Notice for the kind of work you perform.

OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 a week. There are some exceptions.

APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY

If you do not receive proper pay, contact the Contracting Officer listed below:

or you may contact the nearest office of the Wage and Hour Division, U.S. Department of Labor. The Wage and Hour Division has offices in several hundred communities throughout the country. They are listed in the U.S. Government section of most telephone directories under:
U.S. Department of Labor
Employment Standards Administration

WH Publication 1321
Revised January 1986
U.S. GOVERNMENT PRINTING OFFICE: 1986 209-866

U.S. Department of Labor
Employment Standards Administration
Wage and Hour Division

EXHIBIT VIII-U

E E O

EQUAL EMPLOYMENT OPPORTUNITY

The organization named herein receives Federal financial assistance from the U.S. Department of Housing & Urban Development.	Organization Name and Address:
In its activities so assisted, the organization is prohibited from discriminating against any employee or applicant from employment because of race, color, sex, national origin, religion, or handicap in connection:	
• employment, upgrading, demotion, or transfer	Requests for information and complaints of discrimination may be addressed to:
• recruitment or recruitment advertising	
• layoff or termination	
• rate of pay or compensation other forms of compensation	
• selection for training, including apprenticeship	or
This notice must be posted in conspicuous places available to employees and applicants for employments.	

U.S. Department of Housing and Urban Development, Washington, D.C. 20410
HUD 901 (5-80). Previous edition is obsolete

VIII-U-1

(Revised 4/01)

Job Safety and Health

It's the law!

OSHA
Occupational Safety and Health Administration
U.S. Department of Labor

EMPLOYEES:

- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in that inspection.
- You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the *OSH Act*.
- You have the right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violations.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records and records of your exposures to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.
- You must comply with all occupational safety and health standards issued under the *OSH Act* that apply to your own actions and conduct on the job.

EMPLOYERS:

- You must furnish your employees a place of employment free from recognized hazards.
- You must comply with the occupational safety and health standards issued under the *OSH Act*.

This free poster available from OSHA –
The Best Resource for Safety and Health

Free assistance in identifying and correcting hazards or complying with standards is available to employers, without citation or penalty, through OSHA-supported consultation programs in each state.

1-800-321-OSHA
www.osha.gov

OSHA 3165-12-2009

Seguridad y Salud en el Trabajo

¡Es la Ley!

OSHA
Administración de Seguridad y Salud Ocupacional
Departamento del Trabajo de los Estados Unidos

EMPLEADOS:

- Usted tiene el derecho de notificar a su empleador o a la OSHA sobre peligros en el lugar de trabajo. Usted también puede pedir que la OSHA no revele su nombre.
- Usted tiene el derecho de pedir a la OSHA que realize una inspección si usted piensa que en su trabajo existen condiciones peligrosas o poco saludables. Usted o su representante pueden participar en esa inspección.
- Usted tiene 30 días para presentar una queja ante la OSHA si su empleador llega a tomar represalias o discriminar en su contra por haber denunciado la condición de seguridad o salud o por ejercer los derechos consagrados bajo la Ley OSH.
- Usted tiene el derecho de ver las citaciones enviadas por la OSHA a su empleador. Su empleador debe colocar las citaciones en el lugar donde se encontraron las supuestas infracciones o cerca del mismo.
- Su empleador debe corregir los peligros en el lugar de trabajo para la fecha indicada en la citación y debe certificar que dichos peligros se hayan reducido o desaparecido.
- Usted tiene derecho de recibir copias de su historial o registro médico y el registro de su exposición a sustancias o condiciones tóxicas o dañinas.
- Su empleador debe colocar este aviso en su lugar de trabajo.
- Usted debe cumplir con todas las normas de seguridad y salud ocupacionales expedidas conforme a la Ley OSH que sean aplicables a sus propias acciones y conducta en el trabajo.

EMPLEADORES:

- Usted debe proporcionar a sus empleados un lugar de empleo libre de peligros conocidos.
- Usted debe cumplir con las normas de seguridad y salud ocupacionales expedidas conforme a la Ley OSH.

Los empleadores pueden obtener ayuda gratis para identificar y corregir las fuentes de peligro y para cumplir con las normas, sin citación ni multa, por medio de programas de consulta respaldados por la OSHA en cada estado del país.

1-800-321-OSHA
www.osha.gov

OSHA 3167-01-07R

Equal Employment Opportunity is THE LAW

Employers Holding Federal Contracts or Subcontracts

Applicants to and employees of companies with a Federal government contract or subcontract are protected under the following Federal authorities:

RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN

Executive Order 11246, as amended, prohibits job discrimination on the basis of race, color, religion, sex or national origin, and requires affirmative action to ensure equality of opportunity in all aspects of employment.

INDIVIDUALS WITH DISABILITIES

Section 503 of the Rehabilitation Act of 1973, as amended, prohibits job discrimination because of disability and requires affirmative action to employ and advance in employment qualified individuals with disabilities who, with reasonable accommodation, can perform the essential functions of a job.

VIETNAM ERA, SPECIAL DISABLED, RECENTLY SEPARATED, AND OTHER PROTECTED VETERANS

The Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended, 38 U.S.C., 4212, prohibits job discrimination and requires affirmative action to employ and advance in employment qualified Vietnam era veterans, qualified special disabled veterans, recently separated veterans, and other protected veterans. A recently separated veteran is any veteran during the three-year period beginning on the date of such veteran's discharge or release from active duty in the U.S. military, ground, naval or air service.

RETALIATION

Retaliation is prohibited against a person who files a charge of discrimination, participates in an OFCCP proceeding, or otherwise opposes discrimination under these Federal laws.

Any person who believes a contractor has violated its nondiscrimination or affirmative action obligations under the authorities above should contact immediately:

The Office of Federal Contract Compliance Programs (OFCCP), Employment Standards Administration, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, DC 20210, (202) 693-0101 or call an OFCCP regional or district office listed in most telephone directories under U.S. Government, Department of Labor. For individuals with hearing impairment, OFCCP's TTY number is (202) 693-1337.

Private Employment, State and Local Governments, Educational Institutions, Employment Agencies and Labor Organizations

Applicants to and employees of most private employers, state and local governments, educational institutions, employment agencies and labor organizations are protected under the following Federal laws:

RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN

Title VII of the Civil Rights Act of 1964, as amended, prohibits discrimination in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment, on the basis of race, color, religion, sex (including pregnancy and sexual harassment) or national origin. Religious discrimination includes failing to reasonably accommodate an employee's religious practices where the accommodation does not impose undue hardship.

DISABILITY

Title I and Title V of the Americans with Disabilities Act of 1990 (ADA), as amended, protect qualified applicants and employees with disabilities from discrimination in hiring, promotion, discharge, pay, job training, fringe benefits, classification, referral, and other aspects of employment on the basis of disability.

The law also requires that covered entities provide qualified applicants and employees with disabilities with reasonable accommodations, unless such accommodations would impose an undue hardship on the employer.

AGE

The Age Discrimination in Employment Act of 1967, as amended, protects applicants and employees 40 years of age or older from discrimination on the basis of age in hiring, promotion, discharge, compensation, terms, conditions or privileges of employment.

SEX (WAGES)

In addition to sex discrimination prohibited by Title VII of the Civil Rights Act of 1964, as amended, the Equal Pay Act of 1963, as amended, prohibits sex discrimination in payment of wages to women and men performing substantially equal work, in jobs that require equal skill, effort and responsibility under similar working conditions, in the same establishment.

RETALIATION

Retaliation is prohibited against a person who files a charge of discrimination, participates in a discrimination proceeding, or otherwise opposes discrimination under these Federal laws.

If you believe that you have been discriminated against under any of the above laws, and to ensure that you meet strict procedural timelines to preserve the ability of EEOC to investigate your complaint and to protect your right to file a private lawsuit, you should immediately contact:

The U.S. Equal Employment Opportunity Commission (EEOC), Washington, DC 20507 or an EEOC field office by calling toll free (1-800) 669-4000. For individuals with hearing impairments, EEOC's toll free TTY number is 1-800 669-6820.

Programs or Activities Receiving Federal Financial Assistance

RACE, COLOR, SEX, NATIONAL ORIGIN

In addition to the protection of Title VII of the Civil Rights Act of 1964, as amended, Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color or national origin in programs or activities receiving Federal financial assistance. Employment discrimination is covered by Title VI if the primary objective of the financial assistance is provision of employment, or where employment discrimination causes or may cause discrimination in providing services under such programs.

Title IX of the Education Amendments of 1972 prohibits employment discrimination on the basis of sex in educational programs or activities which receive Federal assistance.

INDIVIDUALS WITH DISABILITIES

Section, 504 of the Rehabilitation Act of 1973, as amended, prohibits employment discrimination on the basis of disability in any program or activity which receives Federal financial assistance in the federal government, public or private agency. Discrimination is prohibited in all aspects of employment against persons with disabilities who, with or without reasonable accommodation, can perform the essential functions of a job.

If you believe you have been discriminated against in a program of any institution which receives Federal assistance, you should contact immediately the Federal agency providing such assistance.

Publication OFCCP 1420
Revised August 2008

LA IGUALDAD DE OPORTUNIDADES DE EMPLEO ES LA LEY

Empleadores que tienen contratos o subcontratos con el Gobierno Federal
Los empleados o postulantes a empleos de compañías que tienen contratos o subcontratos del gobierno federal gozan de la protección otorgada por las siguientes instituciones federales:

RAZA, COLOR, RELIGIÓN, SEXO, NACIONALIDAD
El Decreto 11246 (Executive Order 11246), con sus modificaciones, prohíbe la discriminación laboral en razón de raza, color de piel, religión, sexo o nacionalidad, y requiere la acción afirmativa para garantizar la igualdad de oportunidades en todos los aspectos laborales.

PERSONAS CON DISCAPACIDADES

El Artículo 503 de la Ley de Rehabilitación de 1973(The Rehabilitation Act of 1973), con sus modificaciones, prohíbe la discriminación laboral por discapacidad y requiere la acción afirmativa de emplear y avanzar en el empleo de personas discapacitadas idóneas que, mediante una adaptación razonable, puedan llevar a cabo las funciones esenciales de un trabajo.

VETERANOS DE VIETNAM CON DISCAPACIDADES ESPECIALES, RECIENTEMENTE RETIRADOS Y OTROS VETERANOS BAJO PROTECCIÓN

La Ley de Asistencia a la Readaptación de Veteranos de Vietnam de 1974 (The Vietnam Era Vererans' Readjustment Assistance Act of 1974), y sus modificaciones, 38 U.S.C., 4212, prohíbe toda discriminación laboral y requiere la acción afirmativa de emplear y avanzar en el empleo de veteranos de Vietnam idóneos, veteranos idóneos con discapacidades especiales, veteranos recientemente retirados y otros veteranos bajo protección. Un veterano recientemente retirado es todo veterano durante el período de tres años a partir de la fecha en que fue dado de baja o dejó el servicio activo en el Ejército, la Marina o la Fuerza Aérea de los EE. UU.

REPRESALIA
Queda prohibida toda represalia contra una persona que presenta un cargo de discriminación, participa en un procedimiento del Programa OFCCP o, de alguna otra manera, se opone a la discriminación de conformidad con las leyes federales.

Toda persona que cree que un contratista ha violado sus obligaciones de no discriminación o acción afirmativa, según las fuentes anteriores, debe ponerse en contacto de inmediato con:

La Oficina de Programas de Cumplimiento de Contratos Federales (The Office of Federal Contract Compliance Programs-OFCCP), Employment Standards Administration, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, DC 20210, (202) 693-0101 o llamar a una oficina de la OFCCP regional o de distrito consignada en la mayor parte de los directorios telefónicos en U.S. Government, Department of Labor (Gobierno de los EE.UU., Departamento de Trabajo). Para personas con discapacidad auditiva, el número TTY de la OFCCP es (202) 693-1337.

Empleo privado, gobiernos estatales y locales, instituciones educativas, agencias de empleo y organizaciones laborales

Los empleados y postulantes a empleos de la mayor parte de los empleadores privados, gobiernos estatales y locales, instituciones educativas, agencias de empleo y organizaciones laborales gozan de la protección otorgada por las siguientes leyes federales:

RAZA, COLOR, RELIGIÓN, SEXO, NACIONALIDAD
La Ley de Derechos Civiles de 1964, Título VII (The Civil Rights Act of 1990), y sus modificaciones, prohíbe toda discriminación en relación con la contratación, ascenso, despido, remuneración, compensaciones adicionales, capacitación, clasificación, referencias, y otros aspectos laborales, en razón de la raza, el color de la piel, la religión, el sexo (incluidos embarazo y acoso sexual) o la nacionalidad. Por discriminación religiosa se entiende, entre otros, la falta de adaptación razonable para las prácticas religiosas de un empleado siempre que la adaptación no provoque una dificultad económica excesiva.

DISCAPACIDAD

La ley de Estadounidenses con Discapacidades de 1990 (The Americans with Disabilities Act of 1990-ADA), Títulos I y V, con sus modificaciones, protege a empleados y postulantes idóneos con discapacidades contra la discriminación en relación con la contratación, ascenso, despido, remuneración, capacitación, beneficios adicionales, clasificación, referencias y otros aspectos laborales en razón de la discapacidad.

La ley también requiere que las entidades contempladas provean las adaptaciones razonables que necesiten los empleados y postulantes con discapacidades, a menos que esas adaptaciones causen una dificultad económica excesiva al empleador.

EDAD
La Ley de Discriminación Laboral por Edad de 1967 (The Age Discrimination in Employment Act of 1967), con sus modificaciones, protege a los empleados y postulantes de 40 años o más contra la discriminación por edad en relación con la contratación, ascenso, despido, compensaciones, condiciones o privilegios laborales.

SEXO (SALARIOS)
Además de la discriminación sexual prohibida por la Ley de Derechos Civiles de 1964, Título VII, y sus modificaciones, la Ley de Igualdad en las Remuneraciones de 1963, con sus modificaciones, prohíbe la discriminación sexual en el pago de salarios a mujeres y hombres que básicamente realicen igual trabajo, en empleos que requieren igual capacidad, esfuerzo y responsabilidad, en condiciones laborales similares y en el mismo establecimiento.

REPRESALIA
Queda prohibida toda represalia contra una persona que presenta un cargo de discriminación, participa en un procedimiento de contra la discriminación o, de alguna otra manera, se opone a la discriminación de conformidad con las leyes federales.

Si cree que ha sufrido alguna discriminación, de conformidad con algunas de las leyes anteriores, y para garantizar que cumple con los estrictos cronogramas procesales a fin de preservar la capacidad de la EEOC para investigar su queja y para proteger su derecho a iniciar una demanda privada, debe ponerse en contacto de inmediato con:

La Comisión Federal de Igualdad de Oportunidades de Empleo de los EE.UU. (The US Equal Employment Opportunity Commission-EEOC), Washington, DC 20507 ó con una oficina de la EEOC telefónicamente a la línea gratuita (1-800) 669-4000. Para las personas con discapacidad auditiva, la línea gratuita TTY de la EEOC es 1-800 669-6820.

Programas o actividades que reciben apoyo financiero federal

RAZA, COLOR, SEXO, NACIONALIDAD
Además del Título VII de la Ley de Derechos Civiles de 1964, con sus modificaciones, el Título VI de la misma ley prohíbe la discriminación por raza, color de piel o nacionalidad en programas y actividades que reciben apoyo financiero federal. La discriminación laboral está contemplada en el Título VI si el objetivo principal del apoyo financiero es la provisión de empleo, o siempre que la discriminación laboral cause, o pueda causar, discriminación en la provisión de servicios en el marco de esos programas.

El Título IX de las Modificaciones de 1972 a la Ley de Educación (Education Amendments of 1972) prohíbe la discriminación laboral en razón de sexo en los programas o actividades educativas que reciben apoyo federal.

PERSONAS CON DISCAPACIDADES

El Artículo 504 de la Ley de Rehabilitación de 1973 , con sus modificaciones, prohíbe la discriminación laboral por discapacidad en todo programa o actividad que recibe apoyo financiero federal en el gobierno federal y las agencias públicas o privadas. Queda prohibida la discriminación en todos los aspectos laborales contra personas con discapacidades que puedan realizar las tareas esenciales relacionadas con ese puesto, sin perjuicio de que resulte o no necesario efectuar una adaptación razonable

Si cree que ha sufrido discriminación en relación con un programa de cualquier institución que reciba apoyo federal, debe contactarse de inmediato con la agencia federal que brinda ese apoyo.

Publicación OFCCP 1420
Se revisó en agosto de 2008

U. S. Department of Housing and Urban Development

EQUAL HOUSING OPPORTUNITY

We Do Business in Accordance With the Federal Fair Housing Law

(The Fair Housing Amendments Act of 1988)

It is illegal to Discriminate Against Any Person Because of Race, Color, Religion, Sex, Handicap, Familial Status, or National Origin

- In the sale or rental of housing or residential lots
- In advertising the sale or rental of housing
- In the financing of housing
- In the provision of real estate brokerage services
- In the appraisal of housing
- Blockbusting is also illegal

Anyone who feels he or she has been discriminated against may file a complaint of housing discrimination:
1-800-669-9777 (Toll Free)
1-800-927-9275 (TTY)

U.S. Department of Housing and Urban Development
Assistant Secretary for Fair Housing and Equal Opportunity
Washington, D.C. 20410

Previous editions are obsolete

form HUD-928.1 (2/2003)

U. S. Department of Housing and Urban Development

IGUALDAD DE OPORTUNIDAD EN LA VIVIENDA

Conducimos nuestros negocios de acuerdo a la Ley Federal de Vivienda Justa

(Acta de enmiendas de 1988 de la Ley Federal de Vivienda Justa)

Es ilegal discriminar contra cualquier persona por razon de su raza, color, religion, sexo, incapacidad fisica o mental, la presencia de niños menores de 18 años o de mujer embarazada en su familia o su origen nacional

- En la venta o renta de vivienda y terrenos residenciales
- En los anuncios de venta o renta de vivienda
- En la financiamiento de vivienda
- Amenazar o interferir con la persona para que no registre su queja
- En los servicios de corretaje que prestan vendedores de vivienda
- En la valoracion de vivienda
- Tambien es ilegal forzarle a vender o rentar su vivienda diciendole que gente de otra raza, religion o grupo etnico se estan mudando en su vecindario

Cualquier persona que sienta que fue discriminada debe de enviar su queja de discriminacion:

1-800-669-9777 (llamada gratis)
1-800-927-9275 (TDD llamada gratis)

U.S.Department of Housing
and Urban Development
Assistant Secretary for Fair Housing and
Equal Opportunity
Washington, D.C. 20410

Previous editions are obsolete

form HUD-928.1A (2/2003)

FORM OF CONTRACT

THIS CONTRACT, made the _____ day of _____, A.D., 2021, by and between _____, hereafter called the "Contractor", and the City of Davenport, Scott County, Iowa, hereinafter called the "City",

WITNESSETH, That the Contractor and the City for the consideration stated herein agree as follows:

ARTICLE I. SCOPE OF WORK - The Contractor shall perform everything required to be performed and shall provide and furnish all of the labor, materials, necessary tools, expendable equipment, and all utility and transportation services required to perform and complete in a workmanlike manner all the work required in connection with the construction of the **WPCP Gray Water Conversion Project**, all in strict accordance with the plans and specifications, including any and all addenda prepared by the Engineering Division of the Public Works Department of the City of Davenport, Iowa, which plans and specifications are made a part of this contract; and in strict compliance with the Contractor's proposal and the other contract documents herein mentioned which are a part of this contract; and the Contractor shall do everything required by this contract and the other documents constituting a part thereof.

ARTICLE II. THE CONTRACT PRICE - The City shall pay to the Contractor for the performance of this contract, subject to any additions or deductions provided therein, in current funds, the contract price of $ _____

_____

which consists of the following:

Horizontal drilling of approximately 260 feet of 2-inch water line, installation of concrete pad and pump skid, electrical and controls connections for pump skid and controls, installation of approximately 600 feet of 2-inch water line and pipe supports, and disconnecting and reconnecting water service line connections. Construction includes all labor, materials and equipment for installation of piping, excavation, backfill, grading, surface restoration, paving restoration and miscellaneous associated work, including erosion control and cleanup.

ARTICLE III. UNIT PRICES FOR CHANGES.

ARTICLE IV. PAYMENTS- Payments are to be made to the Contractor in accordance with and subject to the provisions embodied in the documents made a part of this contract.

ARTICLE V. TIME OF COMPLETION- Working days under this contract shall commence on the date specified in the written Notice to Proceed from the City to the contractor who shall diligently prosecute and substantially complete all work under this contract by **TBD.**

ARTICLE VI. LIQUIDATED DAMAGES – For each and every calendar day that elapses between the Contract Substantial Completion Date and the date on which the actual work is completed, the Contractor shall pay to the City as liquidated damages and not as a penalty, the sum of Two Thousand Dollars ($2,000.00). Substantial completion is defined as all new equipment and construction is complete and operational.

ARTICLE VII. DBE SUBCONTRACTING - The Contractor will subcontract with any DBE listed as having been used in the Contractor's bid on the "Subcontractor Contact Information" sheet for at least the dollar amount listed in the proposal. Failure to do so provides the City with the right to declare a material breach, terminate the contract, and pursue its remedies, both legal and administrative. The DBE so denied also has a third party-right of action against the Contractor alone for breach of contract, unless the substitution or variance has been approved by the City in writing as a contract modification. This provision in no way shall be interpreted as providing a third-party right of action against the City.

ARTICLE VIII. COMPONENT PARTS OF THIS CONTRACT - This contract consists of the following component parts, all of which are as fully a part of this contract as if herein set out verbatim, or, if not attached, as if hereto attached.

1) Contract with the City
2) Shop or Working Drawings for Project approved by the Engineer
3) Addenda (Nos. ____, ____, and ____) to Project Documents
4) Special Provisions (Sections I and III) including the DBE forms
5) Project Plans and Specifications
6) Notice to Bidders
7) Instructions to Bidders
8) Standard Detail Drawings of the City of Davenport
9) Standard Specifications of the City of Davenport
10) Iowa D.O.T., AASHTO, ANSI and ASTM Specifications referenced in the above documents
11) Contractor's Performance and Payment and Maintenance Bond
12) Contractor's Proposal

In the event that any provision in any of the foregoing component parts of this contract conflicts with any provision in any other of the component parts, the provision in the component part first enumerated shall govern over any other component part which follows it numerically, except as may be otherwise specifically stated.

ARTICLE IX. AMERICAN IRON AND STEEL - The Contractor acknowledges to and for the benefit of the City of Davenport ("Purchaser") and the State of Iowa (the "State") that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund and such law contains provisions commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement.

The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State.

Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

IN WITNESS WHEREOF, the parties hereto have caused this Instrument to be executed in three original counterparts the date and year first above written.

(SEAL) _____
(Contractor)

ATTEST: By: _____

_____ _____

_____ _____
(Title)

(SEAL) City of Davenport, Iowa

ATTEST: By: _____
Mike Matson
Mayor

_____
Jackie E. Holecek,
Deputy City Clerk

This Instrument approved by the City Council of the City of Davenport, Iowa, pursuant to Resolution Number _____ passed _____, 2021.

COMBINED
PERFORMANCE-PAYMENT
AND
MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we, the undersigned,

_____ as
Principal, (hereinafter called "Contractor") and

_____ as
Surety, (hereinafter called "Surety"), are held and firmly bound unto the City of Davenport, Iowa, as Obligee, (hereinafter called "City"), in the amount of

_____
Dollars ($) for the payment of which sum of money we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly, severally, and firmly by these presents.

WHEREAS, Contractor has by written contract dated _____, 2021, entered into a contract with City for the **WPCP Gray Water Conversion Project**, which agreement is by reference made a part hereof, and is hereinafter referred to as "the Contract", and

WHEREAS, the Contractor is required to furnish a performance, payment and maintenance bond in connection with said Contract pursuant to the terms and provisions as set forth herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that:

1. If Contractor shall in all respects well and truly keep and perform the said Contract on Contractor's part in accordance with the terms and provisions of all of the Contract documents comprising said Contract, and in the time and manner therein prescribed; and,

2. If the Contractor shall pay all persons, firms or corporations having contracts directly with the Contractor, or with subcontractors, all just claims due them for labor performed, materials furnished, or transportation supplied in the performance of the Contract on account of which this bond is given, when the same are not satisfied out of the portion of the Contract price which the City is required to retain until completion of the Contract (but the Contractor and his Sureties shall not be liable to said persons, firms, or corporations unless the claims of said claimants against said portion of the contract price have been established as provided by the laws of the State of Iowa); and,

3. If the Contractor shall keep the following items of construction in good operating condition as intended by their original design and the contract documents:

ALL ITEMS for: Two (2) years
which become out of repair due to defects in workmanship or material;

then this obligation shall be null and void, otherwise it shall remain in full force and effect.

Every surety on this bond shall be deemed and held, any contract to the contrary notwithstanding, to consent without notice;

1. To any extension of time beyond the contract completion date necessary for the Contractor to perform the Contract.

2. To any change in the plans, specifications or contract, when such change does not involve an increase of more than twenty percent of the total contract price, and shall then be released only to such excess increase.

3. To comply with all of the provisions of Chapter 573, Code of Iowa.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 2021.

_____
(CONTRACTOR) (SEAL)

_____
(WITNESS)

By:
_____

(TITLE)_____

_____
(SURETY) (SEAL)

_____
(WITNESS)

By:
_____

(TITLE)_____

_____

_____
(ADDRESS)

INSURANCE AND INDEMNIFICATION
CONTRACTORS

MEDIUM HAZARD

CONTRACTOR'S INSURANCE

The Contractor shall secure and maintain such primary insurance policies as will protect himself or his Subcontractors from claims for bodily injuries, death or property damage which may arise from operations under this contract whether such operations be by himself or by any Subcontractor or anyone employed by them directly or indirectly.

The following insurance policies are required unless other limits are specified in the "Advertisement for Bids" or "Special Provisions." The City is to be named as an additional insured under General Liability.

(1) **Commercial General Liability**

Each Occurrence	$1,000,000
General Aggregate	$2,000,000
Products Completed	$1,000,000

(2) **Commercial Automobile Liability**

Any Auto, Hired & Non-Owned	
Combined Single Limit	$1,000,000

(3) **Excess Liability Umbrella** $2,000,000

(4) **Statutory Worker's Compensation** with waiver of subrogation in favor of the City.

INSURANCE INCLUSIONS

The comprehensive general liability insurance shall include independent Contractors protective liability, products and completed operations broad form property damage coverage. The completed operations and products liability shall be maintained for two years after final payment. Property damage shall include coverage for explosion, collapse, and underground damage.

CONTRACTUAL LIABILITY

The insurance required above under "CONTRACTOR'S INSURANCE" on page 1, shall:

(1) be Primary insurance and non-contributory.

(2) include contractual liability insurance coverage for the Contractor's obligations under the INDEMNIFICATION paragraph on page 3.

CERTIFICATES OF INSURANCE

Certificates of Insurance, acceptable to the City indicating insurance required by the Contract is in force, shall be filed with the City prior to approval of the Contract by the City. The Contractor shall insure that coverages afforded under the policies will not be cancelled until at least thirty (30) days prior written notice has been given to the City. The Contractor will accept responsibility for damages and the City's defense in the event no insurance is in place and the City has not been notified.

PROPERTY INSURANCE

Unless otherwise provided, the Contractor shall purchase and maintain property insurance upon the contractor's entire work, supplies and materials at the site to the full insurable value thereof. This insurance shall include the interests of the City, the Contractor, Subcontractors and Sub-subcontractors in the work and shall insure against the perils of fire and extended coverage and shall include insurance for physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief and equipment breakdown. The Contractor shall effect and maintain similar property insurance on portions of the work stored off the site or in transit when such portions of the work are to be included in an Application for Payment. If the City is damaged by failure of the Contractor to purchase or maintain such insurance, then the Contractor shall bear all reasonable costs properly attributable thereto.

BUILDER'S RISK INSURANCE

The City of Davenport reserves the right to require "Builder's Risk" coverage dependent upon the scope of the project. If required, "Builder's Risk" policies and limits will be specified in the "Advertisement for Bids" or "Special Provision".

LOSS ADJUSTMENTS

Any loss that is insured under the PROPERTY INSURANCE paragraph above, is to be adjusted with the Contractor and made payable to the Contractor as trustee for the insured, as their interests may appear. The Contractor shall pay each Subcontractor a just share of any insurance moneys received by the Contractor and, by appropriate agreement written where legally required for validity, shall require each Subcontractor to make payments to his Sub-subcontractors in similar manner.

INDEMNIFICATION

To the fullest extent permitted by the law, the Contractor shall defend, indemnify, and hold harmless the City, its officials and its agents and employees from and against all claims, damages, losses and expenses, including but not limited to, all attorneys' fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense

(1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom; and

(2) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

In any and all claims against the City, its officials or any of its agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph shall not be limited in anyway by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

The obligations of the Contractor under this Paragraph shall not extend to the liability of the City, its agents or employees, arising out of

(1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications; or

(2) the giving of or the failure to give directions or instructions by the Project Manager or his representatives, providing such giving or failure to give is the primary cause of the injury or damage.

GENERAL CONTRACT CONDITIONS

DIVISION I
DEFINITIONS

The following terms as used in the contract documents shall have the following meanings:

1.1 CHANGE ORDER – A change order is a written order to the Contractor signed by the City and/or the Project Manager, ordering a change that has been found necessary or desirable to the work form that originally shown by the plans and specifications. Change orders duly executed by the Contractor constitute authorized modifications of the contract

1.2 CITY – The City of Davenport, Iowa.

1.3. CITY COUNCIL – The duly elected members of the City Council of the City of Davenport, Iowa.

1.4 THE CONTRACT – The documents that make up the Contract are set forth in the instrument identified as the "Form of Contract" of which these General Conditions are a part.

1.5 CONTRACT COMPLETION DATE – The contract completion date is the date on which the contractor no longer has any contract time left to complete the work.

1.6 CONTRACT PRICE – CONTRACT SUM – The Contract Price is the unit price(s) stated in the Form of Contract. The Contract Sum is the total amount payable by the City to the Contractor for the performance of the work under the Contract Documents after applying actual measurements of materials to unit prices and adding or deducting all approved Change Orders.

1.7 CONTRACTOR – The person, firm or corporation to whom the within contract is awarded by the City.

1.8 CONTRACT TIME – The total number of working days to complete construction of the work as specified in the Form of Contract.

1.9 DAYS – The term days as used in the contract shall mean calendar days unless the context clearly indicates working days.

1.10 EXTRA WORK – Extra work shall mean work not provided for in the Contract, as awarded, but deemed essential to the satisfactory completion of the contract within its intended scope and authorized by the Project Manager or is desired by the City in addition to that work called for in the Drawings and Specifications. Extra work shall not include additional materials, equipment and labor used due to natural variations in surface or subsurface conditions, except as specifically provided for elsewhere in the Contract Documents.

1.11 INSPECTOR - A person or firm employed by the City to see that the requirements of the specifications are fulfilled and make reports thereon.

1.12 NOTICE – Where in any of the Contract Documents there is any provision in respect to the giving of any notice, such notice shall be deemed to have been given (as to the City), when written notice shall be delivered to the Project Manager, or on the third delivery day after the Notice shall have been placed in the United States mails addressed to the said Project Manager at his office; as to the Contractor, when a written notice shall be delivered to the chief representative of the Contractor at the site of the project to be constructed under the contract or on the third delivery day after mailing such written notice in the United States mails addressed to the Contractor at the place stated in the papers prepared by him to accompany his proposal as the address of his permanent place of business; as to the surety on the performance bond on the third day after the written notice shall have been placed in the United States mails addressed to the surety at the home office of such surety.

1.13 PROJECT MANAGER – The Project Manager means the person designated in the Special Conditions who shall be the City's representative during the period of time work is performed under this Contract. The Project Manager shall have only those powers and duties contained in the Contract.

1.14 SUBCONTRACTOR –A person, firm or corporation other than the Contractor, supplying labor and materials or labor for work at the site of the Project.

1.15 WORK – The furnishing of all labor, material, equipment and other incidentals necessary or convenient to the successful completion of the contract and the carrying out of all the duties and obligations imposed by the contract.

1.16 WORKING DAY – **(A)** Any day on which weather or other conditions (not under control of the Contractor) will permit construction operations to proceed for not less than 6 hours in the performance of a controlling item of work. If such conditions permit operations to proceed for at least 4 hours but less than 6 hours, ½ of a working day will be counted. The days counted will normally exclude Saturdays, Sundays, and recognized legal holidays if the Contractor does not work, but will include Saturdays, Sundays and recognized legal holidays if the Contractor does work on a controlling item of work. Nonproductive work that does not require inspection may be done on Saturdays, Sundays and recognized legal holidays with no time charge. Working days will not be charged for the day before or after a holiday when the Contract Documents specifically prohibit work and the Contractor does not work. Working days will not be counted during periods of suspension of work ordered by the Project Manager except when the suspension is a result of a violation of terms of the Contract. Working days start on the date construction is scheduled to start**. (B)** A controlling item of work is any work item that must be completed prior to commencing work on a subsequent item of work. Equipment maintenance is an example of non-controlling or non-productive item of work.

DIVISION 2
CONTRACT DOCUMENTS

2.1 – THE CONTRACT – The Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations or agreements either written or oral. Except as provided by Paragraph 12.5, the Contract may be amended or modified only by a written Change Order signed by the Project Manager and/or the City and the Contractor. Nothing contained in the Contract Documents shall create any contractual relationship between the City and any Subcontractor or Sub-subcontractor.

2.2 – CORRELATION AND INTENT – The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonably inferable therefore as being necessary to produce the intended results. Words and abbreviations that have well known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

2.3 – SUCCESSORS AND ASSIGNMENT – The City and the Contractor each binds himself, his partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements, and obligations contained in the Contract Documents. No assignment by the Contractor of any principal construction contract or any part thereof or of the funds to be received there under by the Contractor, will be recognized unless such assignment has had the written approval of the City and the Surety has been given due notice of such assignment and has furnished written consent thereto. In addition to the usual recitals in assignment contracts, the following language must be set forth: "It is agreed that the funds to be paid to the assignee under this assignment are subject to a prior lien for services rendered or materials supplied for the performance of the work called for in said contract in favor of all persons, firms or corporations rendering such services or supplying such materials."

2.4 – "OR EQUAL" CLAUSE – Whenever in any of the Contract Documents any article, appliance, device or material is designated by the name of the manufacturer or vendor or by any proprietary name and such name is not followed by the words "or equal" do follow such designation, unless the context clearly requires a contrary construction. Any article or material equaling the standards fixed may be used in place of that specifically mentioned by the Specifications, providing that the material proposed is first submitted to and approved by the Project Manager. In the event of a dispute over the quality of an offered substitute, the decision of the Project Manager shall be final and binding. The City shall be bound to accept any substitute approved in writing by the Project Manager prior to receipt of bids.

2.5 – GOVERNING LAW – This contract shall be governed by any applicable federal laws and by the laws of the State of Iowa and the ordinances of the City of Davenport, Iowa.
2.6 – RIGHTS AND REMEDIES – The duties and obligations imposed by the Contract and the rights and remedies available there under shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

DIVISION 3
THE CITY

3.1 - SURVEYS – Unless otherwise specified, the necessary fieldwork such as surveying, staking, cuts and fills, will be done by the City. The Contractor shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

3.2 - ACCESS PROVIDED – The City will provide all right of way, permanent and temporary easements for construction as shown on the plans. Any additional easements required by the contractor shall be acquired by him at his expense. Any areas outside of the right of way and easements owned by the City, as shown on the plans, which are damaged or occupied by the Contractor, shall be paid for at the Contractor's expense.

3.3 - INFORMATION – Information or services under the City's control shall be furnished by the City upon request of the Contractor with reasonable promptness to avoid delay in the orderly progress of the work. The City shall not be responsible for the accuracy of information given to the Contractor, which was provided to the City by persons not under its control or direction.

3.4 COPIES PROVIDED – Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, all copies of Drawings and Specifications, reasonably necessary for the execution of the Work.

3.5 COORDINATION OF CONTRACT DOCUMENTS **(A)** In case of any discrepancy between the drawing and the figures written thereon, the figures, unless obviously incorrect, are to govern. In case of any discrepancy between the project drawings and specifications and standard drawings and specifications, the project drawings are to govern. In case of a discrepancy between the drawings and specifications, the drawings are to govern. In case of a discrepancy between the standard specifications and special provisions or between the drawings and the special provisions, the special provisions shall govern. **(B)** The Contractor shall not take advantage of any apparent error or omission in the plans or specifications or of any discrepancy between the plans or specifications. The Project Manager shall be permitted to make such corrections in interpretation as may be deemed necessary for the fulfillment of the intent of the plans and specifications.

3.6 INSTRUCTIONS – The City shall forward all instructions to the Contractor through the Project Manager.

3.7 CITY'S RIGHT TO STOP THE WORK – If the Contractor fails to correct defective work as required by Paragraph 13.3 or persistently fails to carry out the Work in accordance with the contract Documents, the Project Manager or the City by a written order signed by an agent specifically so empowered by the City in writing, may order the contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to stop the Work shall not give rise to any duty on the part of the city to exercise this right for the benefit of the Contractor or entity, except to the extent required by Paragraph 6.2.

3.8 CITY'S RIGHT TO CARRY OUT THE WORK – If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within seven days after receipt of written notice from the City to commence and continue correction of such default or neglect with diligence and promptness, he may, after seven days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy he may have, make good such deficiencies. In such case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for any additional services made necessary by such default, neglect or failure. Failure by the Contractor to execute such a Change Order shall not invalidate the order and the Project Manager shall note such refusal thereon. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the City.

3.9 SUSPENSION OF WORK FOR CONVENIENCE OF CITY - **(A)** The City shall have the right to take possession of or use any completed or partially completed part of the Work if its stability and integrity is not dependent upon the Contract. Prior to such possession or use, the Project Manager shall furnish the Contractor an itemized list of Work remaining to be performed or corrected on such portions by the City, provided that failure to list any item or work shall not relieve the Contractor of responsibility for compliance with the terms of the Contract. Such possession or use shall not be deemed an acceptance of any Work under the Contract. While the City has such possession or use, the

Contractor, notwithstanding the provisions of the clause of this Contract regarding protection of the Work, shall be relieved of the responsibility for the loss or damage to the Work resulting from the City's possession or use. However, the Contractor will be responsible for any damages that may be caused by defective work or failure to comply with the Contract Documents. If such prior possession or use by the City delays the progress of the Work or causes additional expense to the Contractor, an equitable adjustment in the Contract Sum or the Contract Time will be made and the Contract shall be modified in writing accordingly and the provisions of the Division 8 shall not be applicable. **(B)** Possession and use by the City shall not be construed to constitute an extension of the Contract time to complete the portion of the permanent construction to which it relates if the Contractor has failed to complete it in accordance with the terms of this Contract. Possession and use by the City shall not operate to release the Contractor or his sureties from any obligations under this Contract or the performance bond.

DIVISION 4
THE PROJECT MANAGER

4.1 CITY'S REPRESENTATIVE – The Project Manager will provide administration of the Contract on behalf of the City as herein provided. The Project Manager will be the City's representative during construction and until final payment is due. The City's instructions to the Contractor shall be forwarded through the Project Manager. The Project Manager will have authority to act on behalf of the City only to the extent provided in the Contract Documents; unless otherwise modified by written instrument in accordance with Paragraph 2.1.

4.2 PROJECT MANAGER NOT TO CONTROL CONSTRUCTION – The Project Manager will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and he will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Project Manager will not be responsible for or have control or charge over the acts or omissions of the Contractor, Subcontractor, or any other persons performing any of the Work.

4.3 PROJECT MANAGER'S ACCESS – The Project Manager shall at all times have access to the Work wherever it is in preparation and progress. The Contractor shall provide facilities for such access so the Project Manager may perform his functions under the Contract Documents.

4.4 PAYMENTS CERTIFIED – Based on the Project Manager's observations and an evaluation of the Contractor's progress in the Work, the Project Manager will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided herein.

4.5 INTERPRETER OF CONTRACT DOCUMENTS - **(A)** The Project Manager will be interpreter of the requirements of the Contract Documents and the judge of the performance there under for the City. The Project Manager will render interpretations necessary for the proper execution or progress of the Work, with reasonable promptness and in accordance with any time limit agreed upon. **(B)** Claims, disputes, and other matters in question between the Contractor and the Project Manager relating to the execution or progress of the Work or the interpretation of the Contract Documents shall be determined by the Project Manager, which he will render in writing within twenty days unless a longer time is agreed. The Project Manager's decision with regard to execution of progress of the Work or interpretation of the Contract Documents will be final.

4.6 AUTHORITY TO REJECT WORK - The Project Manager will have authority to reject Work that does not conform to the Contract Documents. Whenever, in his opinion, he considers it necessary or advisable for the implementation of the intent of the Contract Documents, he will have authority to require special inspection or testing of the Work whether or not such Work be then fabricated, installed or completed.

4.7 SHOP DRAWINGS APPROVED – The Project Manager will review and approve or take other appropriate action upon Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents. Such action shall be taken with reasonable promptness so as to cause no delay. The Project Manager's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

4.8 CHANGE ORDERS - The Project Manager will prepare Change Orders in accordance with Division 12, and will have authority to order minor changes in the Work as provided in Paragraph 12.5.

4.9 FINAL CERTIFICATE OF PAYMENT – The Project Manager will conduct inspections to determine the dates of Substantial Completion or Final Completion, will receive for the City written warranties and related documents required by the Contract and assembled by the Contractor, and will issue an application for final payment upon compliance with the requirements of Division 9.

4.10 AUTHORITY LIMITED – The duties, responsibilities and limitations of authority of the Project Manager as the City's representative during construction as set forth in the Contract Documents will not be modified or extended without written consent of the City. In case of the termination of the employment of the Project Manager, the City shall appoint a substitute Project Manager who shall have the same powers and responsibilities as the Project Manager defined in the Contract.

DIVISION 5
THE CONTRACTOR

5.1 – REVIEW OF CONTRACT DOCUMENTS – The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Project Manager any error, inconsistency or omission he may discover. The Contractor shall not be liable to the City for any damage resulting from any such errors, inconsistencies or omissions in the Contract Documents unless he proceeds with the Work or any part thereof with knowledge of an error, inconsistency or omission. The Contractor shall perform no portion of the Work at any time without Contract Documents or, where required, approved Shop Drawings, Product Data or Samples for such portion of the Work.

5.2 – SUPERVISION AND CONSTRUCTION PROCEDURES – **(A)** The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract. **(B)** The Contractor shall be responsible to the City for the acts and omissions of his employees, subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor. **(C)** The Contractor shall be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Project Manager in his administration of the contract, or by inspections, tests or approvals performed by persons other than the Contractor.

5.3 – SUPERINTENDENT – The Contractor shall give his personal superintendence to the Work or employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be confirmed in writing upon written request in each case.

5.4 – EMPLOYEES – The Contractor shall at all times enforce strict discipline and good order among his employees, and shall seek to avoid employing on the Work any unfit person or anyone not skilled in the Work assigned to him. The Contractor shall provide adequate sanitary facilities for his employees and his Subcontractor's employees.

5.5 – LABOR AND MATERIALS – Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

5.6 – WARRANTY – The Contractor warrants to the City and the Project Manager that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects, and in conformance with the Contract Documents. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Project Manager, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of paragraph 13.3 through 13.5.

5.7 – REMOVAL OF REJECTED MATERIALS – The Contractor shall promptly remove all rejected materials from the site of the Work.

5.8 – TAXES – Prices in bid should be free of all sales taxes. Pursuant to Iowa Code sections 422.42 (15) & (16), the Contractor shall be issued a tax exemption certificate to purchase construction materials that will be incorporated into real property for this project tax free.

5.9 – TAX STATEMENT – If the Contractor includes sales taxes in original bid prices, the Contractor shall pay all sales, consumer, use and other similar taxes for the Work or portions thereof provided by the Contract which are legally enacted at the time bids are received, whether or not yet effective. Upon final completion of this Contract and acceptance thereof by the City Council, the Contractor shall furnish the City, in duplicate on Form 35-002, a certified list of all sales taxes and/or use taxes paid by him in connection with the execution of this Contract. The Contractor shall also require each of his subcontractors to keep similar records and to furnish him a sufficient number of such certificates so that he may furnish duplicates thereof to the City. Forms for marking such certified statements may be obtained from the City. All of the above-mentioned certified statements must be filed with the Project Manager within thirty days after the City accepts the completed project.

5.10 – PERMITS, FEES AND NOTICES – **(A)** Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and for all other permits and governmental fees, licenses and inspections, necessary for the proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required at the time the bids are received. **(B)** The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work. **(C)** It is not the responsibility of the Contractor to make certain that the Contract Documents are in accordance with applicable laws, statutes, building codes and regulations. If the Contractor observes that any of the Contract Documents are at variance therewith in any respect, he shall promptly notify the Project Manager in writing, and any necessary changes shall be accomplished by appropriate Change Order. If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Project Manager, he shall assume full responsibility therefore and shall bear all costs attributable thereto.

5.11 – WORK PROGRESS – The progress of the Work shall be at a rate sufficient to complete the Contract within the time allowed. If it appears that the rate of progress is such that the Contract will not be completed within the time allowed, or if the Work is not being executed in a satisfactory and workmanlike manner, the Project Manager may order the Contractor to take such steps as he considers necessary to complete the Contract within the period of time specified or to prosecute the Work in a satisfactory manner. If the Contractor fails to comply with such order within two weeks after receipt of the order, he may be disqualified from receiving any additional bidding proposals, and the City shall have the right to declare the Contract in default and to complete the Work in accordance with paragraph 14.2. Failure of the City or the Project Manager to issue such order shall not alter the Contractor's responsibility under the Contract. The Contractor's sequence of operations shall be such as to cause as little inconvenience to the general public as possible.

5.12 – SHOP DRAWINGS – **(A)** The Contractor shall review, approve and submit, with reasonable promptness and in such sequence as to cause no delay in the Work or in the Work of the City or any separate contractor, all Shop Drawings, Product Data and Samples required by the Contract. By approving and submitting Shop Drawings, Product Data and Samples, the contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and the Contract. **(B)** The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract by the Project Manager's approval of Shop Drawings, Product Data or Samples unless the Contractor has specifically informed the Project Manager in writing of such deviation at the time of submission and the Project Manager has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Project Manager's approval thereof. **(C)** The contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Project Manager or previous submittals.

5.13 – CUTTING AND PATCHING OF WORK – The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work or to make its several parts fit together properly. The Contractor shall not damage or endanger any portion of the Work or the Work of the City or any separate contractors by cutting, patching or otherwise altering any Work, or by excavation. The Contractor shall not cut or otherwise alter the Work of the City or any separate contractor except with the written consent of such separate contractor. The Contractor shall not unreasonably withhold from the City or any separate contractor his consent to cutting or otherwise altering the Work.

5.14 – CLEANING UP – The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials and rubbish from and about the Project as well as all his tools, construction equipment, machinery and surplus materials. If the

Contractor fails to clean up at the completion of the Work the City may do so and the cost thereof shall be charged to the Contractor.

5.15 – COMMUNICATIONS – The Contractor shall forward all communications to the City through the Project Manager. Prior to commencement of the Work, the Contractor shall provide the Project Manager with a telephone number where the Contractor or his superintendent can be reached in an emergency at any time after commencement of the Work until the date of Final Completion.

5.16 – ROYALTIES AND PATENTS – The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the City harmless from loss on account therefore, except that the City shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Project Manager.

5.17 – USE OF JOB SITE – The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety. The Contractor shall enforce any instructions regarding signs, advertisements, fires and smoke given him by the City.

5.18 – SUBLETTING OR ASSIGNING OF CONTRACT – **(A)** The City will not recognize any subcontractor on the Work as having any prime contractor responsibility. **(B)** Should the Contractor elect to assign this Contract, the assignment shall be approved by the Contractor's bonding company, and shall then be presented for consideration by the City. Assignment can only be consummated after approval by the City. The City's decision on whether to consent to an assignment shall be conclusive and no appeal by the Contractor shall be permitted.

5.19 – SITE INVESTIGATION – The Contractor acknowledges that he has investigated and satisfied himself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The Contractor further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the City, as well as from information presented by the drawings and specifications made a part of this Contract. Any failure by the Contractor to acquaint himself with the available information will not relieve him from responsibility for any understanding or representations concerning conditions made by any of its officers or agents or the Project Manager prior to the execution of this contract, unless such understanding or representations by the officers and agents are expressly stated in the Contract. The City assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the City.

DIVISION 6
WORK BY CITY OR SEPARATE CONTRACTORS

6.1 – CITY'S RIGHTS – The City reserves the right to perform work related to the Project with its own forces and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract. If the Contractor claims that delay or additional cost is involved because of such action by the City, he shall make such claim as provided elsewhere in the Contract Documents.

6.2 – COORDINATION – The City will provide for the coordination of the Work of its own forces and of each separate contractor with the Work of the Contractor, who shall cooperate therewith as provided in Paragraph 6.3.

6.3 – ACCESS – The Contractor shall afford the City and separate contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall connect and coordinate his work with theirs as required by the Contract Documents.

6.4 – DEFECTS – If any part of the Contractor's Work depends on proper execution or results upon the work of the City or any separate contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Project Manager any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acceptance of the City's or separate contractors'

work as fit and proper to receive his Work, except as to defects that may substantially become apparent in such work by others. Any costs caused by defective or ill-timed work shall be borne by the party responsible therefore.

6.5 – DAMAGES TO WORK – Should the Contractor cause or allegedly cause damage to the work or property of the City, or to other work on the site, the contractor shall promptly remedy such damage as provided in Paragraph 10.6.

6.6 – DUTY TO DEFEND – Should the Contractor wrongfully cause or allegedly cause damage to the work or property of any separate contractor, the Contractor shall upon due notice promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues or initiates an arbitration proceeding against the City on account of any damage alleged to have been caused by the Contractor, the City shall notify the Contractor who shall defend such proceedings at his expense, and if any judgment or award against the City arises there from, the Contractor shall pay or satisfy it and shall reimburse the City for all attorneys' fees and court or arbitration costs which the City has incurred. If the Contractor prevails, the City shall pay any expenses not recovered from the separate contractor incurred as a result of any negligent act on the part of the City's officers, agents or Project Manager.

6.7 – CITY'S RIGHT TO CLEAN UP – If a dispute arises between the Contractor and separate contractors as to their responsibility for the cleaning up as required by Paragraph 5.14, the City may clean up and charge the cost thereof to the contractors responsible therefore as the Project Manager shall determine to be just.

DIVISION 7
MISCELLANEOUS PROVISIONS

7.1 – ARBITRATION – Any controversy of claim arising out of or relating to this Contract, or the breach thereof which cannot be resolved by mutual agreement, may be settled by arbitration only if the times, places, arbitrators, and various rules or arbitration conduct can be mutually agreed upon in writing and approved by the Contractor and City in writing, any other paragraph, law or rule notwithstanding.

7.2 – INSPECTION AND TESTING - **(A)** All work (which term includes but is not restricted to materials, workmanship, and manufacture and fabrication of components) shall be subject to inspection and test by the Project Manager at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of providing quality control measures to assure that the Work strictly complies with the Contract requirements. No inspection or test by the Project Manager shall be construed as constituting or implying acceptance. Inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, not in any way affect the continuing rights of the City after acceptance of the completed Work. **(B)** The Contractor shall, without charge, replace any material or correct any workmanship found by the Project Manager not to conform to the Contract requirements, unless in the public interest the City consents to accept such material or workmanship with an appropriate adjustment in Contract Sum. The Contractor shall promptly segregate and remove rejected material from the premises. **(C)** If the contractor does not promptly replace rejected material or correct rejected workmanship, the City 1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or 2) may terminate the Contractor's right to proceed in accordance with Division 14 of this contract entitled "Termination." **(D)** The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Project Manager. All inspection and test by the Project Manager shall be performed in such manner as not unnecessarily to delay the Work. Special, full size, and performance tests shall be performed as described in this Contract. The City reserves the right to charge to the Contractor any additional cost of inspection or test when material or workmanship is not ready at the time specified by the Contractor for inspection or test or when re-inspection or retest is necessitated by prior rejection. **(E)** The City may employ an Inspector, working under the Project Manager, for the inspection of the Work while such Work is in progress to ascertain that the completed Work will comply in all respects with the standards and requirements set forth in the Specifications. **(F)** The Inspector is authorized to carry out orders of the Project Manager. In the event of a dispute between the Inspector and the Contractor, the Project Manager shall resolve the matter. **(G)** Under no circumstances is an Inspector authorized in any manner to alter, vary or waive any requirement of the Contract. Neither affirmative approval nor silence shall operate to relieve the Contractor from the responsibility of strictly complying with the Contract requirements. Conclusive approval of materials and workmanship may be given by the Project Manager if requested by the Contractor.

7.3 – PREFERENCE FOR IOWA PRODUCTS AND LABOR – The Contractor shall give preference to products and provisions grown and coal products within the State of Iowa, and to Iowa domestic labor in the construction of the work over foreign products and labor and shall otherwise comply with the provisions of Chapter 73 of the Code of Iowa.

7.4 – SUBCONTRACTORS – **(A)** The Contractor shall, as soon as practicable after signing of the Contract, notify the Project Manager in writing of the names of subcontractors proposed for the Work. **(B)** The City reserves the right to object to the use of any proposed subcontractor who: 1) Is currently in violation of any law, ordinance or regulation governing affirmative action programs; 2) Has defaulted on any prior project with the city and such default has not been cured to City's satisfaction; 3) Does not possess the necessary licenses or skills to perform the Work.

7.5 – JURISDICTION – The Scott County, Iowa, District Court shall have exclusive jurisdiction of all litigation between the Contractor and the City.

DIVISION 8
TIME

8.1 – COMMENCEMENT OF THE WORK – The Contractor shall commence the Work on the date specified in a notice to proceed, in the absence of a notice to proceed within ten days following the date of approval of the contract bond and insurance by the City. The first working day shall be the date specified in the notice to proceed or the date the Contractor actually commences the Work, whichever is earlier. The Contractor shall carry the Work forward expeditiously with adequate workers, equipment, and materials so that it will achieve Final Completion within the Contract Time.

8.2 – TIME IS OF THE ESSENCE – All time limits stated in the Contract Documents are of the essence in the Contract.

8.3 – LIQUIDATED DAMAGES – **(A)** The Contractor shall pay to the City as liquidated damages and not as a penalty the sum of money set forth in the Form of Contract for each working day between the contract time and the date of final completion, including general cleanup and the removal of all equipment and obstructions from the site of the Work. Such liquidated damages shall be payable to reimburse or compensate at least in part, the City for: 1) the administration of the Work covered by such Contract and any other contract or contracts beyond the contract Completion Date, but not the additional engineering expenses directly attributable to the Work and incurred because of the delay; 2) expenditures resulting from the inability of the City and the general public to use the improvement being constructed from and after such Contract Completion Date until the actual date of completion; 3) other miscellaneous obligations and expenditures incurred by the City directly as a result of the failure to complete the Work covered by such Contract on or before the Contract Completion Date. It is agreed that these damages are difficult of precise measurement at the inception of the contract and the sum stated herein is the best possible estimate of the damages that will accrue because of delay. **(B)** The assessment of liquidated damages for failure to complete the Work by the Contract Completion Date shall not constitute a waiver of the City's right to collect engineering expenses directly attributable to the Work and incurred because of the delay in completion. **(C)** The total amount so payable by the Contractor as liquidated damages may be deducted from any monies due and payable to the Contractor by the City or so much thereof as is not deducted shall be chargeable to and will be payable promptly by such Contractor or his bonding company to the City.

8.4 – DELAYS AND EXTENSIONS OF TIME – **(A)** If the Contractor is delayed at any time in the progress of the work by: 1) any act or neglect of the City or the Project Manager; 2) by any employee of either the City or the Project Manager; 3) by any separate contractor employed by the City; 4) by changes ordered in the Work; 5) by labor disputes; 6) fire; 7) unusual delay in transportation; 8) adverse weather conditions not reasonably anticipatable; 9) unavoidable casualties; 10) any causes beyond the Contractor's control; 11) by delay authorized by the City pending arbitration; 12) or by any other cause which the Project Manager determines my justify the delay, then working days shall not be charged for such reasonable time as the Project Manager may determine. **(B)** However, before the working days will not be charged to the contractor, the delay and subsequent failure to perform must be beyond the control of the Contractor. If the failure to perform is caused by the failure of a subcontractor to perform or to make progress and if such failure arises out of causes beyond the control of both the Contractor and subcontractor and without fault or negligence of either of them, the Contractor shall not be deemed to be in fault unless: 1) the supplies or services to be furnished by the subcontractor were obtained from other sources; 2) the Project Manager shall have ordered the contractor in writing to procure such supplies or services from other sources; and 3) the Contractor shall have failed to comply reasonably with such order.

8.5 – CLAIMS FOR ADDITIONAL WORKING DAYS – **(A)** The Project Manager shall prepare a weekly report of the working days charged. This report shall be signed by the Project Manager and the Contractor. If the contractor chooses to protest the charging of any working day, he shall file with the Project Manager written protest specifying his reasons

within ten days after the last day of any week for which a day was charged that is disputed. The Project Manager shall review these documents and shall make the final decision on the number of working days to be charged. **(B)** Any claim for additional contract time shall be made in writing to the Project Manager not more than seven days after occurrence of the event giving rise to the claim; otherwise it shall be waived. In the case of a continuing delay only one claim is necessary. The Contractor shall provide an estimate of the probable effect of such claim on the progress of the Work. The Project Manager shall promptly investigate the Contractor's claim for additional contract time and if justified, he shall notify the Contractor in writing and an equitable adjustment shall be made and the Contract modified pursuant to Division 12. **(C)** If weather conditions become such that construction work must be suspended until springtime, the Contractor will be sent a written notice to continue work, which will specify a date to resume work and will show the number of working days remaining to complete the job. The written notice to continue work will be sent to the Contractor at least ten days before the specified date to proceed. However, working days will be charged beginning on the day work actually starts, if it is before the notice date. Resumption dates are normally specified for around March 15th or as weather permits.

8.6 – DELAY FOR INTERPRETATIONS – If no agreement is made stating the dates upon which interpretations as provided in Paragraph 4.5 shall be furnished, then no claim for additional contract time shall be allowed on account of failure to furnish such interpretations until twenty days after written request is made for them, and not then unless such claim is reasonable.

8.7 – NO DAMAGES FOR DELAY – Paragraph 8.4 precludes the recovery of damages for delay for reasons (d) through (1) under any other provision of the Contract Documents. Paragraph 8.4 also precluded the recovery of damages for delay for reason (A) through (C) unless a single delay extends for more than fifteen days or aggregate delays from two or more work stoppages total more than twenty-one days and then only for the excess days in either case. Paragraph 8.6 precludes the recovery for damages for delays under the circumstances enumerated therein. In addition, no damages for delays can be recovered for reasons 8.4 (A) through 8.4 (C) to the extent the delay would have occurred in any event due to any other cause, including the negligence of the Contractor; or, for which an adjustment is provided or excluded under any other provision of this Contract. There shall be no allocation of fault during concurrent delays.

8.8 – PROCEDURE FOR APPEAL OF THE PROJECT MANAGER'S DECISION – **(A)** If the Project Manager determines the claim of the contractor does not justify additional time to complete the project or lesser time than the Contractor requested, he shall so notify the Contractor in writing within twenty days from submission of the claim. If the Project Manager fails to respond to any claim within the time allocated, the claim shall automatically be deemed denied by the Project Manager. **(B)** The decision of the Project Manager shall be final and binding upon the Contractor unless the Contractor appeals the decision of the Project Manager to the City Council. Such appeal shall be taken within twenty days from the Project Manager's decision and full statement of the facts surrounding the claim and the additional working days requested. The City Council shall fix a date, time and place to hear the matter, which date shall not be less than thirty days from receipt of the request for review. If the Matter is not heard within thirty days or a decision not rendered by the City Council within fifteen days of the hearing, the claim shall automatically be deemed denied by the City Council. **(C)** The decision of the City Council shall be final and binding upon the Contractor unless within six months from the date of the decision of the City Council, the City and the Contractor agree in writing to arbitration or the Contractor files suit in the Scott County, Iowa, District Court.

8.9 – CHANGE ORDER REQUIRED – Any approved claim for additional contract time under the provisions of this Division shall be granted by change order.

8.10 – EXTENSIONS OF TIME – Except for an extension of the contract time, the Project Manager may, upon written request and for good cause shown by the Contractor, grant an extension of time to perform any act required by the Contract. The request for an extension of time must be made within the time to initially perform the act. An extension of time must be in writing and signed by the Project Manager.

DIVISION 9
PAYMENTS AND COMPLETION

9.1 – PAYMENT FOR WORK PERFORMED – The Contractor will receive and accept as full payment for all items of acceptable Work performed which are covered by definite unit prices or lump sum amounts specified in the Form of Contract, the rate specified therein, or in the case of work under a change order, the amount stated in the change order.

9.2 – APPLICATION FOR PAYMENTS – Application for payments shall be made by the Project Manager on forms provided by the City.

9.3 – MEASUREMENT OF QUANTITIES – The Work completed under the Contract shall be measured according to United States standard measures. Payment will be based on the actual quantity of work performed under the various classifications of Work in the Contract.

9.4 – SCOPE OF PAYMENT – The Contractor shall accept the compensation herein provided as full payment for furnishing all materials, labor, tools, and equipment and for performing all work under the Contract or any extension thereof allowed under Division 12; also, for all costs arising from the action of the elements or other natural causes, agreements, and performances, non-performance or delays involving other contractors and third parties, or injunctions or lawsuits resulting there from, or from any unforeseen difficulties not otherwise provided for in the specifications and which
may be encountered during prosecution of the Work and up to the time of acceptance thereof, except damage to the Work due to acts of war. Nothing herein shall in and of itself be construed to prejudice or deny any claim filed under provisions of Division 15.

9.5 – MATERIAL DELIVERED TO WORK SITE – Unless otherwise provided in the Contract Documents, payments may be made on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site or at some other location agreed upon in writing, if approved in advance by the Project Manager. Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Project Manager to establish to the City's title to such materials or equipment or otherwise protect the City's interest, including applicable insurance and transportation to the site for those materials and equipment stored off the site.

9.6 – TITLE – The contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the City either by incorporation in the construction or upon the receipt of payment by the Contractor. This paragraph shall not negate or abridge the Contractor's obligations with regard to protection of the Work in Division 10 or to any warranties required by the Contract.

9.7 – PAYMENTS - **(A)** If the Work extends over a period of more than one month, the Contractor will receive monthly progress payments from the City based on the Project Manager's estimate of work completed in an acceptable manner. The City's monthly payments shall be partial payments on the contract sum and the monthly payment by the City does not constitute acceptance of the work upon which the estimates are based. **(B)** Work completed in an acceptable manner during the month shall be paid for by the City within thirty-five days from the last day of the month. **(C)** The City shall retain from each monthly payment five percent of that amount which is determined to be due by the Project Manager. Interest shall be paid at the rate of ten percent per annum on delayed monthly progress payments.

9.8 – PROJECT MANAGER'S REPRESENTATIONS – Submission of an application of payment signed by the Project Manager will constitute a representation by the Project Manager to the City, based on his observations at the site that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial or Final Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in an attachment to the estimate) and that the Contractor is entitled to payment in the amount certified.

9.9 – PAYMENTS TO SUBCONTRACTORS – The City shall not have any obligation to pay or to see to the payment of any monies to any Subcontractor or suppliers.

9.10 – PAYMENT NOT ACCEPTANCE OF DEFECTIVE WORK - No estimate made for a progress payment, nor any progress payment, nor any partial or entire use of occupancy of the Project by the City shall constitute acceptance of any Work not in accordance with the Contract Documents.

9.11 – PAYMENTS WITHHELD – **(A)** The Project Manager may decline to submit an application for payment and may withhold his estimate in whole or in part, to the extent necessary reasonably to protect the City, if in his opinion his is unable to make representations to the City as provided in Subparagraph 9.8 and thus submit the application, he will notify the Contractor. The Project Manager may also decline to submit an application for payment or, because of

subsequently discovered evidence or subsequent observations, he may nullify the whole or any part of any estimate authorizing payment previously issued, to such extent as may be necessary in his opinion to protect the City from loss because of: 1) defective work not remedied; 2) damage to the City or another contractor; 3) reasonable evidence that the Work will not be completed within the Contract Time but only to the extent of liquidated damages; 4)persistent failure to carry out the Work in accordance with the Contract Documents. When the above grounds are removed, payment shall be made for amounts withheld because of them.

9.12 – FAILURE OF PAYMENT – If the Project Manager does not prepare an application for payment as provided for in Paragraph 9.7B, through no fault of the Contractor, the Contractor may, upon seven additional days written notice to the City, stop the Work until payment of the amount owing has been received. The Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, which shall be effected by appropriate Change Order in accordance with Division 12.

9.13 – SUBSTANTIAL COMPLETION – **(A)** The Date of Substantial Completion of the Work or designated portion thereof is the Date Certified by the Project Manager when construction is sufficiently complete, in accordance with the Contract Documents, so the City can occupy or utilize the Work or designated portion thereof for the use for which it is intended, as expressed in the Contract Documents. **(B)** When the contractor considers that the Work or a designated portion thereof is substantially complete, the Contractor shall request the Project Manager to make an inspection. If the Project Manager determines that the Work is substantially complete, the Project Manager shall prepare a Certificate of Substantial Completion and prepare a list of work items, which shall be completed or corrected. The failure to include any item on the list does not alter the responsibility of the Contractor to complete all Work in accordance with the contract documents. The Certificate of Substantial Completion shall state the responsibility of the City and Contractor for security, maintenance, heat, utilities, damage to the work, and insurance. Warranties required by the contract documents shall commence on the date of Substantial Completion unless otherwise provided in the Certificate of Substantial Completion. **(C)** If after the Work has been substantially complete, and work towards Final Completion thereof cannot proceed for a period of more than sixty days through no fault of the Contractor, and the Project Manager so certifies, the City may make Final Payment for that portion of the work fully completed and accepted, provided the Contractor enters into a supplemental contract on the same terms and conditions as far as applicable for the Work remaining to be done and such other necessary matter, as determined by the Project Manager. The Contractor's bondsman must consent to the Contract and agree that the bond shall remain in full force and effect.

9.14 – FINAL COMPLETION – **(A)** The Date of Final Completion is the date of the letter from the Project Manager to the Contractor indicating all of the Work is completed to the satisfaction of the City. **(B)** When the Contractor considers that all of the Work is in accordance with the contract documents, the contractor shall request the Project Manager to make an inspection. When all Work items are in accordance with the contract documents, the Project Manager shall promptly notify the Contractor by letter and issue a pay estimate for the Contract sum less a 5% retainage.

9.15 – ACCEPTANCE – **(A)** The Date of Acceptance of the Work is the Date of either: 1) the letter of Final Completion from the Project Manager to the Contractor when the letter clearly states acceptance is being given, or 2) the date of the City Council meeting when the Council approves a Resolution accepting the Work. **(B)** The Contractor shall within ten (10) days of the City's acceptance of the Work cause to be published in the Quad-City Times a notice stating that the City has accepted the Work and that all subcontractors and suppliers of labor, materials, services, or transportation may file an itemized, sworn, written claim with the City for the unpaid portion of their work, if any. Also, the Contractor shall furnish the City with the tax statements required in Paragraph 5.9.

9.16 – FINAL PAYMENT – Final Payment which shall be payment of the 5% retainage shall be made in accordance with the provisions of Chapter 573, Code of Iowa.

DIVISION 10

10.1 – SAFETY PRECAUTIONS AND PROGRAMS – The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.

10.2 – CONTRACTOR'S OBLIGATION – **(A)** The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to: 1) all employees on the Work and all other persons who may be affected thereby; 2) all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of the Subcontractors or Sub-subcontractors; and 3) other property at the site or adjacent thereto, including trees, shrubs, lawns, walks,

pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

10.3 – COMPLIANCE WITH APPLICABLE LAWS – The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

10.4 – CONTRACTOR TO ERECT SAFETY DEVICES – The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

10.5 – EXPLOSIVES – When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

10.6 – REMEDY DAMAGE OR LOSS – The Contractor shall promptly remedy all damage or loss caused in whole or in part by the Contractor, any sub-contractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under Paragraph 10.2 (B) and (C), except damage or loss attributable to the acts or omissions of the City or Project Manager or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligations under Paragraph 11.9.

10.7 – PERSON DESIGNATED AS SAFETY ENGINEER – The contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the City and the Project Manager.

10.8 – LOADING WORK – The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.

10.9 – EMERGENCIES – In any emergency affecting the safety of persons or property, the contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of the time claimed by the Contractor on account of emergency work shall be determined as provided in Divisions 12 and 15.

10.10 – PUBLIC RIGHT OF WAY OCCUPANCY - **(A)** – If it is necessary to partially or completely close any street for the purpose of construction or excavation, the contractor shall: 1) seventy-two hours prior to partially or completely closing a street notify the City Transportation Department of the closing; 2) twenty-four hours prior to completely closing a street, notify local residents of the closing in order to allow them to arrange other temporary ingress and egress to their property and to remove automobiles, etc. from their parking area; 3) for the purpose of this paragraph, "partially close" means closing one or more of the driving lanes; 4) when the street is to be open, the Transportation Department shall be notified on the same day. **(B)** In either case of partially or completely closing the streets, the Contractor shall reopen the streets immediately upon completion of his work. **(C)** The Contractor shall be responsible for proper barricading, indicating that all or part of the street is closing to through traffic, and shall have direction and detour signs at the end of the street under construction. The signing shall conform to the traffic control plans in the Contract and/or as directed by the Transportation Department of the City. All barricades, warning signs, and devices are to be supplied, erected, maintained, and be the responsibility of the Contractor. The barricades, signs and devices shall conform to the Manual on Uniform Traffic Control Devices. Proper safety measure shall also be utilized and furnished by the Contractor at all times, including all necessary warning signs, flares, barricades, flagmen, etc.

DIVISION 11
INSURANCE AND INDEMNIFICATION

11.1 – CONTRACTOR'S INSURANCE – The Contractor shall secure and maintain such primary insurance policies as will protect himself or his Sub-contractors from claims for bodily injuries, death or property damage which may arise from operations under this Contract whether such operations be by himself or by any Sub-contractor or anyone employed by them directly or indirectly. The following insurance policies are required unless other limits are specified in the Bid "Attachments" tab or "Advertisement for Bids":

(A) Statutory Worker's Compensation

(B) General Liability

a. General Aggregate	$ 1,000,000
b. Products Completed	$ 1,000,000
c. Each Occurrence	$ 1,000,000

(C) Automobile Liability

a. Any Auto, Hired & Non Owned	
b. Combined Single Limit	$1,000,000

(D) Excess Liability

a. Umbrella Form	$2,000,000

11.2 - INSURANCE INCLUSIONS – The general liability insurance shall include products liability, products and completed operations and broad form property damage coverage. The completed operations and products liability shall be maintained for two years after final payment. Property damage shall include coverage for explosion, collapse, and underground damage.

11.3 – CONTRACTUAL LIABILITY – The insurance required by Subparagraph 11.1 shall: **(A)** be primary insurance and if the City has insurance that is applicable to a loss, such insurance shall be on an excess or contingent basis. **(B)** include contractual liability insurance coverage for the contractor's obligations under Paragraph 11.8.

11.4 – CERTIFICATES OF INSURANCE – Certificates of Insurance acceptable to the City indicating insurance required by the Contract shall be filed with the City prior to approval of the Contract by the City. These Certificates shall contain a provision that coverage afforded under the policies will not be cancelled until at least thirty days prior written notice has been given to the City.

11.5 – PROPERTY INSURANCE – Unless otherwise provided, the Contractor shall purchase and maintain property insurance upon the entire Work at the site to the full insurable value thereof. This insurance shall include the interests of the City, the Contractor, Subcontractors and Sub-subcontractors in the Work and shall insure against the perils of fire and extended coverage and shall include "builder's risk" insurance for physical loss or damage including, without duplication of coverage, theft, vandalism and malicious mischief. If the City is damaged by failure of the Contractor to purchase or maintain such insurance, then the Contractor shall bear all reasonable costs properly attributable thereto. The Contractor shall effect and maintain similar property insurance on portions of the Work stored off the site or in transit when such portions of the Work are to be included in an Application for Payment.

11.6 – BOILER INSURANCE – The City shall purchase and maintain such boiler and machinery insurance as may be required by the Contractor Documents. This insurance shall include the interest of the City, the Contractor, Subcontractor and Sub-subcontractors in the Work.

11.7 – LOSS ADJUSTMENTS – Any loss insured under Subparagraph 11.5 is to be adjusted with the Contractor and made payable to the Contractor as trustee for the insured, as their interests may appear. The Contractor shall pay each Subcontractor a just share of any insurance monies received by the Contractor, and by appropriate agreement written where legally required for validity, shall require each Subcontractor to make payments to his Sub-subcontractors in similar manner.

11.8 – INDEMNIFICATION – **(A)** To the fullest extent permitted by the law, the Contractor shall defend, indemnify, and hold harmless the City, its officials and its agents and employees from and against all claims, damages, losses and expenses, including but not limited to all attorneys' fees, arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense, 1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than use resulting there from, and 2) is caused in whole or in part by any negligent act or omission of the Contractor, any Sub-contractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity, which would otherwise exist as to any party or person, described in this Paragraph. **(B)** In any and all claims against the City, its officials or any of its agents or by any employee of the Contractor, and Subcontractor, anyone directly or indirectly employed by any of them may be liable, the indemnification obligation under this Paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers; or workmen's compensation acts, disability

benefit acts or other employee benefit acts. **(C)** The obligations of the Contractor under this Paragraph shall not extend to the liability of the City, its agents or employees, arising out of 1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or 2) the giving of or the failure to give directions or instructions by the Project Manager or his representatives providing such giving or failure to give is the primary cause of the injury or damage.

DIVISION 12
CHANGES IN WORK

12.1 – CHANGE ORDERS – The Contract Price, the Contract Sum and the Contract Time may be changed by Change Order. A Change Order signed by the Project Manager and the contractor and approved by the City indicates conclusive agreement therewith, including the adjustment in the Contract Price, Contract Sum or the Contract Time. A Change Order signed by the Project Manager and Contractor, and subsequently approved by the City, may not be the subject matter of any claim, suit, or arbitration.

12.2 – CITY'S AUTHORITY – The City, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Price, the Contract Sum or the Contract Time being adjusted accordingly. All such changes in the Work shall be authorized by written Change Order, and shall be performed under the applicable conditions of the Contract Documents. Change Orders shall be prepared by the Project Manager and presented to the Contractor for his signature. If signed by the Contractor, the Project Manager shall sign the Change Order and then submit it to the City for final approval.

12.3 – COST OR CREDIT DETERMINATIONS – **(A)** The cost or credit to the City resulting from a change in the Work shall be determined by one of the following ways: 1) by unit prices contained in the Contractor's original bid and incorporated in the Contract Documents; 2) by a supplemental schedule of prices contained in the Contractor's original bid and incorporated in the Construction Document; 3) by an acceptable unit price proposal from the Contractor; 4) by an acceptable lump sum proposal from the Contractor; 5) by force account basis. The order to preference shall be listed. The applicability 1) or 2) shall foreclose the use of 3), 4) or 5).

12.4 – FORCE ACCOUNT BASIS – **(A)** Extra work performed on the force-account basis will be paid for in the following manner: For laborers, timekeepers, foremen and superintendents, the Contractor shall receive the rate of wage shown on previous payrolls for the time they are actually engaged in the Extra Work, to which shall be added an amount equal to fifteen percent thereof, plus the amount of social security tax imposed by law upon the Contractor because of such force-account work, plus the cost of worker's compensation, public liability insurance, and employment security contributions. The fifteen percent shall cover compensation for the furnishing of the necessary small tools for the Work together with all other overhead items of expense. The wage of the superintendent, timekeeper, or foreman who is employed partly on force-account work and partly on other work shall be prorated between the two classes of work according to the number of men shown by the payrolls as employed on each class of work. **(B)** For materials used on force-account work, the Contractor shall receive the actual cost of materials delivered on the work, including the freight and handling charges as shown by original receipted bills, to which cost shall be added a sum equal to fifteen percent thereof. **(C)** For machinery, tools or equipment, and fuel and lubricants therefore, except small hand tools, which may be used, the Project Manager shall allow the Contractor a reasonable rental rate to be agreed by the Contractor before such work is begun. No profit percentage shall be added to the rate. **(D)** Compensation as herein provided shall be accepted by the Contractor as payment in full for extra work done on a force-account basis. It will be assumed that such payment includes the use of tools and equipment for which no rate is allowed, overhead, and profit.

12.5 – MINOR CHANGES IN THE WORK – The Project Manager shall have authority to order minor changes in the Work not involving an adjustment in the Contract Price or Contract Sum or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes may be effected by either oral or written order, and shall be binding on the City and the Contractor. The Project Manager shall also have the authority to issue change orders consisting of additions, deletions, or other revisions affecting the Contract Sum and Contract Time, providing such change does not exceed $10,000. Such a Change Order shall be prepared by the Project Manager, and submitted to the Contractor for his signature. If approved and signed by the Contractor and the Project Manager, the Change Order shall be binding upon the City and the Contractor and may not be the subject matter of any claim, suit or arbitration.

DIVISION 13
UNCOVERING AND CORRECTION OF WORK

13.1 – UNCOVERING OF WORK FOR INSPECTION – If any portion of the Work should be covered prior to the Project Manager or Inspector having an opportunity to inspect it, it must, if required by the Project Manager, be uncovered for his observations. The costs of uncovering and restoring the work shall be the Contractor's expense.

13.2 – UNCOVERING WORK NOT INSPECTED – If the Project Manager or inspector authorizes any portion of the Work to be covered which they did not inspect prior to being covered they may request to see such Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the cost of uncovering and restoring the Work shall, by appropriate Change Order, be charged to the City. If such Work be found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it be found that this condition was caused by the City or a separate contractor as provided in Division 6, in which even the City shall be responsible for the payment of such costs.

13.3 – CORRRECTION OF WORK – The Contractor shall promptly correct all Work rejected by the Project Manager as defective or as failing to conform to the Contract Documents whether observed before or after Final Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for the Project manager's additional services made necessary thereby.

13.4 – WARRANTY WORK – If, within one year from the date of acceptance any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the City to do so unless the City has previously given the Contractor a written acceptance of such condition. This obligation shall survive termination of the Contract. The City shall give such notice promptly after discovery of the condition. If the Work is covered by a bond, the City shall also notify the Contractor's bonding company.

13.5 – FAILURE TO CORRECT – If the Contractor fails to correct defective or non-conforming Work as provided in Paragraph 5.6, 13.3 and 13.4, the City may correct it in accordance with Paragraph 3.8. If the Work is covered by a bond, the City shall have the right to require the Work be done by the Contractor's bonding company.

13.6 – ACCEPTING DEFECTIVE WORK – If the City prefers to accept defective or non-conforming Work, it may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable. Such adjustment shall be effected. Whether or not final payment has been made.

DIVISION 14
TERMINATION OF THE CONTRACT

14.1 – TERMINATION BY THE CONTRACTOR – If the Work is stopped for a period of thirty days under an order of any Court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with the Contractor, or if the Work should be stopped for a period of thirty days by the contractor because the Project Manager has not prepared an Application for Payment as provided in Paragraph 9.2 or because the City has not made payment thereon as provided in Paragraph 9.7, then the Contractor may, upon seven additional days' written notice to the City, terminate the Contract and recover from the City payment for all Work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment and machinery, including reasonable profit and damages.

14.2 – TERMINATION BY THE CITY – If the contractor is adjudged a bankrupt, or if he makes a general assignment for the benefit of his creditors, or if a receiver is appointed on account of his insolvency, or if he persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, fails to start the Work on time or fails to prosecute the Work so as to be able to finish on time, or if he fails to make prompt payment to Subcontractors or for materials or labor, or persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a substantial violation of a provision of the Contract Documents, then the City, may without prejudice to any right or remedy and after giving the Contractor and his surety, if any, seven days' written notice, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever method it may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

14.3 – COSTS OF FINISHING WORK – If the unpaid balance of the Contract Sum exceeds the costs of finishing the work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor or his bonding company shall pay the difference to the City.

14.4 – TERMINATION FOR THE CONVENIENCE OF THE CITY- **(A)** The performance of work under these Contract Documents may be terminated by the City in accordance with this paragraph in whole, or from time to time in part, whenever the City Council shall determine that such termination is in the best interests of the City. Any such termination shall be effected by delivery to the Contractor of a notice of termination specifying: 1) what work is to terminate; 2) when the termination is to become effective; 3) the action to be taken with regard to subcontractors; 4) the action to be taken with regard to materials on hand but not incorporated into the Work; 5) the manner in which remaining work will be handled. **(B)** The Contractor shall submit to the Project Manager any termination claim he may have within three months of the notice of termination. The Contractor shall be entitled to payment for all Work performed up to the date of termination based upon the unit prices in the Form of Contract, plus the expenses incurred in terminating the Contract, less payments made, and less any credits received from Subcontractors and suppliers. **(C)** In the event the Project Manager and the Contractor are unable to agree upon an amount, the Contractor may proceed under the provisions of Paragraph 15.4.

14.5 – REMOVAL OF EQUIPMENT – In the case of termination of this Contract before completion from any cause whatever, the Contractor, if notified to do so by the City, shall promptly remove any part or all of his equipment and supplies from the property of the City, failing which the City shall have the right to remove such equipment and supplies at the expense of the Contractor.

DIVISION 15
CLAIMS

15.1 – CLAIMS FOR ADDITIONAL COST – WORK - **(A)** If the Contractor wishes to make a claim for an increase in the Contract Sum, he shall give the City through the Project Manager written notice thereof within ten days after the occurrence of the event giving rise to such claim (or such shorter time as will provide the City with the opportunity to investigate the event and make a record of the circumstances surrounding same). This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Paragraph 10.9. No such claim shall be valid and is waived by the Contractor unless so made. The fact that the City, its officials, agents or employees or the Project Manager have actual knowledge of the event shall not relieve the Contractor of this requirement. **(B)** The Project Manager shall promptly investigate the Contractor's claim, and upon completion of the investigation, notify the Contractor to proceed with the Work. If the claim is justified, he shall notify the Contractor in writing and an equitable adjustment shall be made and the contractor modified in writing pursuant to Division 12. **(C)** The Contractor shall afford the Project Manager notice and opportunity to keep strict account of actual costs incurred as defined for force-account construction for the work giving rise to the claim. If the Contractor fails to do so, he thereby agrees to waive the claim for extra compensation for such work. The fact that the Project Manager has kept an accounting of the costs shall not be construed as establishing the validity of the claim.

15.2 – CLAIMS FOR ADDITIONAL COST – ORDERS – If the Contractor claims that additional cost is involved because of (1) any written interpretation pursuant to Subparagraph 4.5; 2) any order by the City to stop the Work pursuant to Paragraph 3.7 where the Contractor was not at fault; 3) any written order for a minor change in the Work issued pursuant to Paragraph 12.5; 4) failure of payment by the City pursuant to Paragraph 9.12; or 5) any other conduct on the part of the Project Manager or City, the Contractor shall make such claim as provided in Subparagraph 15.1.

15.3 – DIFFERING SITE CONDITIONS – **(A)** In order to preserve any claim for differing site conditions, the Contractor shall promptly, and before such conditions are disturbed, but in no event later than seven days after discovery, notify the Project manager in writing of: 1) such subsurface or latent physical conditions at the site the Contractor feels differ materially from those indicated in this Contract or, 2) such unknown physical conditions at the site which in the opinion of the Contractor are of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract; and 3) the delay, if any, and the additional cost, if any, the Contractor expects because of the different conditions. The Project Manager shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for performance of any part of the Work under this Contract, whether or not changed as a result of such conditions, he shall notify the Contractor in writing and an equitable adjustment shall be made and the Contract modified in writing accordingly in accordance with Division 12.

(B) No claim of the Contractor under this paragraph shall be allowed and shall be deemed waived by the Contractor unless the contractor has given the notice required in (A) above regardless of the fact that the City's agents or employees or the Project Manager may be aware of the alleged different conditions. **(C)** No claim of the Contractor under this paragraph shall be allowed and shall be deemed waived by the Contractor if the differing site condition has been disturbed before examination and investigation by the Project Manager.

15.4 – PROCEDURE FOR APPEALING THE PROJECT MANAGER'S DECISION – **(A)** – If the Project Manager determines that any claim of the Contractor does not justify an increase in the Contract Sum, he shall so notify the Contractor in writing within twenty days. If the Project Manager fails to respond to any claim within the time allotted, the claim shall automatically be deemed denied by the Project Manager. **(B)** The decision of the Project Manager shall be final and binding upon the Contractor unless the Contractor appeals the decision of the Project manager to the City Council. Such appeal shall be taken within twenty days from the Project Manager's decision by filing with the City Clerk a request for review of the Project Manager's decision and full statement of the facts surrounding the claim and the amount of the claim. The City Council shall fix a date, time, and place to hear the matter, which date shall be not less than thirty days from receipt of the request for review. If the matter is not heard within thirty days or a decision not rendered by the City Council within fifteen days of the hearing, the claim shall automatically be deemed denied by the City Council. **(C)** The decision of the City Council shall be final and binding upon the Contractor unless within one month from the date of the decision of the City Council or such additional time as the City may agree upon, the City and the contractor agree in writing to arbitration or the Contractor files suit in the Scott County District Court.

15.5 – PROCEDURE FOR DETERMINING COSTS – If the City and the Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined by the provisions of Paragraph 12.3.

15.6 – SUBMISSION OF CLAIM – **(A)** If the Project Manager or the City Council determines that a claim should be denied and if the Contractor desires further appeal of the matter, he shall submit to the Project Manager an itemized statement of each month's additional expenditures no later than thirty days after the last day of the month such expenditures are incurred. Failure to submit the statement required herein shall constitute a waiver of the expenses incurred during that month. **(B)** No increase in the claim for additional costs of construction will be allowed if made more than thirty days after submission of the initial claim and Contractor agrees to waive those costs. **(C)** The amount of the claims submitted pursuant to the provisions of this paragraph shall establish the maximum allowable claim of the Contractor in any further proceedings to determine the validity and amount of the contested claim.

15.7 – AUDIT OF CLAIMS – The City may, at reasonable times and places, audit the books and records of the Contractor who has submitted a claim pursuant to the provisions of Division 15 to the extent that such books and records relate to the cost and pricing data used in said claim. If the Contractor makes such a claim, he shall maintain his books and records until such time as the claim is finally resolved. If any records are lost or destroyed which would have substantiated the Contractor's claim, the claim shall be deemed waived by the Contractor.

15.8 – CONTRACTOR TO CONTINUE WORK – Nothing contained in this division shall be construed to permit the Contractor from continuing to prosecute the Work so as to complete the Project within the allotted time.

15.9 – INTEREST – No claim for interest may be allowed which exceeds ten percent per annum.

15.10 – WAIVER OF CLAIMS – The Contractor waives all claims, and no claim shall be allowed regardless of its nature unless made within thirty days after the final completion on the contract time plus any days charged under Paragraph 8.3, whichever occurs first.

COMMUNICATION DISCLOSURE

Be advised that any conversations (in reference to this bid) between bidders and any City employee, City official or City Project Manager, outside of the Purchasing Division, during the entire competitive bidding process is strictly prohibited. Such actions will result in removal of the vendor from the bidder's list and rejection of the vendor's bid. The ONLY official position of the City is that position which is stated in writing and issued by the Purchasing Division. No other means of communication, whether written or oral, shall be construed as a formal or official response statement.

CITY OF DAVENPORT
CONTRACTOR EVALUATION REPORT

☐ **INTERMEDIATE EVALUATION**
☐ **FINAL EVALUATION**

PROJECT _____ **CONTRACT AWARDED $** _____

PROJECT MANAGER _____ **FINAL CONTRACT $** _____

PROJECT INSPECTOR _____ **CHANGE ORDER %** _____

CONTRACTOR _____ If change order percentage is > 7%, detail in comments

PRIME ☐ **SUBCONTRACTOR** ☐

The Contractor Evaluation Report is to be completed for every contractor and subcontractor. Comments below should list both positive items and areas of improvement on the project. Include details of issues, change orders, liquidated damages, etc. If required, document comments on additional sheets and add to the document.

ORGANIZATION/MANAGEMENT:	**RATING***	**POINT RANGE**	**COMMENTS REQUIRED**
A. Superintendent in charge with authority.		0-5	≤ 3
B. Coordination with suppliers, other contractors and utilities.		0-5	≤ 3
C. Adequate and competent labor force.		0-5	≤ 3
D. Processing paperwork.		0-5	≤ 3
E. Attitude and cooperation.		0-10	≤ 5
WORK PERFORMANCE:			
F. Completion on schedule.		0-20	≤ 10
G. Compliance of work.		0-10	≤ 5
H. Quality of the finished product.		0-15	≤ 10
SAFETY PRACTICES:			
I. Administration and general project safety.		0-5	≤ 3
J. Signing and traffic control.		0-10	≤ 5
EQUIPMENT:			
K. Equipment on the project.		0-10	≤ 5

* Instructions for completing form on back

COMMENTS:

DISTRIBUTION: Original - Project File
Copy - Prime Contractor
- Subcontractor (If Evaluated)
- Purchasing Division
- File

PROJECT MANAGER_____**DATE**_____

REVIEWED BY_____ **DATE**_____

CONTRACTOR EVALUATION REPORT--DETERMINING FACTORS FOR RATING POINTS

Evaluate contractor based on the following guidelines. The full range of values should be used. Intermediate values in the range may be used. Place the points in the appropriate box on the front of this form. For items that do not apply to a particular contractor or subcontractor, no points should be allowed.

PROJECT ORGANIZATION AND MANAGEMENT:

A. Superintendent in charge with authority.
- 5 Contractor has knowledgeable superintendent on project, start to finish, with authority to solve problems and schedule the work.
- 3 Contractor superintendent available most of the time, with limited authority.
- 0 Contractor failed to properly designate authority for project supervision or superintendent is routinely unavailable on the project site.

B. Coordination with suppliers, other contractors, and utilities.
- 5 All coordinating done at proper time by contractor.
- 3 Some coordinating necessary by contracting authority with timely notification in all instances.
- 0 Lack of timely coordination.

C. Adequate and competent labor force.
- 5 Contractor has adequate number of people; labor force is knowledgeable of proper procedures and consistently does complying work with limited supervision.
- 3 Number of people is adequate, some training is needed, supervision of routine items is necessary occasionally.
- 0 Insufficient number or inadequate training or lack of proper supervision for many portions of the project.

D. Processing paperwork.
- 5 All paperwork completed and submitted in a timely manner throughout project. Pay item disputes/CO's are resolved with no delay to progress of the work.
- 3 Minor delays in finalizing out the project, some disputes/CO's have delayed resolution, but most of paperwork is consistent and timely.
- 1 Pattern of unnecessary delays in paperwork; contractor needs to improve in more than one area.
- 0 Contractor was unable to provide all required paperwork.

E. Attitude and cooperation.
- 10 Quick response to concerns of the contracting authority, extra effort made by contractor's personnel in public relations, problems are resolved amicably.
- 5 Periodic delays in responding to engineer/inspector, public concern. Most problems resolved amicably.
- 0 Pattern of slow response of concerns, or poor public relations effort.

WORK PERFORMANCE

F. Completion on schedule.
- 20 Work completed in less than 90% of working days.
- 15 All project work is completed within contract time period (including number of working days).
- 10 Completion date met, some problems with working days or intermediate dates.
- 5 Contract time period is exceeded by at least 10% of working days.
- 0 Contract time period is exceeded by at least 50% of working days.

G. Compliance of work.
- 10 All work complies with the plan and specifications and no price adjustments are assessed.
- 5 Minor noncompliances, with some delays in resolution or some repeated violations. No individual price adjustments exceed 5%.
- 0 Price adjustments exceed 5% of individual prices or corrective work required on much of the project.

H. Quality of the finished product.
- 15 Excellent appearance of all portions of the work. No deducts for deficient work. Only one final check necessary on each portion of the work.
- 10 Adequate appearance of the work with some non-uniformity. No more than 5% of the items have deficient work in the finished product.
- 5 Poor appearance of work, or more than 5% of the items have deficient work, or repeated final checks necessary.
- 0 Much of the project is borderline acceptable or life of finished project has been shortened due to poor workmanship.

SAFETY PRACTICES

I. Administration and general project safety.
- 5 Active safety officers. Timely inspection and reports without prompting. No noncomplying equipment. Safety concerns are addressed and corrected promptly. All personnel trained and following good safety practices.
- 3 Safety is adequate. Minor problems with paperwork, equipment, training or practices.
- 0 Documented need for improvement that did not occur by completion of the project, or any failure to immediately repair/correct unsafe equipment, or any repeat violation of a safety rule or practice.

J. Signing and traffic control.
- 10 Signing is properly placed and maintained at all times. Signing material is above average. Contractor makes documented routine and night checks of signs. Flaggers and pilot car meet standards at all times. No noncompliances for signing or traffic control.
- 7 Some minor problems with sign placement or maintenance, or lack of consistent documented routine and night sign checks, or some instances of failure to meet standards in flagging or pilot car operation.
- 4 One or more major problems with signing or traffic control, or failure to document signing, or any repeat noncompliance on a safety item.
- 0 Contractor showed repeated total disregard of signing and traffic control.

EQUIPMENT

K. Equipment on the project.
- 10 Equipment sufficient for timely completion of the work. Good repair and upkeep. No work delays due to equipment problems.
- 5 Only minor work delays due to equipment problems. Reasonable efforts made to obtain needed equipment. No repeat use of noncomplying equipment.
- 0 Lack of equipment necessary to adequately perform the work, or excessive down-time of available equipment so work is delayed, or repeat use of noncomplying equipment.

SPECIAL PROVISIONS

Nondiscrimination in Employment by Contractors/Subcontractors and Suppliers

Contractor's Agreement

During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, creed, religion, sex, national origin or ancestry, age, marital status, physical or mental disability, or political beliefs and affiliations. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, religion, sex, national origin or ancestry, age, marital status, physical or mental disability, or political beliefs and affiliations. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause."

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, creed, religion, sex, national origin or ancestry, age, marital status, physical or mental disability, or political beliefs and affiliations."

(3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the labor union or workers' representative of the Contractors' commitments under the Davenport Affirmative Action Plan, and shall post copies of the notice in conspicuous places available to employees and applicants for employment."

(4) The Contractor will comply with all provisions of the Davenport Affirmative Action Plan and procedures developed by the City's Compliance Officer in pursuit of that plan."

(5) The Contractor will furnish all information and reports required by the Davenport Affirmative Action Plan and procedures developed by the City's Compliance Officer in pursuit of that plan, and will permit access to his/her books and accounts by the contracting department and the Compliance Officer for purposes of investigation to ascertain compliance with the City's Affirmative Action Plan."

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any implementing procedures or orders, this contract may be cancelled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further City contracts in accordance with procedures authorized in The Davenport Affirmative Action Plan and such other sanctions may be imposed and remedies invoked as provided in the Davenport Affirmative Action Plan, or as otherwise provided by law."

(7) The Contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order in the amount of $5,000 or more, so that such provisions will be binding upon each

subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the City of Davenport to enter into such litigation to protect the interests of the City of Davenport."

PLANS LIST

WPCP GRAY WATER CONVERSION PROJECT
DAVENPORT, IOWA

Work shall conform with latest revisions of the following drawings (bound separately) and Standard Drawings which constitute the "plans" and are an integral part of the Contract Documents:

TITLE	DWG NO.
GENERAL	
TITLE SHEET & INDEX	G.01
DETAILS	G.02-G.04
CIVIL SHEETS	
OVERALL SITE PLAN	C.01
GENERAL PIPE ROUTING	C.02
GRAY WATER PIPE PLAN & PROFILE	C.03
RAW SEWAGE PUMP STATION	C.04
CONTROL BUILDING SERVICE	C.05
GRAY WATER PUMP	C.06
THICKENER CONTROL STRUCTURE	C.07
WEST TUNNEL	C.08
GRIT FACILITY CONVERSION	C.09
TRAVELING BAR SCREEN	C.10
DIGESTER BUILDING	C.11
SLUDGE BUILDING	X.01
ELECTRICAL SHEETS	
CONTROL BUILDING ELECTRICAL PLAN	E.01
ELECTRICAL PHOTOS	E.02

DETAILED SPECIFICATIONS

SECTION 01010

GENERAL PROVISIONS

PART 1 - GENERAL

1.01 FORM

A. Detailed specifications are in outline form and include incomplete sentences. Omission of words or phrases is intentional. Supply omitted words or phrases by inference.

1.02 INTENT

A. To set forth requirements of performance, type of construction desired and standards of materials and construction.

B. To require Contractor to furnish and install materials and perform all work and services described in Contract Documents, unless otherwise specifically indicated.

C. To require Contractor to perform complete work in spite of omission of specific reference to any minor component part.

D. To provide for new materials and equipment unless otherwise indicated.

1.03 INTERPRETATION

A. Report any errors or ambiguities in specifications to Engineer as soon as detected; Engineer will answer questions regarding and interpret intended meaning of specifications; his interpretation shall be accepted as final.

1.04 WORK INCLUDED

A. Furnish labor, materials, and equipment to construct WPCP Gray Water Conversion project as set out in Notice of Hearing and Letting.

1.05 STARTING AND COMPLETION DATES

A. Commence work within 10 calendar days after date set forth in written Notice to Proceed. Complete within time set forth in Notice of Hearing and Letting.

B. Provide adequate personnel and equipment to perform work within time or before completion date set out in Notice of Hearing and Letting.

C. Order all material and equipment immediately after award of contract. Notify Owner and Engineer of scheduled delivery dates for all materials and equipment. Promptly act to accomplish one of the following if Owner and Engineer, in consultation with Contractor, determine delivery dates to be unsatisfactory:
   1. Substitute alternate materials and equipment with approval of Owner and Engineer.
   2. Expedite delivery of materials and equipment.

D. Extensions of contract period will be given consideration upon written request of Contractor. Request must include clear, concise reasons for requesting extension and provide data and relevant information to support reasons for extension.
   1. Owner expects work to be complete and ready for final acceptance within completion time prior to completion date specified.
   2. No extension of contract period will be granted for problems caused by deliveries of materials or equipment.
   3. The phrase "complete and ready for final acceptance" is interpreted to mean all items of construction, surface restoration and clean-up have been accomplished to the satisfaction of the Owner and Engineer prior to the completion date for the contract. So-called "punch list" items are included in this definition and must be completed prior to the completion date for the contract.

1.06 PLANS AND SPECIFICATIONS

A. Engineer will furnish 3 sets of plans and specifications after award of contract. Contractor shall compensate Engineer for printing costs for additional copies required. Electronic copies in PDF format can be made available.

B. Subcontractors and suppliers will be furnished copies of plans and specifications only at request of Contractor.

C. Provide one set of plans and specifications for each foreman or superintendent in charge of each crew on job.

1.07 STANDARDS AND CODES

A. Do work in accordance with best present day construction practices.

B. Unless specifically noted to contrary, conform with and test in accordance with applicable sections of latest revisions of codes and standards of following:
   1. Air Moving and Conditioning Association (AMCA).
   2. American Association of State Highway and Transportation Officials (AASHTO).
   3. American Concrete Institute (ACI).
   4. American Gas Association (AGA).
   5. American Gear Manufacturers Association (AGMA).
   6. American Institute of Steel Construction (AISC).

7. American National Standards Institute (ANSI).
8. American Plywood Association (APA).
9. American Society of Civil Engineers (ASCE).
10. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).
11. American Society of Mechanical Engineers (ASME).
12. American Society for Testing and Materials (ASTM).
13. American Standards Association (ASA).
14. American Water Works Association (AWWA).
15. American Welding Society (AWS).
16. Anti-friction Bearing Manufacturers Association (AFBMA).
17. Architectural Woodwork Quality Standards (AWI).
18. California Redwood Association (CRA).
19. Factory Mutual Corporation (FM).
20. Federal Specifications (FS).
21. Hoist Manufacturer's Institute (HMI).
22. Hydraulic Institute (HI).
23. Industrial Fasteners institute (IFI).
24. Industrial Risk Insurers (IRI).
25. Institute of Electrical and Electronic Engineers (IEEE).
26. Insulated Power Cable Engineers Association (IPCEA).
27. Internal Combustion Engine Institute (ICEI).
28. Iowa Department of Transportation (IDOT); latest edition of standard specifications and addenda.
29. Iowa Occupational Safety and Health Act of 1972 (Chapter 88, Code of Iowa 2013 (IOSHA).
30. Manual of Accident Prevention in Construction by Associated General Contractors of America, Inc. (AGC).
31. Mining Enforcement and Safety Administration (MESA).
32. National Association of Architectural Metal Manufacturers (NAAMM).
33. National Electrical Manufacturers Association (NEMA).
34. National Electrical Safety Code (NESC).
35. National Fire Protection Association, Inc. (NFPA).
36. National Fire Protection Associations' National Electrical Code (NEC).
37. National Fluid Power Association (NFPA).
38. National Institute for Occupational Safety and Health (NIOSH).
39. National Lumber Manufacturers Association (NLMA).
40. National Safety Council (NSC).
41. National Woodwork Manufacturers Association (NWMA).
42. Occupational Safety and Health Act of 1970 (Public Law 91-596) (OSHA).
43. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA).
44. Society of Automotive Engineers (SAE).
45. Steel Door Institute (SDI).
46. Steel Structures Painting Council (SSPC).
47. Underwriters' Laboratories, Inc. (UL).

48. West Coast Lumber Inspection Bureau (WCLB).
49. Western Wood Products Association (WWPA).
50. Standards and codes of the State of Iowa and applicable local standards and codes of the City of Davenport.
51. Other standards and codes which may be applicable to acceptable standards of the industry for equipment, materials, and installation under the contracts.

1.08 MATERIALS TESTS

A. Includes all materials tests or tests specified hereinafter.

B. Employ approved testing laboratory to show that construction materials comply with specifications.

C. Provide samples of materials required for laboratory tests and pay cost of all tests including transportation charges on samples.

D. Incorporate no materials in work until laboratory tests have been furnished which show materials comply with specifications.

E. All materials subject to testing, inspection, and rejection at the site by Engineer or their designated representative.

F. Pay all costs of retesting when test results indicate non-compliance with contract requirements.

G. Laboratory tests specified herein include the following:
   1. Aluminum-alloy: certify that properties conform to specifications.
   2. Galvanizing: certify that zinc coatings conform to specifications for all equipment.
   3. Cement: bin sample for entire requirement, ASTM C150.
   4. Concrete aggregates: one sample of each, ASTM C33.
   5. Two concrete compression cylinders from trial batch for each proposed mix, ASTM C39; test one at 7 days, one at 28 days; test cylinders during construction as defined in Section 03300 - Cast-in-Place Concrete.
   6. Reinforcing steel: certify that steel conforms to ASTM A615 for grade specified.
   7. Ductile iron pipe: certify that pipe conforms to ANSI/AWWA C151/A21.51.
   8. Polyvinylchloride pipe: certify that pipe conforms to ASTM D1785, ASTM D1248 and AWWA C900.
   9. Other pipe: certify that pipe conforms to applicable specifications.

H. Concrete Components:
   1. Test or verify in writing make up of concrete in each concrete truck load delivered and poured at site.
   2. Verify gallons of water per sack of cement.
   3. Verify sacks of cement per cubic yard of concrete.

4. Verify admixtures used per ASTM designations listed in Section 03300 - Cast-in-Place Concrete.
5. Test for inches of slump per ASTM C143 and C172.
6. Test for percent air content per ASTM C231 or C173 and C172.

I. Reinforcing steel: furnish original and 1 copy of certified test report by manufacturer.

J. Welded wire fabric: furnish original and 1 copy of certified test report by manufacturer.

K. Provide sampling and testing of excavated materials to determine moisture-density relations of soils and perform moisture and density tests during construction as specified hereinafter.

L. See Section 01300 - Submittals, for other requirements.

1.09 FIELD TESTS

A. Notify Engineer when installation is considered complete, in operating condition and ready for testing.

B. Test piping and valves as specified hereinafter.

C. Test all fill materials for density and moisture content as directed by Engineer, tests conducted by independent testing laboratory; moisture-density tests required for granular fill, structure backfill and trench backfill.

D. Moisture-density test locations and depths subject to approval of Engineer.

E. See Section 02200 - Sitework, for testing requirements.

F. If performance guarantees or requirements are not met during tests, make necessary corrections, repairs or replacements; demonstrate to Engineer that work meets performance guarantees or requirements.

G. See Section 03300 - Cast-in-Place Concrete, for testing requirements for placement of concrete.

H. Contractor responsible to pay all costs for all field tests including transportation charge on samples and providing concrete and soil samples. Field tests include soil moisture and density tests and concrete compression, air, temperature and slump tests.

1.10 DEFECTIVE EQUIPMENT

A. Owner retains right to operate equipment until defects are corrected and guarantees satisfied.

B. Owner reserves right to operate rejected equipment or other work until replaced, without cost for depreciation, use or wear.

C. Remove equipment or other work from operation for examination, adjustment or change at times approved by Engineer.

1.11 RESPONSIBILITY OF CONTRACTOR

A. Protection of his work.

B. Protection of all property from injury or loss resulting from his operations.

C. Replace or repair objects sustaining damage, injury or loss to satisfaction of Owner and Engineer.

D. Without limiting GENERAL REQUIREMENTS of Contract Documents, protect fences, sidewalks, street, pavements, alleys, pipe, conduit, utilities, trees, shrubs and structures.

E. Cooperate with Owner, Engineer and representative of utilities in locating underground utility lines and structures. Incorrect, inaccurate or inadequate information concerning location of utilities or structures shall not relieve Contractor of responsibility for damage thereto caused by his operations.

F. Keep cleanup current with construction operations.

G. Comply with all federal, State of Iowa and Scott County, Iowa, laws and ordinances.

H. Provide and maintain sanitary facilities for construction personnel for duration of work; remove upon completion of work.

I. Notify Engineer 48 hours prior to expected time for operations requiring construction observation services.

J. Cooperate with independent testing firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.

K. Building permit is required. No building permit fees will be assessed. Contractor responsible for obtaining building permit.

J. Contractor shall review construction project site before beginning of construction to review existing conditions and other ongoing projects to ascertain potential impacts on project. All potential issues impacting project shall be submitted by the contractor in writing to the Contracting Authority within 72 hours of contractor's site visit.

1.12 BARRICADES AND LIGHTS

A. Erect and maintain barricades and lights and/or provide watchmen for protection and warning of pedestrians; all barricades, lights and/or watchmen at expense of Contractor.

B. Location and arrangement: conform to ordinances and laws; meet approval of Owner and Engineer.

C. Install snow fence as specified.

1.13 PRECONSTRUCTION CONFERENCE

A. Soon after award of contract and prior to the start of construction, attend a preconstruction conference with representative of the Owner to define the requirements for contract administration and construction operation.

B. Contact the Engineer who will determine the time, date, and place of the conference.

1.14 FINAL REVIEW AND ACCEPTANCE

A. Notify Engineer when installation is considered to be complete and ready for final review.

B. Owner will accept work and make final payment to Contractor.
   1. When Engineer has certified that he has reviewed the work of Contractor and stated that the work is complete and in substantial conformance with specifications.
   2. When Contractor has filed with Owner and Engineer documents called for in specifications.
   3. When all governmental agencies involved have indicated, in writing, that work is complete and acceptable.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01040

SPECIAL CONSTRUCTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Procedures outlined below are not intended to fully cover all special procedures or emergencies which may arise during construction but are offered as an aid to Contractor in planning work; Contractor will cooperate with Owner and Engineer to minimize inconvenience, construction delays and interruptions to continuous operation of existing wastewater treatment facility, sewer lines, and other existing utilities.

B. Determine location of underground utilities and piping before starting work; locations of underground appurtenances shown are approximate and not guaranteed by Owner or Engineer.

C. Remove and replace all signs which interfere with construction operations; replace damaged signs at no cost to Owner.

D. Arrange with operating utilities for relocation or temporary removal of utilities in conflict with construction and for services needed during construction.

E. Submit complete schedule after award of contract for planning, controlling, and completing construction of project. Include list of promised delivery dates for major equipment items. Schedule project on basis of promised delivery dates for major equipment items.
   1. Contractor will be expected to provide adequate personnel and equipment to perform work within specified time of construction.
   2. If delays in delivery of major equipment become apparent, notify Owner and Engineer promptly; take action to accomplish one of the following:
      a. Substitute alternate equipment with approval of Owner and Engineer.
      b. Expedite delivery of equipment.
   3. Extensions of contract period will be given consideration upon written request of Contractor; request must include valid supporting data and bona fide reasons for requesting extension; inclement weather is not justification for extending contract period; Owner expects work to be complete and ready for final acceptance within completion time specified.

1.02 COOPERATION WITH OTHERS

A. Cooperate with state and federal regulatory agencies in matters under their jurisdiction over construction operations.

B. Cooperate with local governmental agencies; secure necessary building permits and arrange for inspections at proper times. Building permit fees will be waived by City.

C. Advise all utilities prior to excavating; arrange for field locates of utilities by utility representatives.

1.03 DEMOLITION AND REMOVAL

A. Items of demolition and removal shown on plans or specified elsewhere are set out to assist Contractor in determining scope of work; items shown may not be complete; demolish or remove items shown on plans, described in specifications or as may be necessary for expediting work.

B. Remove items in workmanlike manner; cut reinforcing steel flush with concrete; blasting not permitted without written approval from Owner and Engineer.

C. Remove waste, rubble, and debris from site; dispose of in accordance with all State and Federal regulations.

1.04 FACILITY OPERATIONS

A. Prepare detailed construction procedure schedule after award of contract.

B. Work with Owner and Engineer to establish workable construction schedule after award of contract.

C. Existing facilities must remain in continuous operation during construction except as required to make connections to new facilities. There are processing limits that will not allow a pump, as an example, to be out of service for extended periods of time or at particular days or times of the week.

D. Schedule required interruptions to plant utilities or facilities with Owner and Engineer. Plant or processing emergencies will supersede any scheduled interruptions.

E. Provide Owner 48-hour notice of any request for interruption of operation; coordinate with Wastewater Treatment Facility Superintendent and Engineer.

F. Continuous operation of Owner's facilities is of critical importance. Schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified.

G. Perform work continuously during critical connections and changeovers, and as required to prevent interruption of Owner's operations.

H. When necessary, plan, design, and provide various temporary services, utilities, connections, temporary piping and heating, access, and similar items to maintain continuous operations of Owner's facility.

I. Do not close lines, open or close valves, or take other action which would affect the operation of existing systems, except as specifically required by the Contract Documents and after authorization by Owner and Engineer. Such authorization will be considered within 48 hours after receipt of Contractor's written request.

1.05 UNSTABLE SOILS

A. Soil borings from previous projects indicated areas of fill material that are wet, lean clay and sandy lean clay with gravel soils may be encountered at site. Provide material and equipment required to install structures and piping through all soils encountered.

B. Excavation of all soils encountered is incidental to construction except rock and rubble excavation as defined in Section 02200 - Sitework.

C. Contractor responsible for dewatering excavation as provided in Section 02200 - Sitework to ensure stable bottom of trench and structures to allow normal bedding material to support pipe and structures; use of stabilizing material or additional bedding rock in lieu of or as substitute for dewatering permitted at Contractor's option at no additional cost.

D. Owner will only pay for excavation bottom stabilization after contractor has provided dewatering by providing a stable bottom using customary practices for dewatering by use of dewatering pumps, well points, and/or deep wells.

1.06 EROSION CONTROL

A. This project does not propose to disturb 1 or more total acres. Appropriate erosion control measures shall be instituted to ensure contaminated runoff is contained in the general areas disturbed during work. Measures include general good housekeeping practices, protecting stockpiles from erosion, not undertaking ground disturbance before forecasted wet weather events, and appropriate Best Management Practices listed in the current Statewide Urban Design and Specifications (SUDAS).

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01150

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 SCOPE

A. No separate payment will be made for work covered in the specifications except as set forth below. Include all other work in lump sum bid for constructing WPCP Gray Water Conversion project.

B. If items, not included in lump sum bid for constructing WPCP Gray Water Conversion project are required during construction, contract price shall be adjusted on basis of unit price negotiated between Engineer and Contractor and approved by Owner.

C. See GENERAL CONDITIONS for additional requirements.

1.02 QUANTITY VARIATIONS

A. No separate payment will be made for changes in quantities of items included in lump sum bid for construction of WPCP Gray Water Conversion project except as set forth below.

B. If quantities of items are changed from those upon which bid is based, contract price shall be adjusted on basis of unit price negotiated between Engineer and Contractor and approved by Owner. Soil quantities shall not be adjusted unless design contours are changed or additional excavation is ordered by the Engineer.

1.03 FAILURE TO SUBMIT MANUALS, PARTS LISTS, SPARE PARTS, AND TOOLS

A. Failure to submit manuals, parts lists, spare parts and tools as defined in Section 01300 - Submittals within 40 days after return of shop drawings to Contractor will result in payment retention of $2,000 for each equipment item up to an aggregate sum of $50,000; retained payments will be relinquished after appropriate manuals, parts lists and tools are received and reviewed by Engineer.

1.04 SCHEDULE OF VALUES

A. Submit to Engineer Schedule of Values allocated to various portions of work as required by General Conditions.

B. Upon request of Engineer, support values with data which will substantiate their correctness.

C. Schedule of Values shall be used only as basis for Contractor's application for progress payment.

D. Type schedule on 8-1/2" x 11" white paper; Contractor's standard forms and automated printout will be considered for approval by Engineer upon Contractor's request. Identify schedule with:
   1. Title of project and location.
   2. Engineer and Engineer's project number (222107).
   3. Name and address of Contractor.
   4. Contract designation.
   5. Date of submission.

E. Schedule shall list installed value of component parts of work in sufficient detail to serve as basis for computing values for progress payments during construction.

F. Follow table of contents of specifications as format for listing component items.
   1. Identify each line item with number and title of respective specification section.

G. For each specification division, list subvalues of major materials, equipment, or operation under division.

H. Provide separate listing of items of General Requirements (Division 1), such as bonds, insurance premiums, job mobilization, field supervision and layout, construction facilities and temporary controls, contingency allowance, construction schedule, O&M data, record drawings, and submittals.

I. For various portions of work:
   1. Each item shall include directly proportional amount of Contractor's overhead and profit.
   2. For items on which progress payments will be requested for stored materials, break down value into:
      a. Cost of materials, delivered and unloaded, with taxes paid.
      b. Total installed value including Contractor's overhead and profit.

J. Sum of values listed in schedule shall equal total contract sum.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.01 INFORMATION FOR ENGINEER

A. After award of contract submit following information and drawings for Engineer's review. Total number of reviewed copies required for distribution: 2 plus copies required by Contractor.
   1. Certified materials tests as described in Section 01010 - General Provisions.
   2. Certified outline, general arrangement, assembly, installation, foundation arrangement and anchor bolt detail drawings for all major equipment listed in proposal and for other equipment where specified.
   3. Manufacturer's specifications and catalog data for all items of equipment including electrical controls, plumbing fixtures, valves, pipe, fittings, castings and appurtenances and other special items.
   4. Certified performance data and operating characteristics for pumps prior to delivery to job site from shop tests performed on pumps furnished in accordance with Hydraulic Institute.
   5. Schematic diagrams of all control circuits.
   6. Detailed wiring diagrams.
   7. Such other information as Engineer may request and information as specified with equipment.

B. Within 15 days after award of contract, provide construction schedule, showing dates of starting and completing various portions of work and dollar value of each portion of work.

C. Within 30 days after initiation of construction, provide written schedules of estimated monthly payments for contractor and subcontractors; revise schedules whenever variations exceed 10%.

D. Provide two copies of the following information:
   1. Contract price breakdown of lump sum bid for use in preparation of periodic payment estimates.
   2. Purchase orders and subcontracts without prices.
   3. Shipping papers for all materials.
   4. All materials test reports.
   5. Concrete mix designs; submit 8 days before proposed mix is to be used.

1.02 SHOP DRAWINGS

A. Intent of Engineer's review: to assist Contractor in interpreting plans and specifications.

B. Contractor's responsibility: to check drawings prior to submission for coordination and conformance with contract; do not submit without checking.

C. Equipment checking is only for general conformance with design concept of project and general compliance with information given in contract documents. Any action shown is subject to requirements of plans and specifications. Contractor is responsible for dimensions which must be confirmed and correlated at job site; fabrication processes and techniques of construction; coordination of work with that of all other trades; and satisfactory performance of work.

D. Prior to submission of shop drawings and catalog data to Engineer: affix Contractor's stamp with signature of responsible person to show that material submitted has been checked and approved by Contractor. Shop drawings submitted without appropriate stamp and signature will be returned unreviewed.

E. Do not install or otherwise incorporate any equipment on project until shop drawings, if required, have been reviewed and so designated by Engineer.

F. Contractor's responsibility for errors and omissions in submittals is not relieved by Engineer's review of submittals.

G. Whenever items of materials or equipment are specified by a manufacturer's name and type and "or equal" is not listed, Contractor shall provide specified equipment without substitution, unless prior approval of Engineer is obtained for any substitution.

H. Contractor shall abide by Engineer's decision when proposed substitute of material or equipment are deemed to be unacceptable and in such an event Contractor shall furnish items of equipment or materials specified.

I. Engineer reserves right to consider such factors as overall project arrangement, overall project cost, and similar factors in determining whether proposed substitutions will be acceptable.

1.03 INSTRUCTION MANUALS, PARTS LISTS, AND TOOLS

A. Furnish 4 complete sets of manufacturer's instructions for installation, operation and maintenance of equipment furnished; include assembly drawings and parts lists with exploded views of equipment parts and identification symbols or part numbers for all replaceable parts and assemblies, recommended spare parts list, lubricant guide, preventative maintenance and troubleshooting procedures; submit manuals to Engineer within 30 days after return of shop drawings by Engineer to Contractor; manuals subject to Engineer's review. Provide also 1 set on CD or DVD in PDF format.

B. Furnish special tools, jigs and fixtures necessary for installation, operation, lubrication, repair, preventative maintenance, or trouble shooting of equipment.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01310

CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.01 DESCRIPTION

A. Prepare and submit to Engineer for review, estimated construction progress schedule.

B. No work shall be performed between 5:00 P.M. and 7:30 A.M., nor on legal holidays without permission of Owner.

C. Night work may be established by Contractor as regular procedure with permission of Owner. Such permission, however, may be revoked at any time by Owner if Contractor fails to maintain adequate equipment and supervision for proper prosecution and control of work at night.

1.02 FORM OF SCHEDULE

A. Prepare schedule in form of horizontal bar chart.
   1. Provide separate horizontal bar for each trade, activity or operation.
   2. Horizontal time scale: identify first work day of each week.
   3. Scale and spacings to allow space for notations and future revisions.

B. Format of listings: chronological order of start of each item of work.

C. Identification of listings: by major specification section numbers.

1.03 CONTENT OF SCHEDULE

A. Construction Progress Schedule:
   1. Show complete sequence of construction by activity.
   2. Coordinate progress schedule with submittal schedule.
   3. Show dates for beginning and completion of each major element of construction and installation dates for major items of equipment. Elements shall include, but not be limited to:
      a. Material and equipment order, manufacturer, delivery, installation, and checkout, including allowance items.
      b. Performance tests and supervisory services activity.
      c. Piping and wiring installation.
      d. Concrete pour sequence.
      e. Backfilling, grading, seeding, sodding, landscaping.
      f. Electrical work activity.

g. Plumbing work activity.
h. Subcontractor's items of work
i. Final cleanup.
j. Allowance for inclement weather.
k. Demolition
l. Cast-in place concrete placement.

4. Show projected percentages of completion for each item as of first day of each month.

1.04 SCHEDULE REVISIONS

A. Revise construction progress schedule every 60 days to reflect changes in progress of work.

B. Indicate progress of each activity at date of schedule revision.

C. Show changes occurring since previous revised submittal.
1. Major changes in scope.
2. Activities modified since previous submittal.
3. Revised projections of progress and completion.
4. Other identifiable changes.

D. Provide narrative report defining:
1. Problem areas, anticipated delays, and impact on schedule.
2. Corrective action recommended and its effect.

E. Submit to Engineer.

1.05 DELAYS AND RECOVERY

A. If, at any time during project, Contractor fails to complete activity by its latest scheduled completion date, Contractor shall, within 3 working days, submit to Engineer written statements as to how and when work force will be reorganized to return contract to current construction schedule.

B. Whenever it becomes apparent from progress evaluation and updated schedule data that milestone completion dates or contract completion dates will not be met, Contractor shall take some or all of the following actions.
1. Increase construction staffing in such quantities and crafts as shall substantially eliminate backlog of work.
2. Increase number of working hours per shift, shifts per work day, work days per week, amount of construction equipment or combination of foregoing sufficient to substantially eliminate backlog of work.

3. Reschedule work items to achieve concurrency of accomplishment.

C. Addition of equipment or construction forces, increasing working hours or any other method, manner or procedure to return to current construction progress schedule not considered justification for amending contract documents or treated as acceleration.

1.06 SUBMITTAL REQUIREMENTS

A. For initial submittal of construction schedule and subsequent revisions thereof, furnish 4 copies of schedule to Engineer.

B. Failure to submit construction schedule on timely basis as previously noted shall be considered cause for withholding progress payments otherwise due under contract.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01400

SPECIAL INSPECTIONS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This section includes inspection and testing requirements to comply with special inspection requirements of the International Building Code (IBC), current edition.

B. The Owner will designate the Engineer or a special inspector with testing agency prior to project award.

1.02 PAYMENT

A. The Owner will hire and pay for services of the Engineer or a special inspector and independent testing laboratory.

B. The Contractor shall pay for all testing described in the individual sections of the contract specifications.

1.03 SPECIAL INSPECTOR RESPONSIBILITIES

A. Observe the work assigned for conformance with the approved plans and specifications.

B. Submit inspection reports to the building official, the Engineer of Record, and the Owner.

C. Bring non-conforming items to the immediate attention of the Contractor for correction. If uncorrected, report non-conforming items to the Engineer of Record and the Building Official.

D. Submit a final signed report stating whether the work requiring special inspection was, to the best of their knowledge, in conformance with the approved plans and specifications and the applicable workmanship provision of the IBC.

1.04 TESTING AGENCY RESPONSIBILITIES

A. Test the work assigned for conformance with the approved plans and specifications.

B. Submit reports of the test results to the Building Official, the Engineer of Record, and the Owner.

C. Bring non-conforming items to the immediate attention of the Contractor for corrections. If uncorrected, report non-conforming items to the Engineer of Record and the Building Official.

D. Submit a final signed report stating whether the work requiring special inspections was, to the best of their knowledge, in conformance with the plans and specifications.

1.05 CONTRACTOR RESPONSIBILITIES

A. Post the Special Inspection and Testing Schedule within the office at the project site.

B. Provide not less than 24-hour notification to the parties designated on the schedule for inspection and testing.

C. Provide the special inspector and testing agent access to the approved plans and specifications at the project site.

D. Retain at the project site, all reports submitted by the special inspector and testing agent.

E. Correct in a timely manner, all deficiencies identified by the special inspector and testing agent.

F. Provide the special inspector and testing agent safe access to the work requiring observation or testing.

1.06 FABRICATOR RESPONSIBILITIES

A. Submit a Certificate of Compliance to the Building Official and the Engineer of Record that all work was performed in accordance with the approved plans and specifications.

1.07 SPECIAL INSPECTION AND TESTING SCHEDULE

A. Concrete Formwork:
   1. Conform to Section 03100.
   2. Special Inspector:
      a. Inspect all formwork prior to placing concrete.

B. Concrete Reinforcement:
   1. Conform to Section 03200.
   2. Special Inspector:
      a. Inspect placement of all reinforcing steel prior to placing concrete.

C. Cast-in-Place Concrete:
   1. Conform to Section 03300.
   2. Special Inspector:
      a. Inspect placement of concrete.
   3. Testing Agency:
      a. Test all concrete in accordance with Section 03300.

D. Bolts Installed in Concrete:
   1. Conform to Section 03300 and Section 05120 - Structural Steel.
   2. Special Inspector:
      a. Inspect installation of all bolts prior to placing concrete.
      b. Inspect placement of concrete around all bolts.

E. Plumbing and Associated Pipe Work:
   1. Conform to Section 15400.
   2. Special Inspector:
      a. Verify all joints and fittings are free of leaks.
      b. Verify all disconnections have been properly sleeved or capped and are free of leaks.
      c. Verify pipe insulation has been properly repaired.
      d. Verify all pipe is properly supported along all installed runs.
      e. Verify established gray water connections feed water to all associated pump seal water systems.

F. Sitework
   1. Conform to Section 02200, 02610, 02930 and plans.
   2. Special Inspector:
      a. Verify proposed water service line is installed at correct depth and alignment.
      b. Verify water line disconnection and capping are completed before backfilling is completed.
      c. Verify all seeded areas have minimum 70% establishment.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01410

TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Employ and pay for services of testing laboratory approved by Owner to perform specified services and testing as described in specifications.
   1. Employment of laboratory shall, in no way, relieve Contractor's obligations to perform work of contract.

B. Related requirements in other parts of Project Manual:
   1. Inspections and testing required by laws, ordinances, rules, regulations, orders, or approvals of public authorities: Conditions of Contract.

1.02 QUALIFICATION OF LABORATORY

A. Meet basic requirements of ASTM E329-77 - Standard Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.

B. Authorized to operate in state in which project located.

C. Testing equipment:
   1. Calibrated at reasonable intervals by devices of accuracy traceable to either:
      a. National Bureau of Standards.
      b. Accepted values of natural physical constants.

1.03 LABORATORY DUTIES

A. Cooperate with Engineer and Contractor; provide qualified personnel to perform work after due notice to proceed.

B. Perform specified inspections, secure samples, and test materials.
   1. Comply with specified standards.
   2. Ascertain compliance of materials with contract documents.

C. Promptly notify Engineer and Contractor of observed irregularities or deficiencies of work, equipment, or material.

D. Promptly submit written report of each test and inspection; one copy each to Engineer, Owner, material supplier, and Contractor, and one copy to record documents file. Each report shall include:
   1. Date issued.
   2. Project title and number.
   3. Testing laboratory name, address, and telephone number.
   4. Name and signature of laboratory inspector.
   5. Date and time of sampling or inspection.
   6. Record of temperature and weather conditions if test performed in field.
   7. Date of test.
   8. Identification of product and specification section.
   9. Location of sample or test in project.
   10. Type of inspection or test.
   11. Results of tests and compliance with contract documents.
   12. Interpretation of test results, when requested by Engineer.

E. Perform additional tests as required by Engineer or Contractor.

1.04 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

A. Laboratory not authorized to:
   1. Release, revoke, alter or enlarge on requirements of contract documents.
   2. Approve or accept any portion of work.
   3. Perform duties of Contractor.

1.05 CONTRACTOR RESPONSIBILITIES

A. Cooperate with laboratory personnel and provide access to work.

B. Provide to laboratory preliminary design mix proposed to be used for concrete and other material mixes which require control by testing laboratory.

C. Furnish copies of product test reports.

D. Furnish incidental labor and facilities.
   1. Provide access to work to be tested.
   2. Obtain and handle samples at project site or source of product to be tested.
   3. Facilitate inspections and tests.
   4. Store and cure test samples.

E. Notify laboratory and Engineer sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

F. Make arrangements with laboratory and pay for additional samples and tests required for Contractor's convenience.

G. Employ and pay for services of testing laboratory to perform additional inspections, sampling, and testing required when initial tests indicate work does not comply with contract documents.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES AND UTILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Provide and maintain temporary facilities and utilities required for construction; remove on completion of work.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

A. National Fire Protection Association (NFPA):
   1. National Electric Code (NEC), NFPA No. 70, and Iowa amendments.

B. Comply with federal, state, and local codes and regulations, and with utility company requirements.

PART 2 - PRODUCTS

2.03 TELEPHONE SERVICE

A. Provide telephone at which Contractor can be reached by Owner or Engineer at all times during the working day.
   1. Provide Owner and Engineer with at least 2 telephone numbers where Contractor's representative can be reached on weekends, evenings, and holidays in the event of an emergency.

2.04 WATER FOR CONSTRUCTION AND TESTING

A. Water is available at project site from area yard hydrants but should be considered as non-potable. There will be no cost for water usage by Contractor.

2.05 SANITARY FACILITIES

A. Provide temporary sanitary toilet facilities conforming to state and local health and sanitation requirements, in sufficient number for use by Contractor's employees.

B. Maintain in sanitary condition and properly supply with toilet paper.

2.06 TEMPORARY SITE WORK

A. Provide and maintain temporary site drainage and stormwater controls.

B. Exercise caution to minimize increase in suspended solids and turbidity in surface waters within and adjacent to construction area. Do not deposit spoils in surface waters. Control and minimize sediment runoff and excavation erosion to surface waters.

2.07 DAMAGE TO EXISTING PROPERTY

A. Contractor responsible for replacing or repairing damage to existing buildings, sidewalks, roads, parking lot surfacing, and other existing assets.

2.08 SECURITY

A. Security not provided by Owner.

B. Contractor shall be held responsible for loss or injury to persons or property where his work is involved, and shall provide security and take precautionary measures to protect Contractor's and Owner's interests.

2.09 TEMPORARY PARKING/SITE ACCESS

A. Parking on construction site in designated areas may be provided as approved by Engineer and Owner. Site access is from Railroad Street at rear of the WPCP site or Concord Avenue at the front of the WPCP. Staging area is noted on the plan set.

B. Make arrangements for additional parking area for employee's vehicles if required.

C. Costs involved in obtaining this parking area shall be borne by Contractor.

2.10 TEMPORARY FENCING

A. Provide temporary fencing sufficient to prevent trespass by public and any non-construction personnel into construction areas.

B. Materials shall be sufficiently durable to be effective for duration of construction period.

PART 3 - EXECUTION

3.01 GENERAL

A. Comply with applicable requirements specified herein.

B. Maintain and operate systems to ensure continuous service.

C. Modify and extend systems as work progress requires.

3.02 REMOVAL

A. Completely remove temporary materials, equipment, signs, and structures when no longer required.

B. In unfinished areas, clean and repair damage caused by temporary installations or use of temporary facilities, restore drainage, and evenly grade, seed, or plant as necessary to provide appearance equal to or better than original.

C. In finished areas, restore existing or permanent facilities used for temporary services to specified, or to original, condition.

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. Material and equipment incorporated into work:
   1. Conform to applicable specifications and standards.
   2. Comply with size, make, type, and quality specified or as specifically approved by shop drawings, Engineer, or other, submittal.

B. Do not use material or equipment for any purpose other than for which it is designed or specified.

1.02 SUBSTITUTIONS

A. Substitutions:
   1. Contractor's requests for changes in equipment and materials from those required by Contract Documents are considered "requests for substitutions" and subject to Contractor's representations and review provisions of Contract Documents when one of the following conditions are satisfied:
      a. Where request directly related to "or equal" clause or other language of same effect in specifications.
      b. Where required equipment or material cannot be provided within Contract Time, but not as result of Contractor's failure to pursue work promptly or coordinate various activities properly.
      c. Where required equipment or material cannot be provided in manner compatible with other materials of work, or cannot be properly coordinated therewith.
   2. Contractor's options:
      a. Compatibility of options: Where more than one choice available as options for Contractor's selection of equipment or material, select option compatible with other equipment and materials already selected.
      b. Standards, codes, and regulations: Where compliance with imposed standard, code or regulation required, select from among products which comply with requirements of those standards, codes, and regulations.
      c. "Or Equal": For material or equipment specified by naming one or more equipment manufacturer and "or equal," Contractor shall submit request for substitution for any equipment or manufacturer not specifically named. Submit in accordance with GENERAL CONDITIONS, paragraph 1.15, and these General Requirements.

d. Two or more manufacturers: For equipment of material specified by naming several manufacturers, select any one of manufacturers named. Do not provide or offer to provide unnamed manufacturer or equipment.
e. Single manufacturer or material: For equipment or material specified by naming only one manufacturer or material, there is no option.

B. Conditions which are not substitutions:
1. Requirements for substitutions do not apply to Contractor options on materials and equipment provided in specifications.
2. Revisions to Contract Documents, where requested by Owner or Engineer, are "changes" not "substitutions."
3. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities do not constitute substitutions or basis for change orders, except as provided for in Contract Documents.

1.03 REUSE OF EXISTING MATERIAL

A. Except as specifically indicated or specified, do not use materials and equipment removed from existing structures in new work.

B. For material and equipment specifically indicated or specified to be reused in work:
1. Use special care in removal, handling, storage, and reinstallation to ensure proper function in completed work.
2. Arrange and pay for transportation, storage, and handling of products which require off-site storage, restoration, or renovation.
3. Off-site storage areas and buildings shall conform to requirements of this section.

1.04 MANUFACTURER'S INSTRUCTIONS

A. Installation of equipment and materials shall comply with manufacturer's instructions. Obtain and distribute printed copies of such instructions to parties involved in installation, including 2 copies to Engineer.
1. Maintain one set of complete instructions at job site during installation and until completion of work.

B. Handle, install, connect, clean, condition, and adjust materials and equipment in accordance with manufacturer's written instructions and in conformity with specifications.
1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult Engineer for further instructions.
2. Do not proceed with work without written instructions.

1.05 TRANSPORTATION AND HANDLING

A. Arrange deliveries of materials and equipment in accordance with Construction Progress Schedule, coordinate to avoid conflict with work and conditions at site.
   1. Deliver materials and equipment in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
   2. Protect bright machined surfaces, such as shafts and valve faces, with heavy coat of grease prior to shipment.
   3. Immediately upon delivery, inspect shipments to ensure compliance with Contract Documents and approved submittals, and products have been protected and are undamaged.

B. Provide equipment and personnel to handle materials and equipment by methods recommended by manufacturer to prevent soiling or damage to materials or equipment, or packaging.

1.06 STORAGE, PROTECTION, AND MAINTENANCE

A. On-site storage areas and buildings shall conform to requirements of Section 01500 - Temporary Construction Facilities and Utilities.

B. Owner assumes no responsibility for materials and equipment stored in buildings or on site or at another location approved in writing. Contractor assumes full responsibility for damage due to storage of materials and equipment.

C. Interior storage:
   1. Store materials and equipment in accordance with manufacturer's instructions, with seals and labels intact and legible.
   2. Store materials and equipment subject to damage by elements in weathertight enclosures.
   3. Maintain temperature and humidity within ranges required by manufacturer's instructions.

D. Exterior storage:
   1. Store fabricated materials and equipment above ground, on blocking or skids, to prevent soiling or staining. Cover materials and equipment subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation.
   2. Store loose granular materials in well-drained area on solid surfaces to prevent mixing with foreign matter.
   3. Materials such as pipe, reinforcing and structural steel, and equipment shall be stored on pallets or racks, off ground.

E. Inspection and maintenance:
   1. Arrange storage in manner providing easy access for inspection, maintenance, and inventory.
   2. Make periodic inspections of stored materials and equipment to ensure materials and equipment maintained under specified conditions and free from damage or deterioration, and coverings in place and in condition to provide required protection.
   3. Perform maintenance on stored materials and equipment in accordance with manufacturer's written instructions and in presence of Owner or Engineer.
      a. Notify Engineer 24 hours before performance of maintenance.
      b. Submit report of completed maintenance and condition of coverings to Engineer with each Application for Payment.
      c. Failure to perform maintenance, to notify Engineer of intent to perform maintenance or to submit maintenance report may result in rejection of material or equipment.

F. Contractor shall assume responsibility for protection of completed construction and repair and restore damage to completed work equal to original condition.

G. Wheeling of loads over floors, with or without plank protection, not permitted in anything except rubber-tired wheelbarrows, buggies, trucks, or dollies. This applies to finished floors and exposed concrete floors, as well as those covered with composition tile or other applied surfacing.

H. Where structural concrete is also finished surface, avoid marking or damaging surface.

1.07 INSTALLATION, INSTRUCTIONAL, AND POST STARTUP SERVICES

A. General:
   1. This article covers on-site services of supplier's or manufacturer's representatives provided by Contractor during construction, equipment startup, and training of Owner's personnel for equipment or plant operation as specifically required in specification section for equipment or system.
   2. Include and pay costs for supplier's or manufacturer's services, including, but not limited to, those specified.

B. Installation services:
   1. Where installation services called for in specifications, provide competent and experienced technical representatives of manufacturers of equipment and systems to resolve assembly or installation procedures attributable to, or associated with, equipment furnished.
   2. After equipment installed, representatives shall perform initial equipment and system adjustment and calibration to conform to specifications and manufacturer's requirements and instructions.

C. Instructional services:
   1. Where training called for in specifications, provide competent and experienced technical representative of supplier to provide detailed instructions to Owner's personnel for operation of equipment. Training services shall include pre-startup and equipment startup, classroom, and on-site equipment instruction, as stated in specifications. The WPCP has a classroom for training in the Administration Building.
   2. Coordinate pre-startup training periods with Engineer and supplier's representative.
      a. Notify Engineer at least 48 hours before training sessions are to begin so Engineer can make arrangements with Owner's operating personnel.
      b. Reschedule canceled training sessions 48 hours in advance.
   3. Similar types of equipment differing in model, size or manufacturer shall require equal service time as stated in Part 1 of specific specification section.
   4. Complete pre-startup training 2 days prior to actual system startup.
   5. Operation and maintenance data shall constitute basis of instruction.
      a. Review data contents with personnel in full detail to explain aspects of operations and maintenance.

D. Post startup services:
   1. After equipment/system in operation for at least 6 months, but no longer than 11 months, each equipment manufacturer or authorized equipment representative shall make final inspection where so required in specifications. Final inspection will provide assistance to Owner's operating personnel in making adjustments or calibrations required to ensure equipment or system operating in conformance with design, manufacturer, and specifications.

1.08 SPECIAL TOOLS AND LUBRICATING EQUIPMENT

A. Furnish, in accordance with manufacturer's recommendations, special tools required for checking, testing, parts replacement, and maintenance. Special tools are those specially designed or adapted for use on parts of equipment, and not customarily and routinely carried by maintenance mechanics.

B. Deliver to Owner when unit placed into operation and after operating personnel have been properly instructed in operation, repair, and maintenance of equipment.

C. Tools and lubricating equipment shall be of quality compatible to equipment manufacturer has furnished.

D. Refer also to requirements of Section 11000.

1.09 LUBRICATION

A. Where lubrication required for proper operation of equipment, incorporate necessary and proper provisions in equipment in accordance with manufacturer's requirements. Where possible, lubrication shall be automated and positive.

B. Where oil is used, reservoir shall be of sufficient capacity to supply unit for 24-hour period.

1.10 GUARDS

A. Provide necessary guards to meet federal, state, and local requirements. Construct guards of expanded metal where possible.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Maintain at site 1 record copy of:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change orders and other modifications to Contract.
   5. Engineer field orders, written instructions, or clarifications.
   6. Approved submittals.
   7. Field test records.
   8. Construction photographs.
   9. All associated permits.
   10. Certificates of inspection and approvals.

1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Store documents and samples in Contractor's vehicle or other pre-approved location on site.
   1. Provide secure storage of documents and samples.

B. Maintain documents in clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

C. Make documents and samples available at all times for inspection by Engineer.

D. Failure to properly maintain record documents may be reason to delay a portion (up to 5%) of progress payments until records comply with Contract Documents.

1.03 RECORD DOCUMENTS

A. Maintain record set of Drawings and Specifications legibly changed to transfer approved modifications in completed work that differ from Contract Documents.

B. Label each document "PROJECT RECORD" in neat, large printed letters.

C. Record information concurrently with construction progress.
   1. Do not conceal any work until required information recorded.
   2. Record changes made by Written Agreement, Field Order, Change Order or Work Directive Change.

D. Drawings:
   1. General:
      a. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
      b. Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.
      c. Field changes.
      d. Details not on original drawings.
      e. Location and identification of exposed interior piping.
   2. Electrical:
      a. Horizontal and vertical locations and size of underground cable, conduit, and duct runs dimensioned from established building lines.
      b. Plan locations and size of interior concealed and exposed feeders.
      c. Size and location of access panels.
      d. Departures from original drawings and electrical work revisions.

1.04 SUBMITTALS

A. At Substantial Completion:
   1. Deliver 1 marked up set of drawings to Engineer for use in preparation of record drawings.

B. Accompany submittals with transmittal letter in duplicate, containing:
   1. Date.
   2. Project title and number.
   3. Contractor's name and address.
   4. Title of record document.
   5. Signature of Contractor or authorized representative.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 02050

DEMOLITION AND MODIFICATIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section includes, but is not limited to:
   1. Removal and disposal of electrical equipment.
   2. Rerouting water line.
   3. Shutting off, capping, and abandonment of utilities and underground piping.
   4. Demolition and removal of structures and piping, including insulated piping.
   5. Modification of structures for new equipment.
   6. Modification and upgrades to equipment or process system.
   7. Disposal of debris and return of salvage to Owner.

1.02 DEFINITIONS

A. Demolition: remove existing structure as specified or noted.

B. Removal: remove existing structure or utility above and below grade as shown or noted.

C. Abandonment: remove existing utility from service. Fully disconnect from portions of utility remaining in service. Remove all portions of utility being abandoned from influence zones of structures or buried piping. Plug ends of buried piping being abandoned with concrete.

D. Influence Zone: area bound by 1.5 horizontal to 2 vertical slope extending outward from 1 foot beyond outer edges of foundation, pavement, or piping.

E. Modifications: changes to a structure to accommodate new equipment.

F. Modify: Provide all necessary material and labor to modify an existing item to the condition indicated or specified.

G. Relocate: Remove, protect, clean and reinstall equipment, including electrical, instrumentation, and all ancillary components required to make the equipment fully functional, to the new location identified on the Drawings.

H. Renovation: Altering a facility or one or more facility components in any way.

I. Salvage/Salvageable: Remove and deliver, to the specified location(s), the equipment, building materials, or other items so identified to be saved from destruction, damage, or waste; such property to remain that of Owner. Unless otherwise specified, title to items identified for demolition shall revert to Contractor.

1.03 SALVAGE, DISPOSITION, STORAGE, AND HANDLING

A. The Contractor shall salvage items, as indicated in the Contract drawings or as specified herein for the Owner's salvage, as a unit. Removal of salvaged equipment shall be done in a manner that protects adjacent equipment and piping. Clean, list, and tag for storage. Protect from damage and deliver to locations designated by the Engineer. Salvage each item with auxiliary systems or associated equipment required for operation.

B. Items indicated by the Owner for salvage will be identified in the field by the Engineer and Owner. The Contractor shall note that the first right of salvage shall belong to the Owner.

C. Demolition and Disposal:
   1. Remove and dispose of materials not designated for the Owner's salvage or reuse that are removed under the demolition work. Items include materials, piping, fittings, valves, electrical equipment, and other construction debris shall become the property of the Contractor and removed from the site as trash. Contractor shall dispose of trash and debris legally, off the site. Upon removal from site, Contractor shall have the rights of salvage of materials. Promptly remove material from site. Do not store or sell Contractor salvaged items or materials on-site.

1.04 QUALITY ASSURANCE

A. Protection of Existing Facilities: The Contractor shall diligently protect existing structures and property of the Owner while proceeding with work of this section and the entire Contract. All damage shall be repaired at once to the satisfaction of the Owner. All such repairs shall be at the expense of the Contractor and no claims for additional payment will be accepted.

1.05 JOB CONDITIONS

A. Prior to demolition or modifications of structures, accomplish following:
   1. Owner release of such structure.
   2. Electrical and mechanical services rerouted or shut off outside area of demolition.
   3. Salvage equipment scheduled for reuse in new work or scheduled to be delivered to Owner's storage facility.

4. Survey and record condition of existing facilities to remain in place that may be affected by demolition operations. After demolition operations are completed, survey conditions again and restore facilities to pre-demolition condition at no additional cost to Owner. Conduct surveys in presence of Engineer.

B. Operation:
   1. Maintain structural stability of structures adjacent to or affected by work of this contract.
   2. Maintain in service and protect from damage existing facilities, utilities, and equipment indicated to remain including adjacent work areas.

C. Utilities:
   1. Notify utilities prior to razing operations to permit them to disconnect, remove, and/or relocate any equipment serving existing facilities.

1.06 SUBMITTALS

A. Informational Submittals:
   1. Submit proposed Demolition/Renovation Plan, in accordance with requirements specified herein, for approval before such Work is started.
   2. Submit copies of any notifications, authorizations and permits required to perform the Work.

1.07 REGULATORY AND SAFETY REQUIREMENTS

A. When applicable, demolition Work shall be accomplished in strict accordance with 29 CFR 1926-Subpart T.

B. Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the General Conditions, Contractor's safety requirements shall conform to ANSI A10.6.

1.08. DEMOLITION/RENOVATION PLAN

A. Demolition/Renovation Plan shall provide for safe conduct of the Work and shall include:
   1. Detailed description of methods and equipment to be used for each operation;
   2. The Contractor's planned sequence of operations, including coordination with other work in progress;
   3. Procedures for removal and disposition of materials specified to be salvaged.
   4. Disconnection schedule of utility services.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL

A. Following is a summary list of demolition work by Structure No. and type. Work sequence and coordination shall be in accordance with Section 01040 and Section 01310. Refer to Contract drawings plans for more descriptive details.

Structure No.	Demolition Work	Plan Reference	Salvage Materials to Owner	Modifications
30	Remove water heater, sink, and backflow preventer and associated piping and drain line.	C.09	Sink	Secure remaining piping and install pressure gauge.
90	Remove of existing utility pad and abandoned electrical components.	C.06	None	Install new utility pad, new pump skid, new strainer, and associated piping and electric work.

1. Utility and underground piping to be abandoned:
   a. As shown on drawings.

3.02 DEMOLITION OPERATIONS

A. Remove existing structures identified completely including piping.

B. Plug or cap utility drains and other piping in accordance with specified abandonment procedures.

C. Patching:
1. Where removals leave holes and damaged surfaces exposed in the finished Work, patch, and repair to match adjacent finished surfaces as to texture and finish.
2. Where new Work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new Work.
3. Patching shall include filling holes and depressions left as a result of removals in existing masonry and concrete walls with an approved patching material, applied in accordance with the manufacturer's printed instructions.

D. Electrical:
1. Cut off concealed or embedded conduit, boxes, or other materials a minimum of 3/4" below final finished surface.
2. When removing designated equipment, conduit and wiring may require rework to maintain service to other equipment.

3. Rework existing circuits, or provide temporary circuits as necessary during renovation to maintain service to existing lighting and equipment not scheduled to be renovated. Existing equipment and circuiting shown are based upon limited field surveys. Verify existing conditions, make all necessary adjustments, and record the Work on the Record Drawings. This shall include, but is not limited to, swapping and other adjustments to branch circuits and relocation of branch circuit breakers within panelboards as required to accomplish the finished work.
4. Reuse of existing luminaires, devices, conduits, boxes, or equipment will be permitted only where specifically indicated.
5. Raceways and cabling not scheduled for reuse.
   a. Inaccessibly Concealed: Cut off and abandon in place.
   b. Exposed or Concealed Above Accessible Ceilings: Remove.
6. Raceways and Cabling Scheduled for Future Use: Cap/seal and tag.
7. Relocating Equipment: Extend existing wiring or run new wiring from the source.
8. Where the existing raceway is concealed, the outlet box shall be cleaned, and a blank cover plate installed.
9. Where the concealed raceway is uncovered remove raceway (or extended to new location if appropriate).

3.03 ABANDONMENT OPERATIONS

A. Abandon utilities and underground piping within limits noted.

B. Provide compatible cap for pressurized type piping. Provide thrust blocks for caps unless piping has fully restrained joints.

C. Provide concrete plugs for gravity type piping. Plug shall be Class B concrete in accordance with Section 03300 - Cast-in-Place Concrete. Plug shall be at least 2' thick.

3.04 DISPOSAL

A. Legally dispose of concrete rubble, debris, and other undesirable and unsalvageable material resulting from demolition operations off-site. Refer to Section 01040 - Special Construction.

B. Excavated excess soils can be disposed of as directed by the Owner.

3.05 CUTTING, FITTING AND PATCHING

A. Cut, fit, adjust, or patch Work and work of others, including excavation and backfill as required, to make Work complete.

B. Obtain prior written authorization of Engineer before commencing Work to cut or otherwise alter:
   1. Structural or reinforcing steel, structural column or beam, elevated slab, trusses, or other structural member.
   2. Weather-resistant or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Work of others.

C. Refinish surfaces to provide an even finish.
   1. Refinish continuous surfaces to nearest intersection.
   2. Refinish entire assemblies.
   3. Finish restored surfaces to such planes, shapes, and textures that no transition between existing work and the Work is evident in finished surfaces.

D. Restore existing work, Underground Facilities, and surfaces that are to remain in completed Work including concrete-embedded piping, conduit, and other utilities as specified and as shown on Drawings.

E. Make restorations with new materials and appropriate methods as specified for new Work of similar nature; if not specified, use recommended practice of manufacturer or appropriate trade association.

F. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces and fill voids.

G. Remove specimens of installed Work for testing when requested by Engineer.

END OF SECTION

SECTION 02200

SITEWORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes the following:
   1. Sitework for construction of WPCP Gray Water Conversion Project including construction of piping.
      a. Excavate and compact earth as specified hereinafter to provide finish grade as shown on plans.
      b. Provide necessary machine or hand finishing and shaping to existing grades and drainage slopes.
      c. Pile excavated material, suitable for backfill, in an orderly manner a sufficient distance back from edge of excavation to avoid slides or cave-ins; 2'-0" minimum clear distance.
      d. Remove and stockpile topsoil for later reuse. Store materials on-site.
      e. Remove and dispose of spoil and excess excavated material not suitable for trench, structural or embankment backfill at location directed by Engineer.
      f. Excavate in open cut at piping entrances to buildings, or as directed by Engineer.
      g. Water piping is to be moled or horizontally directionally drilled.
      h. Reference to percent maximum density shall mean a soil density not less than the stated percent of maximum density of optimum moisture content for soils as determined by ASTM D698, Moisture-Density Relations of Soils, using 5.5-lb. Rammer and 12-in Drop. (Standard Proctor method.)
      i. Do work in accordance with best present-day installation and construction practices.
      j. Do not damage trees and plantings except as noted on drawings or as directed by Engineer.
      k. Existing utilities within construction envelop are to be located in the field prior to any trenchless pipe installation.

B. Related work specified elsewhere:
   1. Section 01040 - Special Construction.
   2. Section 02610 - Buried Piping.
   3. Section 02930 - Lawns and Grasses.
   4. Section 03300 - Cast-in-Place Concrete.

1.02 DEFINITIONS

A. Earth: all materials, not classified as rock, including clay, silt, sand, gravel, hardpan, disintegrated shale, debris, loose stones, boulders less than 1/3 CY in volume, trees, stumps, roots, and rubbish.

B. Rock: boulders larger than 1/3 CY in volume or solid deposits so firmly cemented together that they cannot be removed without continuous use of pneumatic tools or blasting.

C. Rubble: buried concrete foundations, beams, walls, and other material which require continuous use of pneumatic tools or blasting.

D. Borrow: materials, in excess of excavated materials, needed to backfill embankments and around structures.

E. Removal of rock, rubble and miscellaneous debris above ground is incidental to construction.

F. Rock and rubble excavation will be paid for as Extra Work.

G. Relative Compaction:
   1. Ratio, in percent, of as-compacted field dry density to laboratory maximum dry density as determined in accordance with ASTM D698.
   2. Apply corrections for oversize material to either as-compacted field dry density or maximum dry density, as determined by Engineer.

H. Optimum Moisture Content:
   1. Determined in accordance with ASTM Standard specified to determine maximum dry density for relative compaction.
   2. Determine field moisture content on basis of fraction passing 3/4" sieve.

I. Relative Density: Calculated in accordance with ASTM D4254 based on maximum index density determined in accordance with ASTM D4253 and minimum index density determined in accordance with ASTM D4254.

J. Completed Course: A course or layer that is ready for next layer or next phase of Work.

K. Lift: Loose (uncompacted) layer of material.

L. Well-Graded:
   1. A mixture of particle sizes with no specific concentration or lack thereof of one or more sizes.
   2. Does not define numerical value that must be placed on coefficient of uniformity, coefficient of curvature, or other specific grain size distribution parameters.

3. Used to define material type that, when compacted, produces a strong and relatively incompressible soil mass free from detrimental voids.

M. Influence Area: Area within planes sloped downward and outward at 60° angle from horizontal measured from:
   1. 1 foot outside outermost edge at base of foundations or slabs.
   2. 1 foot outside outermost edge at surface of roadways or shoulder.
   3. 0.5 feet outside exterior at spring line of pipes or culverts.

N. Structural Fill: Fill materials as required under structures, pavements, and other facilities.

O. Embankment Material: Fill materials required to raise existing grade in areas other than under structures.

1.03 QUALITY ASSURANCE

A. Notify Engineer when:
   1. Piping is ready for backfilling, and whenever backfilling operations are resumed after a period of inactivity.
   2. Soft or loose subgrade materials are encountered wherever embankment or site fill is to be placed.
   3. Fill material appears to be deviating from Specifications.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Pipe bedding: sharp, clean, crushed stone; comply with following gradation:

	Pipe Diameter	
	Up to 18"	Over 18"
Sieve	% Passing	% Passing
1-1/2"		100
1"	100	95-100
3/4"	80-95	35-70
1/2"	50-60	25-50
3/8"	20-40	10-30
No. 4	0-5	0-5

   1. Engineer may authorize change in gradation subject to materials available locally at time of construction.
   2. Duct Banks: 3/4" maximum particle size.
   3. Conduit and Direct Buried Cable:
      a. Sand, clean or clean to silty, less than 12% passing No. 200 sieve.

b. Individual Particles: Free of sharp edges.
c. Maximum Size Particle: Pass a No. 4 sieve.
d. If more than 5% passes No. 200 sieve, the fraction that passes No. 40 sieve shall be non-plastic as determined in accordance with ASTM D4318.

B. Stabilizing material: sharp, clean, crushed stone; comply with following gradation:

Sieve	% Passing
2-1/2"	100
2"	90-100
1-1/2"	35-70
1"	0-15
1/2"	0-5

C. Granular subbase material: crushed stone meeting requirements of IDOT 4121.

D. Silt fencing: IDOT 4196.

E. Borrow material: excavated materials free from objectionable organic materials, rocks larger than 3" and suitable for normal embankment and subgrade construction; minimum laboratory dry weight: 100 lbs. per cubic foot; material subject to approval of Engineer.

F. Granular surfacing: IDOT Class A crushed stone.

G. Junctions of pipe lines: factory designed fittings or as shown on Standard Drawings.

H. Compacted granular backfill: 1" minus porous granular material; clean, washed crushed stone similar to IDOT 4131. Well graded from coarse to fine and containing sufficient fines to bind material when compacted, but with maximum 8% by weight passing No. 200 sieve.

I. Compacted sand subbase and backfill: Clean washed manufactured sand.

J. Compacted sand fill: Clean, washed manufactured sand.

K. Rip-rap: Conform to IDOT 4130.04 for Class D revetment stone. Material larger than 250 lbs. acceptable.

L. Rolled Erosion Control Products (RECP): double net straw blanket with degradable thread between lightweight photodegradable polypropylene top and bottom nets. Permissible shear stress 1.75 psf. North American Green S150, or equal.

M. Erosion Stone: Conform to IDOT 4130.01 and 4130.05; IDOT Gradation No. 34; maximum size: 9"; minimum size: 3"; 5% maximum mud balls; meet freeze and thaw test requirements for erosion stone: 15%, Method C.

N. Geotextile fabric under erosion stone and rip-rap: conform to IDOT 4196.01 B.3.

O. Geotextile fabric at pressure relief valves in tank walls and slabs: conform to IDOT 4196.01.B.2.

PART 3 - EXECUTION

3.01 GENERAL

A. Keep placement surfaces free of water, debris, and foreign material during placement and compaction of fill and backfill materials.

B. Place and spread fill and backfill materials in horizontal lifts of uniform thickness, in a manner that avoids segregation, and compact each lift to specified densities prior to placing succeeding lifts. Slope lifts only where necessary to conform to final grades or as necessary to keep placement surfaces drained of water.

C. During filling and backfilling, keep level of fill and backfill around each structure and buried tank even.

D. Do not place fill or backfill, if fill or backfill material is frozen, or if surface upon which fill or backfill is to be placed is frozen.

E. If pipe, conduit, duct bank, or cable is to be laid within fill or backfill:
   1. Fill or backfill to an elevation 2' above top of item to be laid.
   2. Excavate trench for installation of item.
   3. Install bedding, if applicable, as specified in Trench backfill.
   4. Install item.
   5. Backfill envelope zone and remaining trench, as specified in Trench Backfill, before resuming filling or backfilling specified in this section.

F. Tolerances:
   1. Final Lines and Grades: Within a tolerance of 0.1' unless dimensions or grades are shown or specified otherwise.
   2. Grade to establish and maintain slopes and drainage as shown. Reverse slopes are not permitted.

G. Settlement: Correct and repair any subsequent damage to structures, pavements, curbs, slabs, piping, and other facilities, caused by settlement of fill or backfill material.

3.02 CLEARING

A. Clear entire surface of all areas to be excavated or on which embankments are to be placed as necessary; fell all trees and grub all stumps and roots.

B. Haul trees, stumps, roots and brush to area landfill. Burning not permitted.

C. Remove existing fences as necessary within plant site and re-install unless otherwise specified or shown on drawings.

D. Dispose of waste material at disposal area obtained by Contractor.

3.03 TRENCH EXCAVATION

A. Keep width of trench as narrow as possible and still provide adequate room for backfilling and jointing.

B. Maximum width of trench at top of pipe: 2'-3" or outside diameter of pipe plus 12", whichever is greater.

C. Keep sides of trench as nearly vertical as practicable and still provide a safe and stable slope; maintain vertical walls of excavation below top of pipe.

D. Bottom of trench:
   1. Where ductile iron pipe or PVC pressure pipe is shown on plans, hand shape to provide uniform bearing and support for full length of pipe barrel against undisturbed earth as shown on plans.
      a. Provide suitable bell holes at each pipe joint after bottom of trench has been graded.
      b. Alternate to hand shaping trench bottom at Contractor's option: excavate to required depth by machine; use Type I bedding as shown on plans; use sharp, clean, crushed stone pipe bedding, with gradation as specified hereinbefore.
      c. Remove large clods, stones, and other foreign material from bottom of trench.
   2. Where reinforced concrete pipe is shown on plans, excavate to required depth by machine; use granular Type I as shown on plans; use sharp, clean, crushed stone pipe bedding with gradation as specified hereinbefore.
   3. Where plastic pipe is shown on plans except perforated subdrain and pvc pressure pipe, place pipe in bedding envelope; minimum 6" pipe bedding on all sides of pipe and minimum 12" pipe bedding above top of pipe.
   4. Compact pipe bedding by rodding or slicing with shovel.
   5. Pipe bedding cost is incidental to construction.
   6. Minimum pipe bedding thickness:
      a. Pipe 15" and smaller: 4".
      b. Pipe 18" to 36": 6".
      c. Pipe 42" and Larger: 8".
      d. Conduit: 3".
      e. Direct Buried Cable: 3".
      f. Duct Banks: 3".

E. When unstable material is encountered which may not provide a suitable foundation for pipe:
   1. Notify Engineer immediately.
   2. Engineer will investigate questionable material to determine its suitability for pipe foundation.
   3. If material is considered unsuitable for foundations, Engineer will specify and authorize remedial measures in writing.
   4. If removal of unsuitable material is authorized:
      a. Replace with stabilizing material as specified hereinbefore.
      b. Place pipe bedding on top of stabilizing material as specified hereinbefore.
      c. Authorized overexcavation and backfill will be paid for as Extra Work.
   5. See paragraph 1.05 Unstable Soils in Section 01040 - Special Construction.

3.04 TRENCHLESS CONSTRUCTION

A. Comply with Trenchless Construction Specification Section 3020 of the Statewide Urban Design and Specifications Program (SUDAS).

B. Installation methods allowed: directional drilling and other (moling).

3.05 ROCK EXCAVATION

A. Use pneumatic tools.

B. Dispose of excavated rock not suitable for backfill at disposal areas designated by Engineer.

3.06 RUBBLE EXCAVATION

A. Rubble, as specified and defined herein, may be encountered.

B. Removal and disposal: as specified for rock; disposal is incidental to cost of rubble excavation.

3.07 SHEETING, SHORING AND BRACING

A. Construct sheeting, shoring, and bracing where shown on plans or where required to hold walls of excavation, to provide safety for workmen, to protect existing utilities or structures or to permit construction in the dry.

B. Leave in place all temporary sheeting below top of footings or below 2' over top of pipe.

C. Leave sheeting and shoring in place above top of footings or above 2' over top of pipe when removal, in the opinion of Engineer, might damage piping or structures.

D. Contractor may be required to provide sheeting by regulatory agencies when not required by Owner or Engineer; sheeting, shoring and bracing cost is incidental to construction.

3.08 DEWATERING

A. Do all work in the dry; obtain Engineer's approval for methods of dewatering.

B. Grade as required to prevent surface water from flowing into excavations; promptly remove any water accumulated.

C. Lay no pipe in or pour no concrete on excessively wet soil.

D. Do not pump water into adjacent property without approval of Engineer.

E. If unstable condition due to groundwater is encountered during excavation: change method of dewatering; if soil cannot be stabilized by dewatering methods including sand point installation, notify Engineer.

F. Cost of dewatering is incidental to construction.

3.09 BACKFILL AND EMBANKMENT FOR STRUCTURES

A. Backfill after concrete has cured, and waterproofing, if specified, has been inspected by Engineer.

B. Backfill with material removed from excavation except as shown on plans and as specified hereinafter; use no debris, frozen earth, large clods or stones.

C. Provide sand and granular backfill and base under and around structures where shown on plans.

D. Under Facilities: Within influence area beneath structures, slabs, pavements, curbs, piping, conduits, duct banks, and other facilities, backfill with granular backfill, unless otherwise shown. Place granular backfill in lifts of 6" maximum thickness and compact each lift to minimum of 95% relative compaction for cohesive soil and 98% relative compaction for cohesionless soil as determined in accordance with ASTM D698.

E. Outside influence areas beneath structures, tanks, pavements, curbs, slabs, piping, and other facilities: Unless otherwise shown, place borrow material as follows:
   1. Allow for 6" thickness of topsoil where required.
   2. Maximum 8" thick lifts.
   3. Place and compact fill across full width of embankment.
   4. Compact backfill and embankment around structures to 90% maximum density for cohesive type soils and to 93% maximum density for cohesionless soils.

5. Dress completed embankment with allowance for topsoil, crest surfacing, and slope protection, where applicable.

F. Retain services of independent testing laboratory to conduct moisture-density compaction tests to insure conformance with compaction requirement and soil bearing pressure requirements under tanks and footings; provide 40 tests at locations as directed by Engineer. Net soil bearing capacity requirements: Refer to Drawing 99-S-1 and Appendix A - Soils Report.

G. Terminate at elevation shown on plans; dispose of excess excavation as directed by Engineer.

H. If settlement of any backfill occurs within period of guarantee and bond, refill, compact and level off.

I. Do not position construction equipment closer to Process Tank outer walls than a line drawn from base of footing wall at slope of 1' horizontal to 2' vertical; if construction equipment is set closer to wall, support using temporary braces.

3.10 TRENCH BACKFILL

A. Backfill trench immediately after Engineer has recorded location of connections and appurtenances and testing has been completed, or at Engineer's direction.

B. Allow no more than 100' of trench to be open at one time; construct appurtenances and backfill as work progresses.

C. Use no large stones, large clods, organic matter, rubbish, frozen or unsuitable materials in backfill.

D. Use compacted backfill, as specified below, for all pipe except subdrain.
   1. Hand place and carefully compact backfill over top of pipe.
   2. Backfill above 1' over top of pipe with excavated material in layers not to exceed 18"; moisten if required; compact to 95% maximum density with moisture content -1% to +4% of optimum.

E. Fill upper 6" portion of trench with topsoil where construction area is to be seeded or cultivated; shape roadways and ditches to original grades, replace surfacing material where trench is in streets, driveways or parking areas; in the event of excavated frozen ground, stockpile topsoil along route of sewer and respread after soil has thawed in spring; do not block natural drainageways; no additional payment will be made for handling frozen earth.

F. New line below existing water or gas main: backfill under existing water or gas main with pipe bedding material; compact to 95% maximum density; length of pipe bedding material backfill at elevation of existing utility: equal to depth of excavation below utility; pipe bedding material backfill is incidental to sewer construction.

G. Backfill above gravity PVC pipe:
   1. Backfill with pipe bedding material to minimum 12" above top of pipe; do not drop pipe bedding material from equipment bucket more than 2' above pipe; all pipe bedding material including backfill material is incidental to construction.
   2. Above pipe bedding material, backfill with excavated material, except frozen material, and other non-suitable material; do not drop backfill material from equipment bucket more than 2' above bottom of trench until backfill material is in place 4' above pipe bedding backfill material.
   3. Consolidate bottom 4' of trench backfill with hand tools and tampers; do not use vibratory plate or drop type compactor until above bottom 4' of trench backfill.

H. Place concrete encasement where directed by Engineer.
   1. Make pipe joint in same manner specified for pipe not encased.
   2. Pour concrete beneath and around pipe after jointing is complete.
   3. Use two temporary pipe supports under barrel per pipe length: one near bell and one near spigot.
   4. Provide ties and braces to prevent displacement or floatation during encasement.
   5. Use concrete encasement shown on drawings.

I. Retain services of independent testing laboratory to conduct moisture-density compaction tests to ensure conformance with compaction requirement; provide passing tests at locations as directed by Engineer.

J. If settlement of any trench occurs within period of guarantee and bond: refill, compact, level off and restore surfacing.

3.11 EXCAVATION

A. Strip vegetation and organic materials within construction limits and stockpile areas; dispose of as directed by Owner or Engineer.

B. Remove topsoil to minimum depth of 6" or as directed by Engineer.

C. Stockpile sufficient topsoil for reuse to finish earth surfaces within construction limits and stockpile areas; stockpile excess as directed by Engineer.

D. Grade and shape earth surfaces within construction limits to specified cross section; finish earth surfaces as specified hereinafter.

E. Grade and shape earth surfaces to drain; finish earth surfaces as specified hereinafter.

F. Uniformly spread excess on-site excavated materials and topsoil where shown on plans; excavated materials remain property of Owner.

3.12 EMBANKMENT AND STRUCTURAL FILL

A. Prepare site, place, and compact fill materials to required elevations and cross section.

B. Scarify, disc and roll foundation areas as necessary to provide proper bond with first layer of new fill.

C. Place no roots, brush, grass or other organic material in embankment or fill; place no material on embankment or fill when material or foundation is frozen.

D. Select material for each portion of embankment and fill with approval of Engineer; select materials to avoid sharp change in texture.

E. Use fill material free of lenses, pockets, streaks, or layers of materials differing from surrounding materials.

F. Cut bench in existing grade at toe of new embankment.

G. Construct embankment in horizontal layers not more than 9" in loose thickness.

H. Deposit each layer over full width of embankment as separate and distinct operation.

I. After layer is deposited, smooth to uniform depth by means of suitable motor patrol or bulldozer.

J. Compact selected materials in horizontal layers with tamping or sheepsfoot roller; use roller designed to provide at least 250 psi distributed on one row of knobs.

K. Compact layer by rolling with tamping type roller until full weight of roller is supported by tamping feet, but with not less than one pass per inch of loose thickness of layer.

L. Roller will be considered to be supported entirely on its tamping feet when feet do not penetrate more than 3" into material being compacted.

M. If soil is wet so that it will not sufficiently compact by one passage of roller per inch of loose thickness, provide one discing per 2" of loose thickness.

1. Cut and stir full depth of layer.
2. Allow interval of not longer than 2 hrs. between successive discings, or as directed by Engineer.
3. After discing is completed, compact layer by specified rolling.

N. If soil is dry so that it will not satisfactorily compact by rolling, moisten material before compaction; manipulate material to secure proper distribution of moisture before compaction.

O. Place fill and compact on all sides of structures to same level as fill operation progresses to protect structures against displacement or other damage.

P. Areas adjacent to structures which cannot be tamped with rollers: hand tamp with mechanical tamper to same degree of compaction as specified for other parts of embankment.

Q. Whenever operations are suspended during period rain is likely to occur, smooth and compact surface to shed water readily.

R. Provide 10 passing tests by independent testing laboratory at location determined by Engineer.

3.13 ROLLED EROSION CONTROL PRODUCT

A. Grade and smooth surface. Remove all rocks, clods, vegetation or other obstructions that will prevent direct contact between rolled erosion control product and the soil surface.

B. Prepare seed bed, seed and fertilize prior to placing rolled erosion control product.

C. Install in accordance with manufacturer's requirements and as shown on plans.

END OF SECTION

SECTION 02610

BURIED PIPING

PART 1 - GENERAL

1 .01 DESCRIPTION

A. This section describes buried piping shown or specified and required for complete piping systems including connections to treatment units, equipment and controls.

B. "Buried" refers to all piping and appurtenances buried beneath or buried outside buildings and structures; see Section 13570 - Inside Process Piping for piping located elsewhere.

C. Related work specified elsewhere:
   1. Section 02200 - Sitework.
   2. Section 03300 - Cast-in-Place Concrete.
   3. Section 13570 - Inside Process Piping.
   4. Section 15050 - Basic Materials and Methods.
   5. Section 15400 - Plumbing.

1.02 SUBMITTALS

A. Include following information as minimum:
   1. Identify pipe service and material to be used for each.
   2. Proposed adapters between dissimilar pipe.
   3. Pipe material, wall thickness, class and/or schedule number.
   4. Valve types, sizes, weights, dimensions, materials, locations, and pressure ratings.
   5. Valve operator types, sizes, weights, dimensions, and materials.
   6. Refer to Section 01300 - Submittals for other requirements.

PART 2 - PRODUCTS

2.01 PIPE MATERIALS

A. Pipe material, thickness, joints, and fittings to conform with BURIED PIPE SPECIFICATION TABLE included hereinafter.

B. Pipe material and valves permissible for each type service to conform with BURIED PIPING SCHEDULE included hereinafter; where more than one pipe material is listed for particular service, Contractor select and furnish one pipe material for that service unless Engineer approves otherwise (galvanic action may occur if certain pipe materials are intermixed).

C. Buried or exposed bolts, nuts and similar items: Cor-Blue T-bolt or stainless steel.

D. Label intended use for every pipe length and fitting supplied for construction to eliminate misuse in field.

BURIED PIPE SPECIFICATION TABLE

Pipe	Material	Thickness	Joints	Fittings
Copper Tubing (Cu)	ASTM B88, seamless soft annealed copper.	Type K (Heavy)	Dielectric unions for connections to ferrous piping or equipment.	Brass with pre-swaged ferrule and nut for each tube end.

BURIED PIPING SCHEDULE

Service	Design	Materials	Valves
Non-potable Water $>1"$	NPW	Copper	Curb Stops
Non-potable Water $\leq 1"$	NPW	Copper	Curb Stops

2.03 RESTRAINED JOINTS

A. Use restrained joints for pressure pipelines with working pressure greater than 15 psig.

B. Provide restrained joints where piping changes direction or dead ends.

2.04 CONNECTIONS BETWEEN DISSIMILAR PIPE

A. Provide special adapters for pressure piping, as required, with pressure rating not less than that for lowest rated pipe connected; submit details to Engineer for review.

B. Provide dielectric isolators between pipes of different metallic make up.

2.05 VALVES IN GENERAL

A. Valve types to conform with Buried Piping Schedule contained hereinbefore and as shown on plans.

B. Use valves of single manufacturer for each pipe service insofar as possible.

C. Provide all special tools required for packing and disassembling valves.

D. Valves designed specifically for burial and service intended.

E. Mechanical or push-on joints for iron pipe per ANSI A21.11.

F. Provide adapters if required to join pipe and valves.

2.09 CURB STOPS

A. Curb stops: ball-type, coated ball and resilient seats, copper-tubing sized; stainless steel rod extension to lid; connections: flare or compression for copper, pack-type or compression for plastic, use stainless steel insert on all plastic tubing; Hayes 4008, Mueller 15201, Ford B-22 Series.

B. Curb box: extension type curb box with arch pattern base, cast iron base and lid.

2.10 FITTINGS

A. Fittings: ANSI/AWWA C800, except as otherwise specified.

2.11 TRACER WIRE

A. Tracer wire: LLDPE insulation with minimum 45 mil thickness and 12-gauge copper wire; blue in color for water piping.

B. Splice kits: 3M - Scotchcast No. 3832, or equal.

C. Ground rods:
1. Provide uniform covering of electrolytic copper metallically bonded to steel rod.
2. Minimum diameter: 3/8".
3. Minimum length: 60".
4. Blackburn Catalog #3755 or equal.

D. Ground rod clamp: corrosion- resistant copper alloy ground rod clamp; Blackburn Catalog #G3 or equal.

E. Tracer wire box: Copperhead SnakePit LD14BTP-ADJ, or equal. Locate next to each curb box, yard hydrant and at entrance to structures and buildings.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION

A. Protect pipe joints and valves from injury while handling and storing.

B. Use no deformed, defective, gouged or otherwise impaired pipe joints or valves.

C. Clean bell and spigot surfaces of dirt and foreign matter before jointing pipe.

D. Make joints in strict accordance with manufacturers recommendations.

E. Rap and blow out piping and valves before and after installation.

F. See Section 02200 - Sitework for trench excavation and backfill.

3.02 PRESSURE PIPE INSTALLATION

A. Lay pipe in dry trench or through approved drilling extrusion media; minimum earth cover: 5'-6"; install to depths or grades shown on drawings.

B. Clean pipe interior of foreign material before lowering into trench or boring/drilling; keep clean at all times by closing open ends of pipe and fittings.

C. Before installation of metallic pipe, complete visual inspection; defective, damaged, or unsound pipe will be rejected.

D. Place in trench in sound, undamaged condition; do not injure pipe coating or lining; do not use end hooks to install or move pipe; use web slings.

E. Cut pipe in neat and workmanlike manner without damage to pipe.

F. Plug or cap and block all pipe ends or fittings left for future connections.

3.03 POTABLE WATER AND SEWER CONFLICTS

A. Maintain minimum 10' lateral separation between potable water piping and any gravity sewer piping.

B. Maintain minimum 18" vertical separation between bottom of potable water piping and top of gravity sewer piping with potable water above gravity sewer.

C. Adequately support existing water main to prevent settling or breakage.

3.04 VALVE INSTALLATION

A. Valves:
   1. Install with stems vertical and centered in valve box or stop box.
   2. Check all valve bolts when installed; tighten as necessary after valves are in operation and up to operating pressure.
   3. Support valves as required.
   4. Carefully tamp earth around each valve box to distance of 4' on all sides of box or to undisturbed trench face; if less than 4'; install as shown on drawings.

3.05 TRACER WIRE

A. Install tracer wire system on all piping; reconnect existing tracer wire systems on all piping disturbed or cut during construction.

B. Provide continuous tracer wire attached at midpoint of every pipe length with 2" wide 10 mil thickness polyethlyene pressure sensitive tape; do not splice tracer wire except as authorized by Engineer.
   1. Bring wire loop into tracer wire box and provide enough wire to allow for the wire to be brought above grade a minimum of 12" to allow connection of locating equipment.
   2. Use specified splice kits for all underground splices.
   3. Use Scotchcast terminating kits for wires terminated below ground level.
   4. Install ground rods with solid steel core at all terminal points of tracer system, or as directed by the Engineer.
   5. Ground rods shall not directly connect or touch water pipe or any other metal pipe or any separate grounding system.
   6. Connect tracer wire to ground rod with high strength, corrosion-resistant copper alloy ground rod clamp.
   7. Install tracer wire box at each water valve and curb box.

3.06 TESTS

A. Pressure piping:
   1. Test liquid piping systems with water before backfilling in accordance with ANSI/AWWA C600 and ANSI/AWWA C800 Appendix B; inspect all joints and valves for leakage after piping has been under pressure 2 hours.
   3. Valve off, or otherwise isolate instruments, controls or other piping accessories which would be damaged by test pressure.
   4. Provide test pumps, test plugs, pipe, and gauges, and make required piping connections.
   5. Retest piping showing leakage; replace or repair defective pipe, fittings and valves disclosed during tests to satisfaction of Engineer.

3.07 DISINFECTION

A. Disinfect potable water and water main piping.

B. Disinfect: provide minimum residual chlorine content of 50 ppm in water main; allow system to stand full of solution for 24 hours by use of one of the following methods:
   1. Inject a solution of calcium hypochlorite and water at a slow rate into water main.

C. Minimum free chlorine residual at pipe extremities: 10 ppm at end of test period; if requirement is not met, repeat disinfection procedure.

D. Operate all valves and hydrants in new main to assure full disinfection; repeat test procedure if necessary.

E. Thoroughly flush main after test until extremities indicate same chlorine residual as supply water. Highly chlorinated water shall be discharged into sanitary sewer system.

F. Within 24 hours after completion of disinfection and flushing, Owner will collect bacteriological samples and submit and pay for testing; sample must test "safe" before Owner will accept work.

G. Conform to AWWA 651.

H. Disinfect potable water, fire protection and water main piping specified under Section 13570 - Inside Process Piping, at same time.

END OF SECTION

SECTION 02930

LAWNS AND GRASSES

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes seeding at treatment plant site as shown on drawings and specified herein.
   1. Lawn grass seeding of all areas disturbed.
   2. Mulch over seeding on slopes exceeding 1 to 4.

B. Related work specified elsewhere:
   1. Section 02200 - Sitework.

1.02 STORAGE AND HANDLING

A. Deliver seed and fertilizer to site in producer's unopened, fully labeled packages.

B. Seed package label shall bear producer's guaranteed analysis for percentages of mixture, purity, germination and weed seed content.

C. Fertilizer package label shall bear analysis, trade name or trademark, and warranty of producer or furnish affidavit attesting to compliance.

D. Store packaged materials off ground and protect from moisture.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Topsoil:
   1. Use topsoil stripped from treatment plant site and stockpiled during excavation and grading operations as directed by Engineer; see Section 02200 - Sitework.

B. Fertilizer:
   1. Meet requirements of Iowa Department of Agriculture.
   2. Provide in granular form delivered to site in original containers; furnish proof of chemical analysis and weight to Engineer.
   3. Use of liquid fertilizer subject to approval by Engineer.

C. Lawn grass seed:
   1. Minimum percentage by weight of pure seed and germination listed below applies whether seed is used individually or mixed.

Kind of Seed	Purity (Minimum %)	Germination (Minimum %)
Permitted Kentucky Bluegrass Cultivars	95	85
Certified Bonnieblue Certified Victa Certified Windsow Certified Aquila Certified Parade Certified Park Certified Sodco Certified Nugget Certified Glade Certified Newport Certified Adelphia Certified Baron Certified Majestic Certified Galaxy		
Common Kentucky Bluegrass (in lieu of Cultivar)	85	80
Fescue, Creeping Red	98	85
Fescue, Kentucky 31	98	85
Permitted Varieties of Fine Leaf Perennial Ryegrass	95	90
Certified Yorktown Certified Epic Certified Pennfine Certified N.K. 200 Certified Eton Certified Derby Certified Manhattan		
Timothy	98	90
Ryegrass, Annual	98	90

D. Seed mixture and application rate:
   1. Lawn seed mixture:

Type of Seed	Application Rate lb./acre	lb./100 SF	lb./1,000 SF
Certified Kentucky Bluegrass Cultivar	37.5	8.61	0.86
Certified Kentucky Bluegrass Cultivar (not same variety as above)	37.5	8.61	0.86
Creeping Red Fescue	45.0	10.33	1.03
Certified Fine Leafed Perennial Ryegrass Cultivar	15.0	3.44	0.34
Certified Fine Leafed Perennial Ryegrass Cultivar (not same variety as above)	15.0	3.44	0.34
TOTALS	150.0	34.44	3.43

PART 3 - EXECUTION

3.01 TOPSOILING

A. Bring areas to be topsoiled to an elevation 6" below finish grade during grading operations, see Section 02200 - Sitework.

B. When contract operations have been completed to point where areas will not be disturbed, clean subgrade free of waste materials, scarify and pulverize to a depth of not less than 4" and remove surface irregularities.

C. Uniformly distribute topsoil to minimum depth of 6" after compaction.

D. Subgrade and topsoil must be damp and free from frost.

3.02 SOIL PREPARATION

A. Rake area free of stones and debris.

B. Thoroughly till topsoil by discing or harrowing to level out undulations and irregularities. Small areas may be raked as approved by Engineer.

C. Spread fertilizer for grass at rate listed below for each 1,000 SF:
   1. 5N-10P-5K: 30 lbs.
   2. 8N-6P-6K: 20 lbs.
   3. 6N-12P-2K: 25 lbs.
   4. 7N-7P-6K: 22 lbs.
   5. 10N-6P-4K: 15 lbs.
   6. 10N-5P-5K: 15 lbs.

D. Mix fertilizer into topsoil to minimum depth of 2" by discing or harrowing, disc areas to be seeded a second time, at right angles to first pass, prior to harrowing. Raking in fertilizer may be allowed by Engineer for small areas.

E. Compact areas to be seeded by roller weighing 85 to 100 lbs. per linear foot.

3.03 SEEDING (LAWN GRASS)

A. Sowing shall be done either between March 1 and May 31 or August 10 and September 30.

B. Rake surface to produce fine soil texture before seeding.

C. Uniformly distribute seed at rate as specified in Section 2.01; sow 50% in one direction; sow remainder at right angles to first pass.

D. Cover lightly by raking and compact soil by rolling.

E. Contractor is responsible for turning over to Owner a full stand of grass; any bare spots or area which does not attain a full stand during first growing season shall be replanted and redeveloped by the contractor as an incidental to the project.

3.04 MAINTENANCE

A. Protect and maintain lawns by watering until completed project is accepted by Owner.

B. When project is accepted by Owner, furnish complete written instructions for care of lawn to assure promotion of deep root growth, uniform color and quality, and which is reasonably free of weeds, disease or other visible imperfections.

END OF SECTION

SECTION 03100

CONCRETE FORMWORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes formwork for concrete specified under Section 03300 - Cast-in-Place Concrete.

B. Where 'ACI 347' is referred to herein, reference is to 'ACI Standard Recommended Practice for Concrete Formwork' adopted by the American Concrete Institute.

C. Related work specified elsewhere:
   1. Section 03200 - Concrete Reinforcement.
   2. Section 03300 - Cast-in-Place Concrete.

D. Anchors and inserts are specified elsewhere.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General:
   1. Contact surfaces of forms for concrete exposed: wood, plywood, hardboard, metal, form liner or other material which will produce surface finishes specified under Section 03300 - Cast-in-Place Concrete without adverse effect on concrete.
   2. Plywood: comply with PS 1-74; use maximum sheet sizes to keep joints to minimum.
   3. Hardboard: comply with FS LLL-H-35, Type 1, Class 2, hard pressed fiberboard treated for formwork use.
   4. Metal forms: smooth surfaces free from irregularities, dents and sags.
   5. Where used, form release agent must not stain or cause imperfections on concrete surface.

B. Chamfer strips: Polyvinylchloride, steel, good quality lumber carefully milled, free from protruding slivers and well sealed, or other nonabsorbent material.

C. Form Ties
   1. Form ties encased in concrete other than those specified in the following paragraphs shall be designed so that, after removal of the projecting part, no metal shall remain within 1-1/2" of the face of the concrete. The part of the tie to be removed shall be provided with a removable cone at least 1" diameter and 1-1/2" deep. Form ties in concrete exposed to view shall be the cone-washer type.
   2. Flat bar ties for panel forms shall have plastic or rubber inserts having a minimum depth of 1-1/2" and sufficient dimensions to permit proper patching of the tie hole.
   3. Ties for liquid containment structures shall have an integral waterstop that is tightly welded to the tie.
   4. Common wire shall not be used for form ties.
   5. Alternate form ties consisting of tapered through-bolts at least 1" in diameter at smallest end or through-bolts that utilize a removable tapered sleeve of the same minimum size may be used at the Contractor's option. Obtain Engineer's acceptance of system and spacing of ties prior to ordering or purchase of forming. Clean, fill and seal form tie hole with non-shrink cement grout. The Contractor shall be responsible for watertightness of the form ties and any repairs needed.

2.02 DESIGN AND FABRICATION

A. Design, engineer, and construct formwork to satisfy specified requirements and conditions shown on plans.

B. For concrete exposed to chemical attack, comply with recommendations contained in Chapter 4 of Environmental Engineering Concrete Structures - ACI 350.

C. Strength of forms, supports, and braces adequate to resist vertical and lateral loads; follow recommendations contained in Chapter 2 of ACI 347.

D. Provide positive means for adjusting shores and struts (wedges and jacks) so settlement can be taken up during concrete placement operations.

E. Allowable deflection of facing materials reflected in exposed concrete surfaces: not greater than 1/240 of span between structural members.

F. On exposed surfaces, pattern of joints between facing panels and marks left by form ties must be rhythmic and symmetrical.

G. Provide temporary openings near bottom of deep forms and other locations where necessary to facilitate observation and cleaning immediately prior to deposit of concrete.

H. Form design must include provisions for easy removal.

I. Provide 3/4" x 3/4" chamfers on external corners of columns, beams, slabs and walls which have two adjacent faces exposed.

J. Do not use earth cuts as forms for vertical surfaces without specific approval from Engineer.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Solidly back joints between facing panels and perimeter edges of facing panels to maintain proper alignment.

B. Forms must be sufficiently tight to prevent leakage of mortar; gasket, tape, caulk, or seal otherwise.

C. Cooperate with subcontractors in placement of anchors, bolts, inserts and other items embedded in concrete.

D. Leave section of forms adjacent to construction joint in place until concrete is deposited on other side of joint; retighten forms on completed section before next section is placed and carefully seal joint to prevent grout or paste leakage.

E. Securely brace shores and struts against lateral displacement.

F. Preparation of form surfaces:
   1. Remove loose concrete dust and other fine material from contact surface.
   2. Prior to placement of concrete, saturate board forms with joints opened by shrinkage of wood with water until wood swells and closes joints.
   3. Seal plywood and other wood surfaces not subject to shrinkage against absorption of moisture from concrete (field or factory applied).
   4. Apply coating for preventing of bond with concrete prior to placement of reinforcing steel; do not allow excess coating material to stand in puddles in forms or come in contact with concrete surfaces against which fresh concrete will be placed.
   5. Where painting of finished concrete is required, coatings applied to contact surface of forms must be compatible with type of paint to be used.
   6. Where as-cast finishes are required, do not use form coatings which will impart stain to concrete.

G. Prior to placement of reinforcing steel, request Engineer to inspect form surfaces; obtain permission from Engineer to start placement of reinforcing steel.

3.02 WORKMANSHIP

A. Form surfaces adjacent to concrete must conform to shape, line, and dimension shown with corners uniform, true and sharp, unless otherwise shown on plans.

B. Transition between curved and straight surfaces must be smooth, even and tangent; when such forms are in place request Engineer to inspect them before concrete is placed.

C. When forms are removed, concrete surfaces shall conform to size, shape and line shown on plans within tolerances listed under Chapter 3 of ACI 347.

3.03 OBSERVATION AND MAINTENANCE

A. Observe formwork continuously while concrete is being placed to ensure that there are no changes of elevation, plumbness or camber from as-designed conditions.

B. Stop placement if settlement is noted and adjust shores and struts to eliminate settlement.

C. If weakness in falsework is observed which will produce distortion or variation on concrete surfaces in excess of allowable tolerances, stop work and strengthen falsework; remove permanently damaged construction before proceeding with work.

3.04 REMOVAL OF FORMS

A. Remove in manner that will not mar, spall, or otherwise damage the concrete or other work.

B. Formwork not supporting weight of concrete: Formwork at locations such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing concrete at not less than 50°F. for 24 hours after its placement, provided all of the following criteria are met:
   1. Concrete has obtained strength required to not be damaged by form removal operations.
   2. Concrete curing and protection operations will be maintained in accordance with the requirements for those materials.
   3. Shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

C. Do not remove supporting forms and shoring for slabs, beams, channels, troughs, corbels, brackets, haunches, cantilevered or Y-shape elements, or other flexural members until concrete complies with all of the following criteria:
   1. No sooner than 14 days following concrete placement.
   2. Obtained a minimum compressive strength of 80% of the 28-day strength.

3. Of sufficient strength required to support its own weight and superimposed loads.

D. Remove the removable portion of form ties in a manner and at the period required to prevent damage to concrete.

E. Accomplish removal without prying against face of concrete or jarring structure; use wooden wedges only.

F. Remove supports in manner permitting concrete to assume load gradually and uniformly.

G. Perform reshoring for purpose of early form removal in manner that will not require large areas of new construction to support own weight.

H. When forms are removed before end of curing period, exposed concrete must be cured as specified under Section 03300 - Cast-in-Place Concrete.

I. Do not drop forms on floor.

J. Do not subject unsupported portions of structure to heavy construction or material loading.

3.05 REUSE OF FORMS

A. Reuse forms for exposed concrete only when in near new condition.

B. Do not reuse metal pans with bent flanges or dents until they have been straightened to near new condition.

C. Thoroughly clean and recoat forms before reuse; recondition if necessary.

D. Do not reuse forms if condition does not meet requirements set forth herein.

END OF SECTION

SECTION 03200

CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes reinforcing steel for concrete specified under Section 03300 - Cast-in-Place concrete.

B. Related work specified elsewhere:
   1. Section 03100 - Concrete Formwork.
   2. Section 03300 - Cast-in-Place Concrete.

1.02 SUBMITTALS

A. Submit complete shop drawings showing all dimensions necessary for fabrication and placement of reinforcing steel and accessories, without reference to contract drawings; include elevations of wall reinforcing and location of construction joints.

B. Do not start fabrication until receipt of reviewed drawings from Engineer.

C. See Section 01300 - Submittals for additional requirements.

1.03 MINIMUM REINFORCEMENT REQUIREMENTS

A. Bars:
   1. Reinforce footings as shown on drawings; where reinforcing is not shown include:
      a. #4 at 8" each way bars for spread wall footings.
      b. #5 at 8" each way bars top and bottom in trench footings up to 8" thick.
      c. #6 at 10" each way bars top and bottom in trench footings 10" thick and over.
   2. Reinforce top of wall footing under door and other openings with two #4 bars, minimum; 4'-0" longer than opening.
   3. Reinforce curbs as shown on drawings; where reinforcing is not shown, place one #4 bar top and bottom.

4. Reinforce walls as shown on drawings; where reinforcing is not shown, include:

Wall Thickness	Horizontal Bars	Vertical Bars	Location
6"	#4 @ 12"	#4 @ 12"	Center on Wall
8"	#4 @ 12"	#4 @ 12"	Center on Wall
10"	#4 @ 12"	#4 @ 12"	Each Face
12"	#5 @ 12"	#5 @ 12"	Each Face
16"	#5 @ 12"	#5 @ 12"	Each Face

5. At wall or floor openings, if reinforcing is not shown, include two #5 bars, each face, on all sides, 4'-0" longer than opening dimension.
6. Reinforce masonry load bearing and exterior concrete block walls as shown on drawings; where reinforcing is not shown, include #5 @ 24" vertical.

B. Mesh:
1. Reinforce slabs as shown on drawings; where reinforcing is not shown, include:
   a. 6" x 6" W2.1.x W2.1 mesh for following:
      1) 4" slabs on grade.
      2) Toppings.
   b. 6" x 6" W2.9 x W2.9 mesh for following:
      1) 6" or thicker slabs.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Bars:
1. ASTM A615, Grade 40 billet-steel with 40,000 psi minimum yield strength for #3 and smaller bars.
2. ASTM A615, Grade 60 billet-steel with 60,000 psi minimum yield strength for #4 and larger bars.

B. Prefabricated steel bar mats which meet specified bar requirements and spacings may be used in lieu of job placed individual bars.

C. Mesh: welded wire fabric; ASTM A185.

D. Shear connectors: welded wire truss; ASTM A82.

E. Spacers and chairs:
1. Type: as shown on plans.
2. Comply with ACI 315.
3. Chairs: corrosion resistant.

F. Tie wire: black annealed wire; 16 gauge, minimum.

G. Mechanical splices: threaded splice; Dayton Superior D-101, or equal.

2.02 FABRICATION

A. Carefully form bars to shapes and dimensions shown on plans; where not shown, comply with requirements of ACI 315.

B. Tolerances: comply with ACI 315 unless otherwise shown on plans.

C. Bend all bars cold.

D. Make bends for stirrups and ties around pin having diameter not less than two times thickness of bar.

E. Bend bars around pin having diameter not less than six times minimum thickness of bar; eight times minimum thickness for bars larger than 1".

F. Hooks: conform to requirements of ACI 318.

G. Where column bars are offset or dowels used for column splices, provide 1/2" clearance between bars or dowels and vertical bars of next lift.

H. Tag bars with metal, linen or rope fiber tags filled in by machine or waterproof ink; do not use paper tags.

PART 3 - EXECUTION

3.01 PLACEMENT

A. Design must comply with ACI 318 and details must conform to ACI 315, unless otherwise shown on plans.

B. Reinforcement: free from dirt, loose, flaky rust and scale, oil, grease, ice, or other coating which could reduce or destroy bond.

C. Bars:
   1. Accurately place and securely wire-tie bars in position before concrete is deposited; point wire-tie ends away from form.
   2. Support bars rigidly on spacers and chairs:
      a. Number, location and size: comply with Chapter 7 of ACI 315 unless otherwise shown; other methods of support will be permitted subject to Engineer's approval.
      b. List number of supports for each span on schedule or mark on placing plan.
      c. Chairs required for top layer of reinforcing in footings.

d. Use U or Z 1/4" reinforcing bar spacers between layers in walls at 5' oc each way.

3. Lap splices and butt-welded splices in accordance with Chapter 7 of ACI 318.
4. At walls without footing pads, rest bottom of reinforcing on concrete brick.
5. Reinforcement spacing shown on plans is in inches.

D. Minimum protection between face of steel and outer face of concrete must comply with following, unless otherwise shown on plans:
   1. 3" for footings and other principal structural members where concrete is cast against ground.
   2. 2" for wall or other formed surfaces exposed to sewage, effluent, chemical attack, weather or in contact with ground; 1-1/2" if bars are #5 or smaller.
   3. 1-1/2" or 1-1/2 time maximum size of coarse aggregate for beams, girders and columns; dimension is to ties where used.
   4. 1" for floor joists where clear distance between joists is not over 30".
   5. 3/4" for slabs and walls not exposed to weather or directly to ground.
   6. Protection of reinforcement must at least equal to diameter of bars being covered, except 3/4" protection is sufficient for bars in slabs, regardless of bar size.

E. Tolerances:
   1. Height of bottom bars above bottom of form: 1/4" plus or minus from established dimension.
   2. Lengthwise:
      a. Top or bottom bars: 2" $\pm$ from plan dimension (extend same amount into each support).
      b. Truss bars: 2" $\pm$ from plan dimension (applies to ends of bars and bend points).
   3. Bar spacing in walls and solid slabs: do not exceed two times thickness of slab or all unless otherwise shown on plans.
   4. Lateral spacing in joists or beams where spacing is established: plus or minus 1/4".
   5. Clearance between face of steel and face of concrete: plus or minus 1/4".
   6. Height of top bars (top of bar to top of beam or slab): plus or minus 1/4" (if necessary to lower bars over 1/4", check with Engineer for increase in size or number of bars).
   7. Stirrup or tie spacing: 2" $\pm$ for any one unit (end unit not more than 1" either way from position shown).

F. Mesh:
   1. End lap by one of following methods:
      a. Overlap one full mesh (tip to tip of wires) and tie with wire and 1'-6" oc.
      b. Overlap with end cross wire of one piece in contact with next-to-end wire of other piece; tie to keep fabric in place or prevent edge from curling up.

2. Side lap by one of following methods:
   a. Place selvage wire in middle of first mesh and wire tie at 5'-0" oc (stagger ties).
   b. Place selvage wire in contact with next-to-edge longitudinal wire; tie to keep fabric in place or prevent edge from curling up.
3. Place mesh 2-1/2" below top of slab on grade, unless otherwise shown on plans or specified.
4. Accurately place and rigidly support mesh on metallic supports, built-in concrete blocks or other suitable means; prevent displacement by foot traffic runways and compaction tools.
5. Positioning mesh in slab by lifting with hook from bottom of form through concrete not permitted.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes all cast-in-place concrete work shown on plans, including but not limited to:
   1. Foundations (footings and grade beams).
   2. Below grade walls.
   3. Tanks and similar structures.
   4. Columns.
   5. Interior walls at basement level.
   6. Interior slabs on grade.
   7. Bases for mechanical and electrical equipment.
   8. Concrete encasement.
   9. Grout for equipment leveling and where shown.
   10. Fill or fillet concrete for tanks and where shown.
   11. Sidewalks, driveways and pavement.

B. Related work specified elsewhere:
   1. Section 01010 - General Provisions.
   2. Section 02200 - Sitework.
   3. Section 03100 - Concrete Formwork.
   4. Section 03200 - Concrete Reinforcement.

1.02 QUALITY CRITERIA

A. Contractor must follow recommendations set forth in Chapter 4 of Environmental Engineering Concrete Structures - ACI 350R for concrete in contact with sewage or effluent or exposed to chemical attack.

1.03 STORAGE OF CEMENT AND AGGREGATES

A. Store cement in weathertight structure with floor raised not less than 1' from ground.

B. Do not use cement which has hardened or partially set; remove from site.

C. Store fine and coarse aggregate separately in manner to prevent segregation of sizes and avoid inclusion of dirt and other foreign materials.

D. Stockpile natural sand at least 24 hours before using.

1.04 DEPOSITING DURING COLD WEATHER

A. Do not place concrete without protection if temperature of surrounding air is below 40°F. and falling or if it may be subjected to freezing temperature during curing period.

B. From November 1st to May 1st, do not place concrete without protective materials readily available, on job site, in quantities sufficient to protect all concrete that has not cured for specified period. U.S. Weather Bureau predictions will be used as basis for requiring that protective measures be taken.

C. Do not use frozen materials or materials containing ice in concrete.

D. Do not place concrete over or in contact with frozen earth; forms, reinforcement and fillers must be free from frost.

E. Protection of concrete required:
   1. If temperature is expected to drop into 32°F. to 35°F. range during period:
      a. After curing membrane specified herein under PROTECTING AND CURING is installed, cover following with minimum 1" blanket insulation:
         1) Exposed surfaces of slabs on earth.
         2) Framed components (including beams and walls) formed with 1" thick wood.
         3) All metal formed items.
      b. Protect insulation with polyethylene sheets, Sisalkraft, tarpaulins, or equal.
   2. If temperature is below 35°F. when concrete is placed:
      a. Placement temperature of concrete must be 60°F. plus or minus 10°F.; methods and equipment for heating mixing water and aggregates must be agreeable to Engineer.
      b. Temperature of surrounding air must be maintained at minimum 50°F. during placement and for not less than 5 day thereafter; minimum 40°F. for next 2 days (3 days and 1 day respectively if high early strength cement is used).
      c. When heating is discontinued, lower temperatures gradually; maximum 1°F. per hour for first 24 hours; 2°F. per hour thereafter until outside temperature is reached.
   3. Any method of protection included in recommendations in Title 75-18 by ACI Committee 306 may be substituted for protection specified herein if temperature and moisture conditions recommended for type and service category of concrete being placed are maintained for recommended period of time; obtain permission of Engineer for substitute method before using.

F. Use of salts or chemicals for protection from freezing not permitted.

G. Remove and replace concrete damaged by freezing.

1.05 DEPOSITING DURING HOT WEATHER

A. Contractor must follow recommendations set forth in Hot Weather Concreting (Title 74-33 by ACI Committee 305) to minimize detrimental effects of hot weather on concrete placed on project; whenever air temperature is expected to exceed 75°F. during placement operations, Contractor must consult with Engineer concerning practices to be followed.

B. Temperature of concrete at time of deposit must be below 90°F.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Portland cement: ASTM C150, Type I or Type III. C_3A (Tricalcium aluminate) content must be less than 8% for concrete in direct contact with sewage or effluent or exposed to chemical attack.

B. Portland pozzolan cement: ASTM C595, Type IP or IP-A; pozzolan content must not exceed 25% by weight.

C. Fine aggregate:
   1. Meet requirements of ASTM C33, except where more rigid requirements are included herein.
   2. Gradation within requirements of ASTM C33, Par. 3; sieve analysis of aggregate must accompany mix design when submitted to Engineer for review.
   3. Natural sand:
      a. Clean, hard, strong, durable, uncoated grains.
      b. Coal and Lignite: 1.0%.
      c. Prove acceptability of aggregate by laboratory test conducted and certified by laboratory acceptable to Engineer on samples taken in accordance with ASTM C75.

D. Coarse aggregate:
   1. Meet requirements of ASTM C33, except where more rigid requirements are included herein.
   2. Clean, hard, strong, durable uncoated pieces.
   3. Gradation within requirements of ASTM C33, Table II:
      a. #467 or #57, 1-1/2" or 1" to No. 4, for footings and plain concrete.
      b. #57, 1" to No. 4, for slabs on grade and reinforced walls.

c. #57 or #67, 1" or 3/4" to No. 4, for slabs, beams, girders, columns, fillet and fill concrete.
d. #7, 1/2" to No. 4, for fill over steel stair treads and landings.

4. Limitation of deleterious substances:
   a. Clay lumps and friable particles: maximum 1.0%.
   b. Soft particles: maximum 2.0%.
   c. Coal and Lignite: maximum 0.25%.
5. Crushed limestone: meet IDOT specifications 4115.03 for abrasion and 4115.04 for Class 2 or 3 durability; not more than 1.0% of clay lumps and friable particles, 2.0% of soft particles and 0.25% of coal and lignite allowed; prove acceptability by submission of certified laboratory test report.

E. Admixtures:
1. Air-entraining agents: ASTM C260.
2. Water reducing agents: ASTM C494, Type A.
3. Retarding agents: ASTM C494, Type B.
4. Accelerating agents: ASTM C494, Type C.
5. Water reducing and retarding agents: ASTM C494, Type D.
6. Water reducing and accelerating agents: ASTM C494, Type E.
7. High range water reducing agents: ASTM C494, Type F.
8. High range water reducing and retarding agents: ASTM C494, Type G.
9. Fly ash and GGBFS: IDOT Section 4108. Fly ash to be Class C.
10. Shrinkage reducing admixture: ASTM C157; W.R. Grace, or equal.
11. Synthetic fibers: high volume monofilament polypropylene/polyethylene blend; 1-1/2" to 2" length; 78 ksi fiber tensile strength; minimum 1,300 ksi modules of elasticity; ASTM C1116; dosage rate 3.5 lbs./CY of concrete.

F. Water: clean and free from injurious amounts of oil, alkalies, acids, or organic matter.

G. Metal crack control joint: Heckmann No. 98, or equal.

H. Dowels:
1. ASTM A15; 1'-6" long, smooth round steel rods: diameter as shown on drawings.
2. Where preformed filler is required, completely coat one end with heavy grease and cover with expansion cap.

I. Preformed expansion or isolation joint filler:
1. Self-expanding cork, ASTM D1752, Type III.
2. 1/2" thick, unless otherwise shown on drawings.

J. Joint sealer:
   1. Thickol sealer: FS TT-S-00227E (two part) or FS TT-S-00230C (one part), Type I (self-leveling), Class B (resistant to 25% total movement), based on liquid polysulfide polymers.
   2. Pour-type urethane sealant: Sonneborn Sonolastic Paving Joint Sealant (two parts), or Sonomeric CT (one part), or equal.

K. Backing rod: round polyethylene rod; Dow Chemical Co., Ethafoam rod, or equal.

L. Waterstops:
   1. Polyvinylchloride with following characteristics when tested in accordance with ASTM test method listed:

Specific Gravity	1.32 plus or minus 0.05	ASTM D792
Hardness	76 plus or minus 3	ASTM D2240
Tensile Strength	2250 psi (minimum)	ASTM D638
Elongation	350% (minimum)	ASTM D638
Cold Brittleness	-35°F. or lower	ASTM D476

   2. Design: 6", ribbed with corrugations and center bulb, except where shown otherwise; Greenstreak Type 705, or equal.
   3. Expansive waterstop may be used for vertical construction joints and where shown on drawings; Volclay Waterstop-RX, Greenstreak Hydrotite, or equal.

M. Liquid applied curing and sealing compounds:
   1. For interior surfaces, except where floor hardness is specified: West Concrete Floor Sealer (West Chemical Products, Inc.), Kure-N-Seal (Sonneborn-Contech), L & M Cure (L & M Construction Chemicals, Inc.), or equal; do not use Kure-N-Seal on floors that will be subjected to petroleum drips and spills, such as motor vehicle traffic or parking.

N. Liquid applied floor hardener; fluosilicate based material; Sonneborn Lapidolith, A.C. Horn Hornolith, L & M Fluohard, or equal.

O. Abrasive aggregate:
   1. Silicon carbide or aluminum oxide.
   2. Any manufacturer's gradation which falls in range of 12 to 36 grit is acceptable.

P. Grout: ASTM C1107 Class B or C; mix according to recommendations of manufacturer; strength: not less than that of adjacent concrete; L&M Crystex, Master Builders Masterflow 928, or equal.

Q. Use Dur-O-Wall heavy duty trusses, or equal, for vertical trusses; use single truss full height and width according to wall thickness.

R. Bond Breaker
   1. Bond breaker tape shall be an adhesive-backed glazed butyl or polyethylene tape which will satisfactorily adhere to the premolded joint filler or concrete

surface as required. The tape shall be the same width as the joint unless otherwise noted.

2. Except where tape is specifically called for on the drawings, bond breaker for concrete shall be either bond breaker tape or a non-staining type bond prevention coating such as Williams Tilt-up Compound by Williams Distributors Inc.; Silcoseal 2000F, by SCA Construction Supply Division, Superior Concrete Accessories or equal.

S. Bonding Agent
   1. Epoxy bonding agent shall be a two-component, solvent-free, moisture insensitive, epoxy resin material conforming to ASTM C881 (1999), Type V. The bonding agent shall be Sikadur 32 Hi-Mod by Sika Corporation of Lyndhurst, NJ; Concresive Liquid (LPL) by Master Builders of Cleveland, OH or equal.
   2. Latex bonding agent shall be a non-reemulsifiable acrylic-polymer latex conforming to ASTM C1059, Type II.

2.02 QUALITY AND DESIGN OF MIXES

A. Design compressive strength:
   1. Pipe encasement, fill and fillet (Class B) concrete: 2,500 psi.
   2. All other (Class A) concrete: 4,000 psi.
   3. Maximum water to cement ratio 0.45 for concrete exposed to sewage, effluent or subject to chemical attack; maximum water to cement ratio 0.40 for concrete containing shrinkage reducing admixture.

B. Design of mix:
   1. Overdesign mixes in accordance with plant coefficient of variation. Overdesign must assure less than 1 chance in 10 that test will fall below design compressive strength and that 99 chances out of 100 no test will fall below 90% of design compressive strength.
   2. Complete design in advance of first placement; any existing mix design may be used if made or checked within previous six months by approved testing laboratory using aggregates from same source and same gradation as those used on this project.
   3. Comply with ACI 211.1 Recommended Practice for Selecting Proportions for Normal Weight Concrete and recommendations set forth in Chapter 3 of Environmental Engineering Concrete Structures - ACI 350R for concrete in contact with sewage or effluent or exposed to chemical attack.
   4. Slump:
      a. Footings and substructure walls: 3" plus or minus 1".
      b. Beams, columns, slabs and reinforced walls: 3" plus or minus 1".
      c. Heavy mass construction: 2" plus or minus 1".
   5. Submit mix design to Engineer for agreement before any concrete is placed; include design which contains fly ash or Pozzolan based admix and design which contains retarding type water reducing admix, with appropriate slump adjustments, if need is indicated.

6. Assign number to each mix design for future reference.

C. Admixtures:
   1. Air entraining agent:
      a. Add at mixer for all concrete.
      b. Concrete must contain 5.0% plus or minus 1.0% air by volume if maximum aggregate size is 1-1/2"; 6.0% plus or minus 1.0% if maximum aggregate size is 3/4" or 1", 7.0% plus or minus 1% if concrete contains shrinkage reducing admixture.
   2. Do not use calcium chloride or other salts as antifreeze or to accelerate set.
   3. Cement dispersing agent or concrete densifiers (water reducing and high range water reducing agents):
      a. Recommended to improve workability and control rate of hardening for controlling uniformity under varying temperature and weather conditions.
      b. Add water reducing and retarding type to mix if air temperature is above 80°F. and freshly placed concrete will be exposed to sun and/or hot drying wind.
      c. Fly ash or Pozzolan based admixture recommended for exposed interior finish concrete, including slabs on grade and floor fill.
      d. Fly ash or pozzolan based admixture required when using high range water reducing agents.
      e. Do no use melamine-based high range water reducing agents if concrete is exposed to freeze-thaw cycles.
      f. Do not use high range water reducing agents in beams, joists or elevated slabs.
      g. Use in accordance with manufacturer's recommendations.
   4. Synthetic fibers may be used in place of welded wire fabric where shown on plans.
   5. Shrinkage reducing admixtures may be used at Contractor's option.

2.03 BATCHING AND MIXING

A. Operations, equipment and location of facilities subject to approval of Engineer.

B. Measuring of materials:
   1. By weight such that proportions can be accurately controlled and easily checked.
   2. Weigh ingredients separately.
   3. Weigh cement for each batch if fractional sacks or bulk cement is used.
   4. Water measurement to 1 pint plus or minus for total per batch.

C. Mix one cubic yard batch for at least 1-1/2 minutes after all materials are in mixer; increase time by 15 seconds for each additional cubic yard or fraction thereof.

D. Ready-mixed concrete: comply with ASTM C94.

2.04 QUALITY CONTROL

A. Slump tests:
   1. Make test in accordance with ASTM C143 on sample taken in accordance with ASTM C172.
   2. Tests required:
      a. First load each day.
      b. Whenever other tests are being made.
      c. After any change in mix.
      d. When directed by Engineer.

B. Temperature tests:
   1. Required whenever outside temperature is within 10°F. of limiting temperatures specified herein under DEPOSITING DURING HOT (or COLD) WEATHER.
   2. Make tests at same time slump tests are taken.
   3. Use armored thermometer accurate to plus or minus 2°F.
   4. Place thermometer in freshly discharged concrete and leave it in place until reading becomes stable.

C. Air content tests:
   1. By pressure method (ASTM C231) or volumetric method (ASTM C173) on samples taken in accordance with ASTM (C172).
   2. Test first load of air entrained concrete and spot check by additional test on each day that air entrained concrete in placed.

D. Compression tests:
   1. Prepare cylinders in accordance with ASTM C31.
   2. Set of 3 cylinders required for every run of 50 CY or fraction thereof.
   3. Cure cylinders under laboratory conditions and test by procedure in ASTM C39.
   4. Prepare additional cylinders and cure under job conditions if air temperature is likely to fall below 40°F.
   5. Break cylinders at 7 and 28 days.
   6. If over 1 in 10 tests of laboratory specimens fall below design compressive strength specified, check design of mix and make necessary corrections before additional concrete is placed.
   7. When test specimens break below strength specified, Contractor may be required to test concrete affected by procedure in ASTM C42 (core tests) or load test portion of structure affected.
   8. Remove concrete not in accordance with specifications and replace without cost to Owner.

E. Record results of all test immediately in Log of Tests which must be maintained at job site; log must contain following information:
   1. Date and time test are made.
   2. Test results, if immediately available.

3. Exact location where tested concrete was placed in structure.
4. Weather conditions, including air temperature at time tests were made.
5. Plant and number of mixer truck that delivered concrete.
6. Name of person who made test.
7. Mix design number.

PART 3 - EXECUTION

3.01 PREPARATIONS FOR PLACEMENT

A. Verify with Engineer that reinforcing steel placement has been checked, and with subcontractors that wall pipes, anchor bolts, wall thimbles, pipe sleeves, drains, conduit and outlets have been placed in forms.

B. Remove foreign materials (chips, blocks, sawdust, ice and water) from forms.

C. Where placing against hardened concrete, clean contact surface thoroughly and remove all laitance, wet vertical surfaces and slush with neat cement grout just prior to placement of new concrete.

3.02 WATERSTOPS

A. PVC Waterstops
   1. Install PVC waterstops for all joints where waterstops are indicated on the drawings, unless specifically noted otherwise. Waterstops shall be continuous around all corners and intersections so that a continuous seal is provided. Splices shall be made by welding.
   2. PVC splices shall be made by welding in accordance with the manufacturer's recommendations, subject to acceptance of the Engineer. Only manufacturer's special approved tools shall be used for welding. The finished splices shall provide a cross-section that is dense and free of porosity.
   3. Each piece of the waterstop shall be of maximum practicable length to provide a minimum number of splices.
   4. To properly secure PVC waterstops in wall joints before concrete is placed, drill holes in waterstops approximately 1" from each edge or between the outermost ribs at each edge and center the waterstop in the joint. Tie both edges of the waterstop and fasten to reinforcing steel with black annealed steel tie wire as specified for tying reinforcing steel and secure in place so that the waterstop will be perpendicular to the joint and remain in the required position during concrete placement. The spacing of the waterstop ties shall match the spacing of the adjacent reinforcing, but need not be spaced closer than 12" on center.
   5. Horizontal waterstops in slabs shall be clamped in position by the bulkhead (unless previously set in concrete).
   6. Horizontal PVC waterstops in slabs shall have the edge of the waterstop lifted while placing concrete below the waterstop. Then the waterstop shall be

manually forced against and into the placed concrete and covered with fresh concrete, to ensure adequate encasement of the waterstop in concrete.

7. Waterstops shall be installed so that half of the width will be embedded on each side of the joint. Care shall be exercised to ensure that the waterstop is completely embedded in void-free concrete.
8. Waterstops shall be terminated 3" below the exposed top of walls. Expansion joint waterstop center bulbs shall be plugged with foam rubber, 1" deep, at point of termination.

B. Expansive Waterstops
   1. Install waterstops at joints where specifically noted on the drawings. Waterstops shall be continuous around all corners and intersections so that a continuous seal is provided.
   2. Each piece of the waterstop shall be of maximum practicable length to provide a minimum number of connections or splices. Connections and splices shall conform to the manufacturer's recommendations and as specified herein.
   3. Waterstops shall be terminated 3" below the exposed top of walls.
   4. Prepare the joint surfaces, install primers or adhesives, and install expansive waterstops in accordance with the manufacturer' instructions.

3.03 PLACING CONCRETE

A. Notify Engineer 1 day before each placement.

B. Do not add water to concrete between mixing and placing operations without specific agreement of Engineer and continuous inspection acceptable to Engineer; under no circumstances may added water cause concrete to slump greater than that established in design mix; verify with slump tests; maintain uniform consistency.

C. Conveying:
   1. Method must ensure uniform concrete at forms with minimum slump loss.
   2. Chutes must be steep enough to permit concrete of design consistency to flow to point of deposit or other means of conveying must be used.

D. Fill forms completely in one operation.

E. During placement operations, work concrete around reinforcement, embedded fixtures, and into corners of forms; thoroughly compact and exercise particular care to prevent surface voids and honeycomb on exposed surfaces.

F. Placement in deep narrow forms other than column forms:
   1. Discharge into hopper feeding into drop chute if free fall will be more than 3'.
   2. Drop vertical; do not push or pull bottom of chute from vertical position to distribute concrete; move chute.
   3. For concrete exposed, the following applies:

a. Place in maximum 20" deep layers and consolidate each layer with preceding layer before starting placement of next layer.
b. Do not allow concrete to flow laterally for more than 3'; move chute or place sufficient number of chutes in forms to assure top of concrete is kept level.
c. If placement rate is faster than 2' per hour, reduce slump proportionally as each 1/4 of form depth is filled so slump of top 1/4 will not exceed 3".
d. If plasticized concrete is used, the maximum lift thickness may be increased to 7' and the maximum free fall of concrete shall not exceed 15'; subparagraphs "b." and "c." above do not apply.

G. Place beams, girders, brackets, column caps and haunches integrally with floor system.

H. Allow minimum 2 hours after deposit of columns or walls before depositing beams, girders or slabs supported thereon.

I. Vibration of concrete:
1. Use internal type vibrator; insert and withdraw slowly.
2. Insert vibrator vertically to full depth of layer being placed, at regular intervals (18" to 30").
3. Do not use vibrator to cause concrete to flow from one location to another.
4. Avoid segregation in concrete due to over vibration.
5. Do not allow vibrator to come in contact with formwork surfaces for exposed concrete.

J. Stop placement only where directed, at point of no shear, and erect tight, plumb dams through forms.

3.04 JOINTS

A. Key construction joints; where reinforcing is interrupted, dowel joints; size and number of dowels as shown on drawings.

B. Place construction joints through framed slabs on center of span unless otherwise shown on drawings or approved by Engineer.

C. Wall construction joints must form symmetrical pattern on exposed surfaces, unless otherwise shown on drawings

D. Vertical construction joints are allowed at quarter points in walls; lap reinforcing steel as specified; install keyway and waterstop; submit location of proposed vertical construction joints prior to construction for Engineer's review.

E. Hold top of expansion or isolation joint filler maximum 1/2" below surface for joint sealer at exposed joints.

F. Control joints in slabs on grade:
   1. Saw cut joints to depth of 1/4 of slab thickness, unless otherwise specified; make cut not less than 8 hours or more than 24 hours after slab is placed.
   2. In lieu of saw cutting joint, Contractor may place metal crack control joint.
   3. Stop every other bar at joint.

G. Dowels:
   1. For expansion joints.
   2. Install in center of slab or at third points as shown on drawings, parallel to surface and perpendicular to joint.
   3. Completely coat one end with heavy grease at joints where preformed filler is required; expansion cap required over greased end of dowel.

H. Where applied floor coverings are scheduled, fill saw cut joints in interior slabs with dry mix of 1:9 cement and sand.

I. Fill all other interior saw cut joints, expansion and isolation joints with Thickol joint sealer in accordance with manufacturer's directions; prime edges of joint if recommended by manufacturer.

J. Waterstops:
   1. Required where shown on drawings and at joints subject to hydrostatic pressure.
   2. Heat splice joints in accordance with manufacturer's specifications.
   3. Install as detailed on drawings; wire to reinforcing.

3.05 FINISH ON FORMED SURFACES

A. Uniform finish required on exposed concrete surfaces.

B. Texture on formed surfaces must be indicative of form material used, except for following limitations and requirements:
   1. Small isolated air bubbles will be allowed.
   2. Width and projection of form marks on exposed concrete must not be greater than 1/16", except no projections allowed on inside channel or conduit walls and slabs; grind off projections as required.

C. Finish exposed top surface of formed members as closely as possible to finish on formed surfaces.

D. Repair defective concrete and damaged areas as follows:
   1. Cut back to solid concrete all weak concrete around holes and at honeycomb.
   2. Thoroughly wet area to be repaired and brush coat with neat cement grout.
   3. Fill large voids with cement mortar composed of 1 part cement, 2 parts fine aggregate and water; place in compacted layers to finish flush with adjacent surfaces.

4. On exposed concrete:
    a. Remove excess grout, after it is partially set, by working with float and rubbing with burlap; leave no visible filler or grout.
    b. Patched areas must match adjacent surface.

E. Where form ties are used, fill cutback holes as specified above for repairing defective concrete.

F. Smooth form finish all exposed concrete surfaces, completely remove fins.

G. Rough-Form Finish
1. No additional finishing is required.

H. Rubbed Finish
1. While the wall is still damp apply a thin coat of medium consistency neat cement slurry by means of bristle brushes to provide a bonding coat within all pits, air holes or blemishes in the parent concrete. Avoid coating large areas with the slurry at one time.
2. Before the slurry has dried or changed color, apply a dry (almost crumbly) grout proportioned by volume and consisting of 1 part cement to 1-1/2 parts of clean masonry sand having a fineness modulus of approximately 2.3 and complying with the gradation requirements of ASTM C33 for such a material. Grout shall be uniformly applied by means of damp pads of coarse burlap approximately 6" square used as a float. Scrub grout into the pits and air holes to provide a dense mortar in all imperfections.
3. Allow the mortar to partially harden for 1 or 2 hours depending upon the weather. If the air is hot and dry, keep the wall damp during this period using a fine, fog spray. When the grout has hardened sufficiently so it can be scraped from the surface with the edge of a steel trowel without damaging the grout in the small pits or holes, cut off all that can be removed with a trowel. (Note: Grout allowed to remain on the wall too long will harden and will be difficult to remove.)
4. Allow the surface to dry thoroughly and rub it vigorously with clean dry burlap to completely remove any dried grout. No visible film of grout shall remain after this rubbing. The entire cleaning operation for any area must be completed the day it is started. Do not leave grout on surfaces overnight. Allow sufficient time for grout to dry after it has been cutoff with the trowel so it can be wiped off clean with the burlap.
5. On the day following the repair of pits, air holes and blemishes, the walls shall again be wiped off clean with dry, used pieces of burlap containing old hardened mortar which will act as a mild abrasive. After this treatment, there shall be no built-up film remaining on the parent surface. If, however, such a film is present, a fine abrasive stone shall be used to remove all such material without breaking through the surface film of the original concrete. Such scrubbing shall be light and sufficient only to remove excess material without changing the texture of the concrete.

6. A thorough wash-down with stiff bristle brushes shall follow the final bagging or stoning operation. No extraneous materials shall remain on the surface of the wall. The wall shall be sprayed with a fine fog spray periodically to maintain a continually damp condition for at least 3 days after the application of the repair grout.

3.06 PROTECTING AND CURING

A. Protect exposed surfaces from premature drying.

B. Protect freshly placed concrete against wash by rain.

C. Keep concrete continuously wet for 7 consecutive days after placement, including weekends and holidays (3 days if Type III Portland cement is used); alternate cycles of wetting and drying not permitted; exercise special care when surrounding air is heated during cold weather operations.

D. Approved methods of curing:
   1. Cover with fabric mats and keep wet during curing period.
   2. Cover with waterproof paper which meets requirements of ASTM C171.
   3. Cover with clear or white polyethylene sheets, 0.004" thick; lap edges minimum 4" and seal with tape.
   4. Seal with liquid applied curing and sealing compound applied in accordance with manufacturer's directions; do not apply compound on construction joints. Paragraph 3.06 C. above does not apply.
   5. Do not use Methods 1 and 4 in unheated areas during cold weather operations if exposed concrete is protected with blanket insulation.

E. Vertical surfaces:
   1. Wood forms, kept wet, and metal forms provide satisfactory curing; cure exposed top surfaces as specified above.
   2. When forms are removed before end of curing period, exposed concrete must be cured by one of first three approved methods included under Item D.

3.07 INTERIOR SLABS ON GRADE

A. Thickness as shown on drawings.

B. Place over vapor barrier as specified in Section 07110; 6" minimum well graded and compacted granular sand leveling course under membrane.

C. Isolation joint where shown on drawings and as specified herein under JOINTS.

D. Unless otherwise shown, place exposed slab either:
   1. In strips, maximum 15' wide with control joints centered on columns and saw across strips, as specified herein, under JOINTS, at maximum 15' spacings on column centers.
   2. Place alternate panels checkerboard with control joints on column centers in each direction and maximum 15' oc.

E. Finish as specified herein under FLATWORK FINISHING.

F. Note requirements for drains and process equipment.

3.08 SURFACE COURSES

A. Remove all debris and sweep cured slab base with heavy wire broom; dry brush to remove dust; wash and keep slab wet for 12 hours prior to placement of fill.

B. Remove any excess water 15 to 30 min. prior to placement of surface course.

C. Finish as specified herein under FLATWORK FINISHING.

3.09 FLATWORK FINISHING

A. Screed and float.

B. After floating, check surface with straight edge and eliminate high and low spots; interior slab must be level or flat within 1/4" in 10'; 3/8" in 20'; 3/4" in 40', and drain to floor drains; remove and replace any concrete slabs not meeting these requirements; replacement limits determined by extent of deficiencies and by structural considerations.

C. Do not use dust coat and add no water.

D. Trowel interior slabs, surface courses and concrete fillets not otherwise specified to smooth, polished surface:
   1. Delay troweling until concrete has hardened sufficiently to prevent excess fines form working to surface; avoid excessive troweling.
   2. After topping has set to ring trowel, trowel second time to produce burnished finish.

E. Fine float finish structural slabs over which waterproofing will be placed; floors in rooms, with vehicular access, steps and platforms.

F. Non-slip floor surfaces:
   1. Required for concrete fill of steel stairs and where shown on drawings.

2. After concrete floor surfaces have been floated and troweled, but while still plastic, sprinkle abrasive aggregate evenly onto the surface and work it into the surface during finishing so that the grains are securely imbedded in the concrete at the surface. Application rate 25 to 40 lbs./100 SF as recommended by the manufacturer.

G. Liquid floor hardener:
   1. Required for interior floors not scheduled to receive floor coverings or other floor systems.
   2. Do not use curing compounds for curing these slabs.
   3. Apply in 3 coats to thoroughly cured floor over clean dry surface in accordance with manufacturer's directions.
   4. Dilute with water, as recommended by manufacturer, for heavy duty dense floors.
   5. Unless otherwise recommended on directions furnished with material, dilute fluosilicate based liquid applied hardener (parts by volume) as follows:

Coat	Water	Hardener
First	3	1
Second 2	1	
Third	1	1

3.10 EQUIPMENT BASES

A. Furnish bases for all mechanical and electrical equipment where shown on drawings or specified.

B. Where required, anchor bolts and template to ensure proper location must be furnished by subcontractor concerned.

C. Finish as specified herein under FLATWORK FINISHING.

D. Grout under base of equipment; pack grout to completely fill voids.

3.11 SEALING EXTERIOR SLABS

A. Required for exterior slabs placed between September 15 and May 1 which may be subjected to deicing agents.

B. After specified curing, seal slabs as follows:
   1. First coat 1/2 boiled linseed oil and 1/2 mineral spirits applied at rate of approximately 450 SF per gallon.
   2. After first coat has dried, apply second coat of uncut boiled linseed oil at rate of approximately 540 SF per gallon.

3.12 SCHEDULE OF FINISHES

A. Concrete shall be finished as specified either to remain as natural concrete to receive an additional applied finish or material under another section.

B. Concrete for the following conditions shall be finished as noted on the drawings and as further specified herein:
   1. Concrete to receive dampproofing or waterproofing: Rough-form finish.
   2. Concrete not exposed to view and not scheduled to receive an additional applied finish or material: Rough-form finish.
   3. Exterior vertical concrete above grade exposed to view: Rubbed finish.
   4. Interior vertical concrete exposed to view except in water containment areas: Rubbed finish.
   5. Vertical concrete in water containment areas. Rubbed finish on exposed surfaces and extending to 2' below normal operating water level: Rough-form finish on remainder of submerged areas.
   6. Interior and exterior underside of concrete exposed to view: Rubbed finish.
   7. Interior or exterior horizontal concrete not requiring floor hardener or sealer: Floated finish.
   8. Concrete for exterior walks, interior and exterior stairs: Broomed finish perpendicular to direction of traffic.
   9. Concrete slabs on which process liquids flow or in contact with sludge: Steel trowel finish.

END OF SECTION

SECTION 05120

STRUCTURAL STEEL

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes structural steel items shown on plans and not specified elsewhere.

B. Related work specified elsewhere:
   1. Section 03100 - Concrete Formwork.
   2. Section 03421 - Precast Concrete.
   3. Section 04200 - Unit Masonry.
   4. Section 05500 - Metal Fabrications.
   5. Section 09900 - Painting.

1.02 QUALITY CRITERIA

A. Unless otherwise shown on plans or specified, all materials, details, fabrication, and erection of structural steel on project must meet requirements of latest edition of AISC "Manual of Steel Construction - ASD".

B. Welds: conform to requirements of AWS D1.1, Structural Welding Code.

C. High strength bolted connections: conform to latest edition of AISC Specification for Structural Joints Using ASTM A325 or A490 Bolts.

1.03 SUBMITTALS

A. Submit complete shop drawings, checked by fabricator and Contractor.

B. Clearly show fabrication tolerances.

C. Erection plan must include placement dimensions of all cast-in-anchorage; include required tolerances.

D. On erection plans, include schedule of field welding together with appropriate details for field use.

E. Prepare field connection details along lines indicated on plans and submit to Engineer for approval.

F. See Section 01300 - Submittals for additional requirements.

1.04 STORAGE OF MATERIALS

A. Store structural steel members above ground on platforms, skids or other supports and protect from weather.

B. Store other materials in weathertight dry place; packaged materials in original unbroken package or container.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Steel shapes, bars and plates: ASTM A36.

B. Pipe columns: ASTM A53.

C. Electrodes for welding:
   1. Conform to latest edition of Specifications for Mild Steel Covered Arc Welding Electrodes (AWS-A5.1) or Specifications for Low Alloy Steel Covered Arc Welding Electrodes (AWS-A5.5).
   2. E70XX series suitable for type of current, polarity, position and other conditions of use.

D. High strength bolts and nuts: ASTM A325 bolts with ASTM A325 nuts and washers.

E. Anchorage inserts: furnish all inserts cast into concrete of built into masonry and complete information and/or templates for proper location.

2.02 FABRICATION

A. Shop weld connections, unless otherwise noted.
   1. Weld bead must be flush or slightly above surface of adjacent components.
   2. Welds exposed in finished structure must be neat, uniform, and free of cracks, undercut, overlay, surface holes or slag inclusion and with exposed face reasonably smooth (uniform ripples permitted); finishing or grinding will not be required except where necessary for clearance or fit with other items.

B. Bolted connections for locations where noted.

2.03 SHOP FINISHES

A. Clean surfaces free of scale, rust or foreign matter before applying primer.
   1. Sand blast all exposed surfaces in completed building to completely remove mill scale.
   2. If paint failure occurs due to improper cleaning, strip all paint from member, properly clean and repaint at no additional cost to Owner.

B. Items exposed to weather conditions including lintels: galvanized coating; ASTM A123; minimum 4.0 mils thick.

C. Do not paint items encased in concrete or contact surfaces for field welding.

PART 3 - EXECUTION

3.01 ERECTION

A. Erect individual members so that deviation from plumb, level and alignment does not exceed 1 to 500.

B. Unless specifically shown in plans or specified otherwise, field connections may be welded or bolted with 3/4" A325 bolts.

C. Perform all welding by Gas Shielded Metal-Arc Welding Method in manner to avoid warping or buckling of component parts and assemblies.

D. Grout setting plates with nonshrink dry grout; Embeco, Five Star, or equal.

END OF SECTION

SECTION 05500

METAL FABRICATIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes fabricated metal items as specified hereinafter and miscellaneous metal shapes and plates not specified elsewhere, but shown on plans.

B. Installation of anchorage accessories specified under following sections:
   1. Section 03100 - Concrete Formwork.
   2. Section 03421 - Precast Concrete.
   3. Section 04200 - Unit Masonry.

C. Related work specified elsewhere:
   1. Section 03300 - Cast-in-Place Concrete.
   2. Section 05120 - Structural Steel.
   3. Section 09900 - Painting.

1.02 SUBMITTALS

A. Submit complete shop and erection drawings:
   1. Clearly show fabrication and installation tolerances.
   2. Prepare field connection details along lines indicated and/or specified.
   3. Design basis, if any.
   4. Clearly show all materials (including ASTM numbers), dimensions, details, anchorage inserts, fasteners, weights, painting or coatings and similar details.

B. See Section 01300 - Submittals for additional requirements.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Mild steel: 0.15 - 0.25% carbon content, free from scale and accurate to size or gauge.

B. Structural steel shapes, plates and bars: ASTM A36.

C. Reinforcing steel rods: ASTM A615, Grade 40 or 60.

D. Galvanizing: hot-dip, ASTM A385, ASTM A384, ASTM A153, ASTM A386, ASTM E376 and ASTM A123, minimum 4 mil thickness unless noted otherwise.

E. Aluminum-alloy extruded bars, rods, shapes and tubes: ASTM B221, alloy 6061-T6 or 6063-T6.

F. Aluminum-alloy shapes: ASTM B308, alloy 6061-T6 or 6063-T6.

G. Aluminum-alloy sheet and plate: ASTM B209, alloy 6061-T6 or 6063-T6.

H. Aluminum-alloy structural pipe and tube: ASTM B429, alloy 6061-T6 or 6063-T6.

I. Aluminum-alloy seamless extruded tubing: ASTM B241, alloy 6061-T6 or 6063-T6.

J. Cast aluminum fittings: ASTM B26, alloy 214.

K. Forged aluminum fittings: ASTM B247, alloy 6061-T6 or 6063-T6.

L. Stainless steel: ASTM A167, Type 302/304 or 316 with No. 4 satin finish; castings: ASTM A296; chain: ASTM A473; bolts: ASTM F593, 300 Series; nuts: ASTM F594, 300 Series.

M. Threaded rod: Series 300 stainless steel, unless noted otherwise.

2.02 FABRICATION

A. General:
   1. Weld joints and connections unless shown otherwise on drawings.
   2. Welds must conform to requirements of AWS D1.0-69, Code for Welding in Building Construction.
   3. Exposed welds neat and uniform; finishing or grinding of welds not required unless specified or necessary for proper clearance or fit with other items.

B. Mounting brackets and reinforcing angles:
   1. Steel.
   2. Anchorage as shown on drawings.

C. Pipe hangers: aluminum or stainless steel unless noted otherwise; Elcen, or equal.

D. Tread plate: as detailed on drawings.

2.03 ANCHORS, BOLTS AND FASTENING DEVICES

A. Anchor bolt material shall be ASTM A307 unless otherwise noted.

B. Unless otherwise noted, bolts for the connection of carbon steel or iron shall be steel machine bolts; bolts for the connection of galvanized steel or iron shall be galvanized steel or stainless steel machine bolts; and bolts for the connection of aluminum or stainless steel shall be stainless steel machine bolts.

C. Unless otherwise noted, expansion anchors shall be zinc plated carbon steel wedge type anchors complete with nuts and washers. Type 316 stainless steel wedge type anchors shall be used where they will be submerged or exposed to the weather or where stainless steel wedge type anchors are required. When the length or embedment of the bolt is not noted on the Drawings, provide length sufficient to place the wedge and expansion cone portion of the bolt at least 1-in behind the concrete reinforcing steel. Expansion anchors shall be Hilti, Kwik-Bolt II; Simpson Strong-Tie Wedge-All; Powers Power-Stud or equal.

D. Compound masonry expansion anchors shall be lead expansion sleeve type anchors complete with nuts and washers. Anchors shall be precision die-cast zinc alloy with a minimum of two lead alloy expansion sleeves. When the length or embedment of the bolt is not noted on the Drawings, provide length sufficient to place the wedge and expansion sleeve portion of the bolt at least 1-in behind the concrete reinforcing steel. Expansion anchors shall be Star Expansion Industries, Star Slugin or equal.

E. Adhesive anchors shall be a two-part dual cylinder chemical resin anchoring system. Cylinders shall contain premeasured amounts of resin, cement and a hardener. Adhesive epoxy anchors shall be Hilti HIT HY 150 Max or equal.

F. Adhesive anchors, for fastening to hollow concrete block or brick, shall be a three-part stud, screen and chemical dispenser anchoring system. Adhesive cartridges shall contain premeasured amounts of resin and hardener which are mixed and deposited in a screen tube by a dispenser. Stud assemblies shall consist of an all-thread anchor rod with nut and washer. Anchors shall be Hilti, HIT C-20 System or equal.

G. Automatic end welded headed anchor studs shall be flux ended studs made from cold drawn steel, ASTM A108 Grades C-1010 through C-1020. Headed anchor studs shall be Nelson, H4L Headed Concrete Anchors or equal.

H. Machine bolts and nuts shall conform to Federal Specification FF-B-575C. Bolts and nuts shall be hexagon type. Bolts, nuts, screws, washers and related appurtenances shall be Type 316 stainless steel.

I. Toggle bolts shall be Hilti, Toggler Bolt or equal.

2.04 SHOP PAINTING

A. Clean surface of steel items free of scale, rust or foreign matter and apply one shop prime coat to all steel items per Section 09900 - Painting.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Assemble components, securely join together and attach assembly to structure; where not specifically shown, each stair attachment must adequately transfer its dead load and 100 psf live load to structure.

B. Install anchorage inserts in concrete formwork as shown on drawings.

C. Securely anchor all items plumb, square and level and in correct alignment with other work.

D. Coat aluminum surfaces in contact with concrete with bituminous paint.

END OF SECTION

SECTION 09701

FINISHED FLOOR SYSTEM

PART 1 – GENERAL

1.01 DESCRIPTION

A. Furnish necessary material, labor, and equipment required to prepare designated areas and install a non-slip finished flooring system on concrete floors.

B. Locations:
   1. Control Building.

C. Coordinate the timing for this work to be done in 2-3 phases with no other trades working in the area.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Cast-In-Place Concrete, Section 03300

B. Painting, Section 09900

1.03 QUALITY ASSURANCE

A. The finished floor coating shall be uniform in color, texture and appearance. All edges that terminate at walls, floor discontinuities and other embedded items shall be sharp, uniform and cosmetically acceptable with no thick or ragged edge. The Contractor shall work out an acceptable masking technique to ensure the acceptable finish of all edges.

B. Reference Standards:
   1. ACI 308 – Standard Practice for Curing Concrete
   2. ACI 302.1R-80 – Guide for Concrete Floor and Slab Construction
   3. United States Department of Agriculture Acceptance

C. Contractor Prequalification Requirements:
   1. Each bidder for this project shall be an "Approved Applicator" by Coating Manufacturer at the time of bid submittal with 5 years minimum experience.
   2. Each approved applicator shall have been pre-qualified in all phases of surface preparation and application of the specified floor coating system.

1.04 SUBMITTALS

A. Color to be selected by Owner.

B. Manufacturer's Literature: Descriptive data and specific recommendations for initiating, mixing, application and curing.

C. Manufacturer's Material Safety Data Sheets (MSDS) for each respective product being used.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. All materials shall be delivered in original manufacturer's sealed containers with all pertinent labels intact and legible.

B. Store materials in protected areas at a temperature between 70° F and 90° F.

C. Follow all manufacturer's specific instructions and prudent safety practices for storage and handling.

1.06 JOB CONDITIONS

A. The material, air and surface temperatures shall be in the range of 60°F to 85° F during application and cure.

B. The relative humidity in the specific location of the application shall be less than 85% and the surface temperature shall be at least 5° F above the dew point.

C. The surfaces to be coated shall have been prepared as specified in Section 3.02 "Surface Preparation".

D. Protect all adjacent surfaces not to be coated with masking and covers.

1.07 WARRANTY

A. The contractor and the manufacturer shall furnish a standard guarantee of the Finished Flooring System for a period of one year after installation. The labor and material guarantee shall include loss of bond and wear-through to the concrete substrate from normal use.

B. Not included in the warranty are damage due to structural design deficiencies including but not limited to slab cracking from lateral, vertical or rotational movement, and gouging or other damage due to other equipment, delamination caused by vapor transmission, Acts of God, or other elements beyond the scope of protection of this system nor causes not related to the system materials.

C. In case of a warranty claim, the owner will notify the manufacturer and contractor in writing within 30 days of the first appearance of problems covered under this

warranty. The owner will provide free and unencumbered access to the area during normal working hours for warranty rework. Property protection is also the owner's responsibility. Remedy is limited to direct repair of the Polyurethane Flooring System.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Tnemec Series 290 CRU Semi-gloss Polyurethane Flooring System:
   1. Prime Coat: Tnemec Series 205 Terra Tread FC (180-200 SF/gal.).
   2. Intermediate Coat: Tnemec Series 205 Terra Tread FC (180-200 SF/gal.).
   3. Topcoat: Tnemec Series 290 CRU (300-340 SF/gal.) with Series 211-212 Glass at 3-4 oz. per gallon.

2.02 MATERIAL PREPARATION

A. Mix all material in strict accordance with the manufacturer's specific instructions and procedures for the respective material being used.

PART 3 – EXECUTION

3.01 PRE-WORK INSPECTION

A. Examine all surfaces to be coated with these materials and report any conditions that adversely affect the appearance or performance of the coating systems and which cannot be put into acceptable condition by the preparatory work specified in Paragraph 3.02.

B. Do not proceed with surface preparation and application until the surface is acceptable or authorization to proceed is given by the Engineer.

C. Ensure that floor drains, proximate equipment and any other items sensitive to dust and contamination are properly and adequately masked and protected.

D. For slabs on grade to be treated, Calcium Chloride tests will be run for every 1,000 square feet prior to installation.

3.02 SURFACE PREPARATION

A. General:
   1. Initially, dislodge dirt, mortar spatter and other dry surface accumulations and contamination by scraping, brushing, sweeping, vacuuming or compressed air blow-down.
   2. Surfaces that are heavily contaminated with petroleum or other process products shall be cleaned with the appropriate degreaser, detergent or other effective

cleaner/surfactant followed by thoroughly rinsing with fresh water to remove the accumulation prior to mechanical cleaning efforts. Mechanical cleaning will not remove such deposits, but will only drive them deeper.

3. Fill all cracks, pipe penetrations, and other discontinuities with material recommended by flooring system manufacturer.
4. All concrete floor surfaces shall be visibly dry, especially in cracks and other deep surface discontinuities, prior to commencing mechanical cleaning and preparation.

B. Mechanical Surface Preparation and Cleaning:
   1. All accessible concrete floor surfaces shall be mechanically cleaned using a "BlastTrac" method or approved equivalent. All surface and embedded accumulations of paint, toppings, hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be removed leaving a bare concrete surface having a minimum profile of 30 mils and exposing the upper facades on concrete aggregate. (Reference SSPC-SP13 / NACE 6).
   2. Floor areas that are inaccessible to the cleaning machine shall be mechanically abraded to the specified degree of cleanliness, soundness and profile using vertical disc scarifiers, starwheel scarifiers, grinders, needle guns or other suitable effective equipment.
   3. Cracks in the floor 3/16" and wider, shall be routed out to a minimum ½" deep V-groove of sound concrete and filled with materials recommended by the manufacturer. Other significant surface discontinuities such as holes, pits, depressions and exposed aggregate areas shall be filled with similar materials.
   4. Allow the surface to dry or force dry with heat and circulating air to ensure that all surface, especially discontinuities, are visibly dry.
   5. All concrete floor terminations and leading edges shall be saw-cut and chiseled down to ¼ to ½" as to avoid feathered edge terminations. This includes drains, construction & expansion joints and all leading edges of concrete floor where they meet dissimilar materials.

3.03 APPLICATION

A. Floor
   1. This application shall consist of applying the Primer/Intermediate, allowing time for cure, and then applying the topcoat in the sequence and film thicknesses as specified following manufacturer's recommendations.

3.04 INSPECTION

A. Engineer to inspect and accept Primer/Intermediate coats before application of the Topcoat commences.

B. All work that is not acceptable to the Engineer or Owner must be corrected before consideration of final acceptance.

3.05 CLEAN-UP

A. Remove any material spatters and other material that is not where it should be. Remove masking and covers, taking care not to contaminate surrounding areas.

B. Repair any damage that should arise from either the application effort or from the clean-up effort.

3.06 COATING SCHEDULE

Coat	Tnemec
Primer/Sealer Coat	Series 205 60% Solids Polyamide Epoxy primer/sealer saturation at 180-200 sq. ft. per gallon. DFT of 3-5 mils.
Intermediate Coat	Tnemec Series 205 Terra Tread 60% Solids Polyamide epoxy at 180-200 sq. ft. per gallon. DFT of 3-5 mils.
Topcoats	Tnemec Series 290 CRU 67% Solids Aliphatic Polyester Polyurethane at 300-340 sq. ft. per gallon. DFT of 2-3 mils per coat. Add Series 211-212 Glass Beads at 3-4 oz. per gallon.

END OF SECTION

SECTION 09900

PAINTING

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes painting and protective coatings of exterior and interior surfaces, equipment and piping.

B. Painting, as used herein, includes application of paints, enamels, fillers, stains, varnishes, sealers, or other coatings required for use as prime, intermediate or finish coats, as specified herein under painting schedule.

C. Unless specifically specified elsewhere, following surfaces are not to be painted.
   1. Pipe, conduit and ducts in concealed spaces or buried.
   2. Stainless steel and aluminum surfaces except as noted otherwise hereinafter.
   3. Glass, vitreous enamel and chrome plated items.
   4. Brass, bronze and copper.
   5. Rubber, plastic and fiberglass.
   6. Conduit and ducts on unpainted surfaces.
   7. Concrete floors.
   8. Interior concrete channels.
   9. Exterior surfaces of precast concrete walls.
   10. Concrete except as shown in Painting Schedule.

D. Shop prime coat is specified under following sections for corresponding materials:
   1. Section 05120 - Structural Steel.
   2. Section 05500 - Metal Fabrications.

E. Factory paint or prefinish all equipment as specified herein unless specifically stated otherwise under equipment item specification.

F. Factory prefinish certain miscellaneous items as specified elsewhere or per approved manufacturer's standard; colors selected by Engineer.

G. Related work specified elsewhere: Section 13570 - Inside Process Piping.

1.02 QUALITY ASSURANCE REQUIREMENTS

A. Include following on label of containers:
   1. Name of manufacturer.
   2. Manufacturer's stock name, type and number.
   3. Color.

B. Include following on label of containers or furnish information with materials list in form that will readily relate it to material in container:
   1. Instructions for reducing, where applicable.
   2. Detailed pigment/vehicle ratios.
   3. Any special storage or application instructions.

1.03 SUBMITTALS

A. Materials List:
   1. Submit complete list of materials and painting schedule for all coats required for each type of surface; deliver no material to job site until list is reviewed by Engineer.
   2. List in form permitting identification by container labels.
   3. Note recommended dry film thickness, type system, finish and surface preparation for each coat and each system on list.
   4. With list, furnish published current price list containing all grades of each type of paint specified and produced by manufacturer.
   5. Submit complete catalog describing all painting systems and types available and proposed.

1.04 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to job site in original unopened containers with labels intact.

B. Store only acceptable materials at job site and per manufacturer's recommendations for storage conditions including temperatures.

C. When stored in structure under contract, protect floor and walls of storage area from spatter or discoloration.

D. Store in well ventilated area, away from excessive heat, sparks, flame or direct sunshine; provide safeguards to prevent fire.

1.05 ENVIRONMENTAL CONDITIONS

A. Comply with manufacturer's recommendations as to temperature, humidity and surface conditions under which coating or coating system can be applied.

B. Do not apply finish in areas where dust is being or likely to be generated.

C. Do not apply paint on exterior surface exposed to hot sun or when surface temperature exceeds 105°F.

D. Apply all finishes under adequate illumination.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General:
   1. Finish materials: product of manufacturer who maintains laboratory under direction of qualified chemist and who maintains strict quality control.
   2. Except where quality is established by definite criteria, finish materials must be best of their respective types produced by manufacturer.
   3. Coating system for each surface type: product of single manufacturer.
   4. Primer used to touch-up shop-applied prime coat: same type as shop coat.
   5. Coatings used to touch-up factory prefinished items: same type as factory's finish coating.
   6. Thinning and tinting materials: as recommended by manufacturer of material to be thinned or tinted.

B. Gloss (paint and enamel): measured on Gardner-Hunter Reflectometer using 60° Calibrated Gloss Standard, the following apply:
   1. Flat finish: 10° or less.
   2. Eggshell finish: 10° to 35°.
   3. Semi-gloss finish: 35° to 70°.
   4. Gloss finish: 65° and up.

2.02 COLORS

A. Color all coats as directed by Engineer.

B. Color prime coats to contrast at least two shades on scale of ten with substrate being primed, except for enamels.

C. Tint undercoats to approximate final color to assure uniform finish color, but with sufficient variation to distinguish between coats.

2.03 MIXING AND TINTING

A. Deliver paints and enamels ready-mixed to job site except where manufacturer recommends otherwise.

B. Job tint and mix only when acceptable to Engineer.

C. Use adequate means and take all precautions necessary to protect floor and adjacent wall surfaces during tinting and mixing operation.

PART 3 - EXECUTION

3.01 INSPECTION

A. Examine surfaces scheduled to be painted for conditions that will adversely affect execution, performance or quality of work and which cannot be corrected by normal cleaning, sanding and filling of cracks and nail holes.

B. Do not proceed with surface preparation or coating application until conditions are suitable; application of paint or other coating to surface constitute acceptance of that surface.

3.02 PREPARATION OF SURFACES

A. General:
   1. Remove foreign material and stains which will adversely affect adhesion or appearance of applied coating and make sure that surface is sufficiently dry; follow recommendations of paint manufacturer.
   2. Roughen gloss on existing painted surfaces by sanding or etching to provide proper tooth for adhesion of paint.
   3. Remove mold or mildew completely, wash surface with neutralizing solution, rinse and allow it to dry before painting.
   4. Test to determine moisture content of surface to be painted.

B. Metals:
   1. Completely remove oil and grease with solvent recommended by manufacturer and wipe dry with clean cloths.
   2. Remove mill scale, rust and defective paint down to sound surface or bare metal as recommended by paint manufacturer.
   3. Pretreat galvanized surfaces with zinc phosphate solution; Galvaprep No. 5, or equal.
   4. Wash exterior mill finish aluminum with mineral spirits or turpentine and allow to weather for month before painting; in lieu of weathering, roughen surface with steel wool.

C. Concrete:
   1. Remove dirt, loose particles, excess mortar and any film left from form oil or curing compound.
   2. Fill cracks and irregularities with portland cement grout to provide uniform surface.
   3. Test for dryness.

D. Masonry: remove foreign matter, loose particles and efflorescence.

3.03 APPLICATION

A. Do not apply initial coat until moisture content of surface is within limitations recommended by paint manufacturer.

B. Apply materials without thinning, adulteration or change unless otherwise specified, recommended by manufacturer or approved by Engineer.

C. Apply by brush, roller or spraying equipment; spray application not permitted unless adequate precautions are taken to protect all items and surfaces not intended to be coated.
   1. Spread or flow each coat smooth and even to film thickness recommended by manufacturer, without runs, sags, skips, excessive brush marks, or other defects.
   2. Keep materials free from skins or lumps and well stirred during use.
   3. Keep equipment clean, free from contaminants and suitable for finish required.

D. Comply with manufacturer's recommendations for drying time between coats; if not stated, dry for minimum 48 hours for exterior paint and minimum 24 hours for interior paint.

E. Sand and dust between coats to remove defects visible from distance of 5'; for enamel, use fine sandpaper or steel wool and clean between coats to produce an even, smooth finish unless otherwise specified.

F. Joints must present uniform appearance after painting, either completely open or completely closed.

G. Leave all parts of mouldings clean and true to detail with no undue build-up of paint in corners.

H. Make edges adjoining other materials or other colors clean and sharp with no overlapping.

I. Where colors differ between adjoining rooms or spaces and where door frames are to match wall colors, change color at doors.

J. Touch up suction or hot spots in first coat on concrete before applying second coat.

K. Final coat must have solid hiding and/or uniform appearance.

L. Where 100% polyurethane is specified, strictly follow manufacturer's specifications for surface preparation and application.

3.04 FIELD QUALITY CONTROL

A. Notify Engineer when surface preparation is complete and when each coat has been applied for inspection of work before succeeding specified coat is applied; if succeeding coat is applied without Engineer's approval, no credit will be given for applied coat and Contractor must recoat work in question.

3.05 PROTECTION AND CLEANING

A. Carefully protect adjacent work and materials.

B. Remove paint from floors, glass, or other surfaces not specified to receive paint.

C. When painting is complete, remove from premises all debris that are result of painting operations.

3.06 PAINTING SCHEDULE

A. Following general surface painting requirements and General Painting Schedule are not necessarily complete and do not limit scope of work.

B. Once proposed materials list with complete painting schedule is received, Engineer will specify specific painting systems with number of coats, dry film thicknesses and colors.

C. Exterior metals:
   1. Even if prefinished, Engineer will specify painting system and color for items specified under Section 05120 - Structural Steel, Section 05500 - Metal Fabrications and aluminum are exposed, and equipment specified under Divisions 11, 15 and 16.
   2. Prime coating:
      a. Touch-up weld burns or abrasions in shop applied prime coat.
      b. Unless specified otherwise, prime unprimed surfaces with primer recommended by manufacturer as best suited for finish type specified.
      c. Prime galvanized metal with coat of zinc dust primer (allow minimum 72 hours drying time under good drying conditions, before applying finish coats) or portland-cement-in-oil type paint (Tnemec Series 22, or equal).
      d. Prime non-anodized aluminum with coat of zinc chromate primer (minimum 23% zinc chromate).

D. Interior metals:
   1. Paint steel doors and frames, overhead structural steel door tracks and accessory items, exposed items specified under Section 05120 - Structural Steel and Section 05500 - Metal Fabrications, diffusers, grilles, panel boxes, pipes and pipe supports.

2. Painting not required for factory finished diffusers and grilles at acoustical ceilings and corrosion resistant metals (aluminum and stainless steel) except items specifically noted to be painted.
3. Prime coating:
    a. Touch-up weld burns and abrasions in shop applied prime coat.
    b. Prime items which have not been shop primed, including pipe and conduit installed by Mechanical and Electrical Subcontractors where required, with primer recommended by manufacturer as best suited for surface being primed and finish coat(s) specified.
    c. Where required for proper adhesion or to assure complete hiding by finish coat(s) specified, prime prefinished or prime coated diffusers, grilles, electric panels, switch boxes, conduit and ducts installed on or adjacent to ceilings and walls which are to be painted.
    d. Use only primers recommended by finish coat manufacturer.
4. On diffusers, grilles, panels, boxes, pipe supports, conduit and ducts apply same finish coat(s) as required for adjacent wall or ceiling surface.

E. Duct and equipment insulation covers:
1. Painting of items installed and covered by Mechanical Subcontractor.
2. One coat vinyl type primer-sealer.
3. Finish coat(s) same as adjacent wall or ceiling surface.

F. Paint pipe lines as specified in Section 13570 - Inside Process Piping under Pipe Coding Schedule.

G. Paint materials as manufactured by Tnemec, per General Painting Schedule.

GENERAL PAINTING SCHEDULE

Surface	Generic Types	Intended Use	Manufacturer's System Numbers
Exterior Metal			
All outside metal not immersed in water, e.g. castings, exposed piping, vents etc.	Epoxy-Polyamide	General [1]	Prime Coat: Tnemec Series 27WB Typoxy @ 4.0 mils D.F.T.
	Polyurethane	General	Finish Coat: Tnemec Series 1075U-(color) Endura-Shield II @ 3.0 mils D.F.T.
All outside metal immersed or in contact with wastewater and sludge, e.g. piping, gates, valves, etc.	Hydrophobic Aromatic Polyurethane	General [2]	Prime Coat: Tnemec Series 446 Perma Shield MCU @ 7.0 mils D.F.T. Finish Coat: Tnemec Series 446-(color) Perma Shield MCU @ 7.0 mils D.F.T.
Interior Metal			
All inside metal in highly corrosive environments e.g. pumps, exposed piping; beams, power and control panels, boxes, ventilators.	Epoxy-Polyamidoamine	General	Prime Coat: Tnemec Series N69-1211 Red Hi-Build Epoxoline II Primer @ 4.0 mils D.F.T.
Highly corrosive areas include: 1. Raw Sewage Pump Station 2. Return Sludge Pump Area 3. Waste Sludge Pump Area 4. Screen Building Process Room and Compactor Room			Finish Coat: Tnemec Series N69-(color) Hi-Build Epoxoline II @ 4.0 mils D.F.T.
Inside metal in areas other than highly corrosive environments: e.g. pumps, motors, shaft and guards, exposed piping; beams, panels, boxes, joists, ventilators, unit heaters, mechanical equipment, electric panels, miscellaneous equipment.	Epoxy-Polyamidoamine	General*	Prime Coat: Tnemec Series 27WB-Typoxy @ 4.0 mils D.F.T. Finish Coat: Tnemec Series N69-(color) Hi-Build Epoxoline II @ 4.0 mils D.F.T.
	Epoxy-Polyamidoamine	Machinery and Piping	Prime Coat: Tnemec Series 27WB-Typoxy @ 4.0 mils D.F.T.

			Finish Coat: Tnemec Series N69-(color) Hi-Build Epoxoline II @ 4.0 mils D.F.T.
Inside metal: Miscellaneous metals	HDP Acrylic Gloss	General	Prime Coat: Tnemec Series 27WB Typoxy @4.0 mils D.F.T. 2 Finish Coats: Tnemec Series 1028-(color) Enduratone @ 2.5 mils D.F.T. per coat.
All Others	Epoxy-Polyamidoamine	General	Prime Coat: Tnemec Series N69-(color) Hi-Build Epoxoline II @ 4.0 - 6.0 mils D.F.T. Finish Coat: Tnemec Series N69-(color) Hi-Build Epoxoline II @ 4.0 - 6.0 mils D.F.T.
Concrete			
Concrete tanks, channels and chambers. Screen Building below Operating Floor - New concrete channel floor, walls, roof. Existing channels modified including channel floor, walls, and roof.	Hybrid Epoxy Mortar Modified Polyamine Epoxy	Wet and corrosive Areas	Prime Coat: Tnemec Series 434 Perma-Shield H2S @ 1/8" D.F.T. Finish Coat: Tnemec Series 435 Perma -Glaze @ 15-20 mils D.F.T.

Interior Precast Concrete/Concrete Masonry			
Exposed precast and masonry walls in Screen Building - all rooms. Also precast ceiling where exposed in all rooms.	Epoxy-Polyamidamine	Porous Surface Primer	1254 Epoxoblock WB
		Dense Surface Primer	N69 (color) Hi-Build Epoxoline II @ 4-6 mils D.F.T.
		Finish Coat	N69 (color) Hi-Build Epoxoline II @ 4-6 mils D.F.T.
Exterior Masonry/Precast Concrete/Concrete			
None identified.	Acrylic Emulsion	Surface Primer	Tneme-crete Series 180 @ 100 sf/gal. Back roll as needed.
		Finish Coat	Tneme-crete Series 180 @ 150-200 sf/gal. Back roll as needed.

(1) Except as listed below for specified applications.
(2) An acceptable approach is to remove the factory primer following installation and field apply the prime and finish coats as specified.
*Except as listed below for specified applications.

END OF SECTION

SECTION 11000

EQUIPMENT INSTALLATION

PART 1 - GENERAL

1.01 SCOPE

A. General requirements for all process equipment specified in Division II. The Contractor is responsible for ensuring that all mechanical equipment meets the requirements of this section in addition to individual equipment specification sections.

B. Related Sections.
   1. Conditions of the contract.
   2. Division I - General Requirements.
   3. Section 09900 - Painting.
   4. Division 13 - Special Construction.
   5. Division 15 - Mechanical.
   6. Division 16 - Electrical.

C. Submittals - provide in accordance with Section 01300.

1.02 WORK INCLUDED

A. Installation and erection of all equipment specified.

B. Receiving, transporting, unloading and storing of all equipment.

C. Adjustments, lubrication and initial operation.

D. Foundations for all equipment.

E. Anchor bolts, fasteners and sleeves for all equipment.

F. Specific requirements for equipment installation is included with individual equipment specification and manufacturer's drawings and instructions.

1.03 RECEIVING, TRANSPORTING AND STORING

A. Receive all shipments of equipment at job site or local freight terminal.

B. Transport as required and unload at job site.

C. Store equipment in manner and location which will ensure complete fitness for operation; protect from rust, corrosion, weathering and vandalism.

D. Pay all demurrage or storage charges.

1.04 ASSEMBLY AND ERECTION

A. Completely assemble all equipment shipped knocked down; furnish minor items such as nuts, bolts, washers, pins and pipe fittings necessary for assembly and operation; use materials compatible with equipment.

B. Erect and install ready for operation.

C. Manufacturer of equipment to furnish stainless steel fasteners and supports unless specified otherwise.

D. Contractor to supply stainless steel fasteners and supports not supplied with equipment.

1.05 SUPPORTS AND FOUNDATIONS

A. Provide devices for supporting all equipment in accordance with recommendations of manufacturer and as shown on plans.
   1. Concrete pads for floor mounted equipment.
   2. Fabricated supports of steel sections, plates or rods for all hung equipment and bearing supports; prevent transmission of excessive forces to building structures or any piece of equipment or piping.

B. Align and level all equipment; use shims as needed.

C. Grout under all equipment on concrete foundations with non-shrink cement grout specified in Section 03300 - Cast-In-Place Concrete.

D. Contractor of equipment to supply ASTM A167 Series 300 stainless steel anchor bolts, expansion anchors, nuts and washers and templates unless specified otherwise.

1.06 PROTECTION

A. Structures:
   1. Use cribbing, shoring or planking to protect structures from damage due to construction operations.
   2. Repair any damage to structures or equipment after equipment is in place.

B. Equipment:
   1. Protect against falling objects and construction operations which might damage equipment installed before construction is completed.
   2. Provide pump and blower intakes with temporary hardware cloth screens or solid plugs; remove at direction of Engineer.
   3. All equipment to receive shop paint before shipment; see Section 09900 - Painting for additional requirements.

1.07 CLEANING

A. Clean equipment of all temporary protective coatings.

B. Remove all oil, grease and dirt from external surfaces prior to painting; see Section 09900 - Painting for additional requirements.

1.08 LUBRICATION

A. Lubricate all moving equipment parts in accordance with manufacturer's recommendations.

B. Furnish lubricants.

C. Provide and install extensions to grease connections and oil drain lines on motors, reducers, drives, or other mechanical equipment where maintenance access is not easily reached.

1.09 ADJUSTMENTS

A. Make any adjustments to equipment necessary to improve operation.

B. Check equipment clearances and adjust in accordance with recommendations of manufacturers.

C. Add or replace equipment packing, seals and similar items as required.

1.10 INITIAL OPERATION

A. Supervise initial operation of all equipment.

B. Maintain all equipment until acceptance by Owner.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

SECTION 11312

VARIABLE SPEED BOOSTER SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

A. This specification establishes the comprehensive requirements for the preparation and shipment of one (1) variable speed booster system for the pumping of gray water diverted from effluent flow to the seal water system of numerous pumps in the WPCP facility.

B. Provide complete with all accessories, special tools, spare parts, local wiring, valves, controls, mounting, anchor bolts and other appurtenances as specified and as may be required for a complete and operating installation.

C. Related work specified elsewhere:
   1. Section 05500 - Metal Fabrications.
   2. Section 09900 - Painting.
   3. Section 11000 - Equipment Installation.
   4. Division 16 - Electrical.
   5. Division 17 - Instrumentation.

D. Provide spare parts and tools as specified.

E. Manufacturer: Flowpoint Environmental Systems Triplex Pump Skid with Controls, or approved equal. Goulds Vertical Multi-Stage Pumps, or approved equal.

1.02 BASIC REQUIREMENTS

A. Furnish materials, labor and equipment necessary to complete all work specified in this section.

B. Equipment furnished subject to field testing as specified hereinafter.

C. Furnish equipment suitable for explosion hazardous locations rated for Class I, Division 1, Group D per NEC. System control panel shall be rated NEMA 4X.

D. Manufacturer to completely assemble, operate and test unit before shipment; ship knocked down, blocked and braced in least number of parts possible; submit certification to Engineer before shipment that unit has been tested.

E. Manufacturer to furnish services of factory/field service engineer for one period totaling two 8-hour working days for wash press at site to inspect installation of

unit, assist in initial system start-up, observe and/or perform field tests and to instruct Owner's personnel concerning equipment maintenance requirements and proper operation of system.

F. Submit to Engineer a written report showing manufacturer's factory/field service engineer's findings, test results and installation approval; cover all inspections and outline in detail any deficiencies noted.

G. Submittals:
   1. Shop drawings: complete fabrication and installation drawings, including layout, dimensions, component weights, details, anchorage inserts and installation information necessary to show compliance with specifications and recommended installation requirements.
   2. See Section 01300- Submittals, for additional requirements.
   3. Include:
      a. A copy of the contract drawings with addenda updates that apply to the equipment in this section marked to show specific changes necessary for the supplied equipment. If no changes are required, the drawing shall be marked "No changes required".
      b. A copy of this specification section, with addenda updates included, and all referenced and applicable sections with addendum updates included, with each paragraph marked to indicate specification compliance, or marked to indicate requested deviations from specific requirements. If deviation from the specification are indicated and therefore requested by the contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph. The remaining portions of the paragraph not underlined will signify compliance on the part of the contractor with the specifications. Provide written justification for each deviation.

H. All equipment shall be shipped to the jobsite complete. All equipment manufactured outside of the United States shall be fully assembled including the drive, controls and automatic valves and factory tested prior to delivery to the jobsite.

PART 2 - PRODUCTS

2.01 DESIGN CRITERIA

A. Furnish and install one (1) fully automatic triplex pump skid unit, complete with all accessories, in compliance with the following specifications and as shown on the drawings. If an “of equal” pump skid unit is selected, dimensions shall be approved accordingly and still meet minimum distance and maintenance requirements set out in plans and specifications.

B. Performance:

Number:	One (1) complete unit
Number of Pumps:	Three (3)
Pumps, each:	Vertical mutli-stage pump, 52 GPM, 217 ft head
Number of VFDs:	Three (3)
VFDs, each:	480VAC, 3PH, 5 HP
Inlet Pipe Size:	4-inch nominal diameter
Outlet Pipe Size:	4-inch nominal diameter
General Skid Dimensions:	46.25″ width, 56.25″ length, 60″ overall height

C. Operation:
   1. The pump skid unit shall be provided to pump gray water from the treatment stream to various pump seal water systems throughout the wastewater treatment campus.
   2. During normal flow conditions, the gray water pumps shall be operated via a programmable logic controller (PLC).
   3. Pumps shall be valved and controlled to be able to allow for independent operation and maintenance of each pump.

2.02 PUMP SKID UNIT

A. Pump skid unit shall be installed on utility pad as shown on plan set, and anchored to pad as detailed in plan set and manufacturer's recommendations.
B. Nema 4X enclosures with Single Point Disconnect, 30 amp rating
C. Ethernet TCP/IP connection included

2.03 SPARE PARTS

A. The Contractor shall furnish a one-year supply of all recommended lubricants.

B. The Contractor shall furnish the spare parts listed below, suitably packaged and labeled with the corresponding equipment number.

C. During the term of this contract, the Contractor shall notify the Engineer in writing about any manufacturer's modification of spare part numbers, interchangeabilities, or model changes. If the Engineer determines that the modified parts no longer apply to the equipment provided, the Contractor shall furnish other applicable parts at no increase in cost to the Owner.

B. The spare parts shall be identical and interchangeable with the original parts and shall be furnished in clearly identifiable and labeled containers:
   1. One set of spare fuses of each size.
   2. One set of tools for maintenance of VFD units.

2.04 SYSTEM CONTROLS

A. Provide totally integrated control system, both local and main; shall be designed and manufactured by the bar screen manufacturer; construct controls for Section 11310, Section 11312 and Section 14100 in a single main control panel as described in Section 11310.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install equipment in accordance with manufacturer's recommendations and as shown on drawings.

B. Contractor shall verify dimensions of pump skid are compatible with dimensions of installation space and clearance tolerances of pump skid and existing utilities.

C. Manufacturer's representative to inspect installation before start-up and to assist in initial system start-up as specified hereinbefore.

D. For additional requirements, see Section 01600 - Material and Equipment.

3.02 FACTORY TESTING

A. The pump skid unit shall be factory assembled and factory run tested as a complete assembly including the controls that will be supplied with the unit.

3.03 FIELD TESTS

A. Field test booster pumps after erection in presence of manufacturer's representative and Engineer to confirm and verify structural and mechanical compliance with specifications.

1. All labor, materials and test apparatus necessary for conducting the field acceptance tests shall be furnished by the Contractor at no additional cost to the Owner.

B. Submit complete test procedures to Engineer for review prior to testing; do not start testing until Engineer has reviewed test procedures.

3.04 WARRANTY

A. The manufacturer shall warrant that all of its equipment shall be free of defects caused by faulty material and/or workmanship and shall repair or replace those parts for a period of 24 months from the date of start-up.

END OF SECTION

SECTION 13570

INSIDE PROCESS PIPING

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes inside process piping and appurtenances required for complete piping systems with connections to all treatment units, equipment and controls.

B. "Inside" refers to all piping and appurtenances not buried or directly covered with earth; see Section 02610 - Buried Piping for "buried" piping.

C. This section also includes certain piping and appurtenances not shown on drawings but associated with inside piping and appurtenances.
   1. Equipment vents and drains.
   2. Piping required for proper operation of piping system equipment including drain valves at low points in piping; no additional compensation allowed for drain piping and small valves.
   3. Connections to instruments and control apparatus; include pressure gauges and other appurtenances required for satisfactory operation of piping system and proper function of instruments and controls.
   4. All flanges, unions, expansion joints, bolts, gaskets, reducing fittings, bushings, adapters, hangers and supports.
   5. Pipe end seals and spacers.

D. Certain piping, valves, controls and accessories are specified with equipment.

E. Refer to schematic diagrams for some piping and valves not detailed on drawings.

F. Refer to Section 02610 - Buried Piping for miscellaneous castings.

1.02 SUBMITTALS

A. Provide detailed drawings of all shop fabricated piping; include following information:
   1. Identify pipe service and material to be used for each.
   2. Show overall dimensions.
   3. Show location of all nozzles, taps, supporting lugs and other pipe attachments.
   4. Pipe material, wall thickness and/or schedule number, joint types and fitting types.
   5. Identification mark for each pipe section.

6. Drawings showing details of pipe hangers and supports for each pipe service including locations, materials, strength capacity, spacing, inserts and other similar information.
7. Valve types, sizes, weights, dimensions, materials, locations and pressure ratings.
8. Valve operator types, sizes, weights, dimensions, materials, electrical and/or pneumatic characteristics and special requirements.

PART 2 - PRODUCTS

2.01 PIPE MATERIALS

A. Pipe material, thickness, joints and fittings to conform with Inside Process Pipe Specification Table included hereinafter.

B. Pipe material and valves permissible for each type service to conform with Inside Process Piping Schedule shown hereinafter; where more than one pipe material is listed for particular service, Contractor must select and furnish only one pipe material for that service unless Engineer approves otherwise (galvanic action may occur if certain pipe materials are intermixed).

C. Label intended use for every pipe length and fitting supplied for construction to eliminate misuse in field.

INSIDE PROCESS PIPE SPECIFICATION TABLE

Pipe	Material	Thickness	Joints	Fittings
Stainless Steel (SS)	304L pipe per ASTM A312; 304L fittings per ASTM A403CR; temperature resistant gaskets for air piping.	Schedule 40	Grooved SS coupling, flanged or welded.	Factory grooved per ANSI/AWWA C220, flanged or welded.
Polyvinylchloride (PVC)	ASTM D1785, Type 1, Grade I	Schedule 80	Solvent cement ASTM D2647	ASTM D1785
Steel (S)	ASTM A53, seamless black, pickled	Schedule 160	Threaded, NPTF (dry seal)	ASTM A105, forged steel, 3000 psi, black, pickled, threaded to match pipe (1)

Notes: (1) Provide Worchester or Stauf ball valves, Sperry Vickers needle valves, and Deltrol air bleedoffs.

INSIDE PROCESS PIPING SCHEDULE

Service	Pipe Flow Designation	Installed Condition	Pipe Material
Drain $\leq$ 4"	D	Interior, Exterior	PVC
Non Potable Water	NPW	Interior, buried	PVC, SS, S

2.02 PIPE THROUGH WALLS AND SLABS

A. Provide embedded wall flange on steel and iron pipe passing through concrete walls and slabs; fabricate wall pipes to dimensions required; place embedded wall flange in center of wall or slab; Clow Corp.; U.S. Pipe, or equal.

B. Provide special concrete wall and floor slab sleeve for pipe as detailed on drawings; continuous, synthetic rubber link seal to fill void between pipe and sleeve (or core drilled hole) as manufactured by Thunderline Corp., or equal; install per manufacturer's recommendations; use double seal where shown on drawings.

2.03 PIPE HANGERS AND SUPPORTS

A. Design of hangers and supports along with anchoring are the responsibility of the Contractor. Minimums are established herein and any information on the service or application will be made available. Details on the plans are minimum requirements and need to be developed by the Contractor.

B. Install hangers and supports as required to support piping shown on drawings; conform to American Standard Code for Pressure Piping, ANSI B31.1, Federal Specification WW-H-171, and the piping manufacturer's recommendations.

C. Provide galvanized steel or stainless auxiliary structural steel members, other than building structural steel, required for supporting or anchoring piping and accessories, except where specifically noted otherwise on drawings. Pipe support material shall match pipe material as approved by Engineer.

D. Drill holes, provide bolting material and inserts as required to fasten auxiliary structural members to building work; welding not allowed.

E. Provide corrosion resistant anchors, rollers and special supports as required to securely anchor and guide piping; prevent transmission of excessive forces to building structure or to any piece of equipment or piping.

F. Arrange and locate anchors, rollers and guides, not detailed; subject to acceptance of Engineer.

G. Provide compatible materials to prevent galvanic and corrosive action between pipe and hanger or support.

H. Brace piping system to withstand all loads caused by surge, water hammer or shock.

I. Hang and support all pipe in strict accordance with pipe and pipe hanger and support manufacturer's recommendations and as acceptable to Engineer; submit complete details of proposed hanger and support systems before fabrication;

provide continuous support of horizontal PVC pipe using galvanized steel angles or channels or individual hangers at spacing approved by Engineer.

J. Prefabricated pipe hangers and supports: Unistrut Corp.; Elcen Metal Products Co.; Grinnell Co., Inc., or equal; corrosion resistant materials.

K. General location and type shown on drawings, only for major pipe hangers and supports.

L. Refer to Section 05500 - Metal Fabrications for general material specifications.

2.04 MECHANICAL SLEEVE COUPLINGS

A. Dresser Style 38; Smith-Blair Style 411, or equal.

B. Use where shown on drawings and where permitted by Engineer.

2.05 UNIONS

A. Provide unions as required for installation and removal of equipment, where shown on drawings and as directed by Engineer.

B. Use 150 lb., malleable iron, ground joint with brass to iron seats and screwed ends for all metallic piping smaller than 2", except stainless steel.
   1. Use threaded unions with socket pipe connections for plastic piping.
   2. Use threaded stainless steel unions with welded pipe connections for stainless steel piping smaller than 2".

C. Use flanges or mechanical couplings in lieu of unions for all piping 2" and larger.

2.06 PIPE CASING END SEALS AND SPACERS

A. Use manufactured casing spacers to position water pipe in casing; wood skids shall not be used.

B. Casing spacers shall meet the following material requirements:

a. HDPE Band/Panel and Riser: ASTM D 638
b. Stainless steel or carbon steel band/panel and Riser: Type 304 stainless steel according to ASTM A 240 or carbon steel according to ASTM A 36
    i. Liner: Elastomeric PVC per ASTM D 149
    ii. Spacer Skid/Runner: Abrasion resistant polymer with a low coefficient of friction
    iii. Fasteners: Type 304 (18-8) stainless steel per ASTM A 193.

C. Casing end seals shall be manufactured for above grade application and rated for installation in fire prone areas.

D. Provide casing end seals GPT Model FW, or equal.

2.07 VALVES IN GENERAL

A. Valve types: conform with diagrams shown on drawings.

B. Use valves of single manufacturer for project insofar as possible.

C. Provide all special tools required for packing and disassembling valves.

D. Laying dimensions of flanged valves in accordance with ANSI B16.10.

E. Flanges: ANSI B16.1, 125 lbs. template.

F. Valves designed specifically for service intended.

G. Test valves as specified hereinafter.

2.08 BALL VALVES

A. Polyvinylchloride (PVC) ball valves; 4" and smaller on PVC piping only.
    1. Use PVC valves and pipe of same manufacturer to ensure system compatibility.
    2. Type 1, Grade 1 PVC per ASTM D1784.
    3. Viton O-ring seals; Teflon seats; 150 psig design cold water working pressure.
    4. Double true union type with double block design.
    5. R.&G. Sloane, or equal.

B. Metal ball valves; for metal piping only.
    1. Type 316 stainless steel ball and stem.
    2. Bronze glands and silicone bronze body bolts.
    3. Bronze or weldex handle with plastic covered grip.
    4. Glass-filled TFE seat, body seal and stem packing.
    5. Precompressed ball design with body bolt adjustment for normal wear.
    6. Full port design; 300 psig working pressure rating.
    7. Flanged, threaded, welded or soldered end connections as required.

8. Pittsburgh Brass Manufacturing Co., or equal.

2.09 PRESSURE SENSOR

A. Provide pressure gauges in locations show on plans; position for easy reading; certain pressure gauges may be specified elsewhere with equipment.

B. "Quality" type pressure gauges.
   1. 3-1/2" dial, open front, stem mounted, bronze Bourdon tube, silicone oil filled; stainless steel case.
   2. + 1.0% accuracy (full span); acrylic plastic windows.
   3. Ashcroft 1009, or equal.
   4. Provide intermediate diaphragms to isolate solids from gauge; 316 stainless steel construction; Ashcroft 101 series, or equal; fill gauge and upper half of diaphragm with silicone oil. Provide quick coupling.
   5. Provide brass tubing for gauge as required; include gauge cock between housing and gauge assembly with brass body and teflon seats; fill tubing with silicone oil.

C. Pressure gauge range: 0 - 120 psig.

2.10 DUPLEX STRAINER

A. Provide one duplex strainer as shown on plan sheets upstream of booster pump skid system.

B. Duplex strainer:
   a. Size: 4-inch
   b. Body material: cast iron
   c. Connection type: flanged
   d. Rating: ASME CL 125, 200 psig @ 150 degrees-F
   e. Basket perforations: 1/16-inch (1.6 mm)

C. Sure Flow Equipment, Inc. Duplex Strainer, or equal.

2.11 PIPE COLOR CODING AND LABELING SCHEDULE

A. Colors listed are general. Actual colors will be selected at a later date based on approved manufacturer and listed on color coordinating schedule.

A. Banding:
   1. Apply banding to pipe at connections to equipment, valves, branch fittings, at walls, floors or ceiling boundaries, at intervals not greater than 20'-0", and at least two locations per space.
   2. Provide additional banding as required by Engineer.

C. Equipment labels and tags:
   1. Name designation of process equipment having electrical connections or valves shall be as shown on drawings.
   2. Name and number designation of valves shall be as established during construction.
   3. Stencil name and number designations on piece of equipment or valve with minimum 1" high to maximum of 4" high block letters and numerals depending on size of piece of equipment and as determined by Engineer.
   4. Identify other equipment and valves too small for stenciling with 1-1/2" dia. 19-gauge polished brass metal tags fastened with No. 16 brass jack chains. Metal tags and chains shall have identifying numbering or lettering stamped in. Identifying code will be provided by Engineer. Where tags are used, pipe shall be color coded as specified.

D. Labels and directional arrows:
   1. Apply labels with directional arrows at connections to equipment, valves, branch fittings, at least one wall, floor or ceiling boundary within room, and at intervals not greater than 36'-0". Two labels minimum each room, crawl space or compartment.
   2. At each label, arrows indicating direction of flow shall point away from label. If flow may be in both directions, use double headed arrows.
   3. Lettering shall bear full pipe system name as scheduled.
   4. Lettering height shall be as follows:

Outside Pipe Diameter (in.)	Minimum Letter Height (in.)
3/4 - 1-1/4	1/2
1-1/2 - 2	3/4
2-1/2 - 6	1-1/4
8 and over	2-1/2

E. Schedule:

Pipe System	Pipe Color and Banding
Non-potable Water	Light Blue with Red Bands
Potable Water	Blue

PART 3 - EXECUTION

3.01 INSTALLATION

A. General:
   1. Make necessary field measurements to determine pipe laying lengths; work pipe into place without forcing or springing.
   2. Use fittings as shown on drawings.
   3. Provide sufficient unions and flanged connections to permit easy dismantling of equipment and piping for maintenance; minimize field welding required.
   4. All small piping not shown: arrange workable layout with convenient locations for valves and accessories.
   5. Follow customary practices of industry for first class work; use competent and skilled workmen.
   6. No additional compensation allowed for modifications of piping required to suit equipment furnished.
   7. Piping not detailed: arrange workable layout with convenient access to all valves and specialty items; arrangement subject to approval of Engineer.
   8. Slope drain piping 1/4" per foot minimum.
   9. Provide drains at low points for drain piping.
   10. Paint per Section 09900 - Painting.

B. Joints:
   1. Iron pipe: all flanged joints; flange or pipe face true to line; clean before assembly; gasket faces free of burrs and abrasions; draw up bolts and nuts uniformly and snug.
      a. Mechanical joint wall pipe with mechanical joint face set flush with wall may be used with bolt holes tapped for studs to retain follower gland.
      b. Prepare lined pipe for installation per manufacturer's recommendations.
   2. Steel pipe (other than stainless):
      a. Flanged: see iron pipe above.
      b. Screwed: use threading dies; cut clean and true to line; ream and file ends of pipe to remove all burrs; use Teflon joint material.
      c. Welded: AWWA C206; single butt welded joints.
   3. Stainless steel pipe:
      a. Flanged: see iron pipe above.
      b. Flared: use for instrument air tubing.
      c. Welded: conform to recommended Specifications for Stainless Steel Piping, Fittings and Accessories for the Pulp and Paper Industry, CA Report No. 30.
   4. Polyvinylchloride pipe: solvent cement, fused and flanged joints per manufacturer's recommendations; clean joints of dirt, oil, moisture and loose particles before making connections; no threaded joints.

C. Field cleaning:
   1. Rap and blow out piping and valves before and after installation with compressed air.
   2. Completely remove temporary preservative coatings from valves and other piping accessories.
   3. Contractor responsible for malfunctioning of pumps, valves, controls or other equipment due to presence of foreign material left in piping during installation; clean, repair or replace all malfunctioning or damaged equipment at no expense to Owner.

3.02 TESTS

A. Pressure lines:
   1. Test liquid piping systems with water after installation, in accordance with ANSI/AWWA C600 for Pressure Piping; inspect all joints for leakage after piping has been under pressure 24 hours.
   2. Test air piping systems with air; paint all joints and valves with soap solution, observe any bubbles; maintain test pressure on piping for not less than 4 hours; test pressure: twice average system working pressure.
   3. Valve off, or otherwise isolate instruments, controls or other piping accessories which may be damaged by test pressure.
   4. Provide test pumps, test plugs, blind flanges, pipe and gauges and make required piping connections.

C. Test valves as specified hereinbefore.

D. Retest piping showing leakage; replace or repair defective pipe, fittings and valves disclosed during tests to satisfaction of Engineer.

E. Disinfect all potable water lines and tanks per ANSI/AWWA C601.

END OF SECTION

SECTION 15010

MECHANICAL GENERAL PROVISIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Provide mechanical work, complete and operable, in accordance with the Contract Documents.

B. Mechanical General Provisions requirements specifically applicable to Division 15 sections, in addition to Division 1 requirements.

C. Wherever Mechanical General Provisions requirements conflict with any provisions of the General Requirements, Supplementary Conditions or Special Conditions, Mechanical General Provisions requirements shall take precedence.

1.02 PLANS

A. The plans and specifications cover the extent and general arrangements of the various systems subject to the individual characteristics of the equipment with regard to size, arrangement, etc. The plans are diagrammatical and are not intended to include all of the details or dimensions. Where no figures or dimensions are noted, the plans shall be accurately followed. Exceptions to or conflicts between the plans and specifications shall be brought to the Engineer's attention at least 7 days before bidding date.

1.03 LEAK DAMAGE

A. The contractor shall be responsible for damage to the work of other contractors or to the building, or to its contents, people, etc., caused by leaks in any of the equipment or material installed by him through equipment or material failures or disconnected pipes or fittings, and shall make, at his own expense, all repairs or replacement required as a result of such damage.

1.04 INTENT

A. It is the intention of these specifications and plans to call for finished work, tested and ready for use and operation by the Owner. Wherever the word "provide" is used, it shall mean "furnish and install complete and ready for use".

1.05 MATERIAL LIST SHEET

A. Submit a Material List Sheet within 48 hours after bids are received. Material List Sheet shall contain names of manufacturer for all major pieces of mechanical equipment.

B. Certain equipment and systems have been specified with 2 or more particular makes. For such equipment, the bidder shall indicate on the material list sheet, which of the particular makes he intends to use. If the bidder does not indicate which particular make he proposes to use, if more than one manufacturer's name is listed per item, or if a manufacturer's name other than those listed is indicated, the first make specified shall be used in the construction of the building.

C. Bidders wishing to obtain approval on brands other than those specified by name shall refer to Section 01300 - Submittals.

1.06 PROTECTION OF EQUIPMENT AND MATERIALS

A. Provide protection against weather, rain, windstorms, frost, ice, heat, and other natural phenomenon so as to maintain all material and equipment free from injury or damage including physical damage of any nature. This shall include the erection of any temporary shelters to protect adequately any equipment stored on the site, and the covering of equipment in the completed building with protective coverings.

1.07 VERIFICATION OF EXISTING UTILITIES PIPING AND EQUIPMENT AND EXAMINATION OF SITE

A. Verify the location of all existing utilities and coordinate with utility company personnel of requirements for properly connecting into their utilities; pay all associated fees.

B. Verify the location of all piping and equipment and call to the attention of the Engineer any and all discrepancies which involve additional work before signing of the contract.

C. After the contract is signed, any additional work required for the complete and working job shall be provided at no additional cost, unless specifically noted in the contract documents to the contrary.

D. Locations, sizes, capacities, etc., of all piping shall be verified prior to doing any other work on piping systems which are to connect to new piping systems. Any work rendered unusable by failure to comply with this provision shall be replaced at no cost.

E. Piping as mentioned in this division of the specifications shall be understood to include water, sewer and other piping systems necessary to the continued operation of any and all new or existing systems and equipment, whether on a temporary or permanent basis as noted elsewhere in the contract documents.

F. Prior to submitting proposals for this work, each contractor bidding shall first examine the site and all conditions thereon and/or therein. All proposals shall take into consideration all such conditions as may affect the work under this Contract.

1.08 EXCAVATION

A. Do all excavation required for the installation work in this Contract unless indicated otherwise. Excavation to provide sufficient clearance for installation of work and to be kept free of water. For method of execution, see Section 02200 - Earthwork.

1.09 BACKFILLING

A. Backfill immediately after inspection and tests have received approval of local authorities and Engineer. For materials and method of execution, see Section 02200 - Earthwork.

1.10 LAYING OUT OF THE WORK

A. Layout work on the premises and make proper provision for the other work. The exact location of each item shall be determined by reference to the general plans, by measurements at the building and in cooperation with other contractors. The Contractor shall be responsible for accurately locating all openings for ducts, pipes, etc., and access doors required.

1.11 COORDINATION

A. Any interferences with other trades shall be corrected before the work proceeds. Coordinate location of plumbing and mechanical equipment with structural conditions.

B. The mechanical and electrical portions of the work shall have precedence over one another in accordance with the following sequence:
   1. Soil and waste piping.
   2. Ductwork.
   3. Electrical bus duct and cable trays.
   4. Electrical wiring.

1.12 LUBRICATION

A. All equipment requiring lubrication shall have a label or plate permanently attached to the equipment indicating type of lubrication required and recommended frequency of lubrication. All equipment shall be fully and properly lubricated at the time of final acceptance of the facility.

1.13 ACCESS

A. Generally, all concealed valves, filters, thermostats, mixing valves, pumps and other items of equipment requiring maintenance and/or operation are located above accessible type ceilings. Should any concealed valves, pumps, etc., be inaccessibly located, furnish access doors with flush screwdriver operated lock. Doors shall be of the type suited to the construction into which they are to be installed.

B. Provide access to filters such that filters can be serviced without interruption; provide suitable access doors or panels.

1.14 CUTTING AND PATCHING

A. All cutting and patching required under this Division shall be done under this Division. Subcontract the performance of cutting and patching to tradesmen skilled in the trade required.

1.15 TESTS

A. All systems shall be tested in the presence of the Engineer and local authorities having jurisdiction in a manner required by regulation. No work shall be covered before tests are made.

B. Refer to individual sections for testing requirements.

C. When not indicated, test all piping hydrostatically at 1 1/2 times the maximum working pressure but in no case less than 50 psi for a period of 5 hours.

D. Test underground piping before backfilling.

1.16 PERMITS

A. Obtain all required permits. Pay for all permits, certificates and licenses required to commence the work and arrange for inspections required by local authorities.

1.17 NOISE

A. All mechanical equipment and devices shall operate without objectionable noise in the occupied portions of the building.

1.18 CLEANING AND ADJUSTING

A. Upon completion of the entire system, it shall be thoroughly cleaned and treated as specified. Place the entire system in operation in the presence of the Engineer or his representative and instruct the operator in all details of operation before acceptance.

B. Interior of all ductwork shall be cleaned of all construction dirt prior to placing fans in operation.

1.19 RECORD DRAWINGS

A. See specification Section 01720 - Project Record Documents.

1.20 OPERATION AND MAINTENANCE MANUALS

A. Furnish require number of complete sets of manufacturer's instructions for installation, operation and maintenance of all materials and equipment furnished.

B. Completely identify each manual by showing at least the following information:
   1. Name, address and phone number of supplier.
   2. Name, address and phone number of manufacturer.
   3. Name of project as it appears on the title sheet of these specifications.

C. Include all guarantees and warranties issued.

D. Include a lubrication list showing type of lubricant and lubrication schedule for all equipment.

E. Include a valve list showing valve tag number, service and location.

1.21 OPERATING INSTRUCTIONS

A. Instruct the Owner's operating personnel in the proper operation of all equipment items and systems. At the beginning of the first cooling and heating season, start the equipment and operate until satisfactory operation and performance is achieved.

1.22 CODES AND STANDARDS

A. Equipment, devices, apparatus, systems and installations shall be entirely suitable and safe for each intended application and be in full compliance with applicable standards, rules, regulations, codes, ordinances, etc., of municipal, county and state governments and local utilities, including Iowa State Building, Mechanical, Fire and Plumbing Codes. They shall also comply with OSHA and all applicable requirements of the following for the particular type of installation:
   1. Electrical Equipment and Wiring: National Electrical Code.

2. Duct Installations and Fire Dampers: NFPA, SMACNA Manuals, Uniform Mechanical Code.
3. Fans, Blowers and Other Air Moving Devices: AMCA, SMACNA Manual.

1.23 MOTORS, STARTERS AND DISCONNECT SWITCHES

A. Equipment requiring electric motors, motor starters, disconnect switches, overload protection, short-circuit protection and other items of electrical controls shall be furnished complete with all such items except when the electrical plans specifically indicate that the required starters, disconnect switches and other control items are to be furnished under Electrical.

B. Motors and other electrical devices shall be suitable for the electrical characteristics and type of service shown on the plans and shall comply with the requirements of the specification under Electrical.

C. Provide the number of auxiliary contacts required in the motor starters for proper interlocks, etc.

D. Motors which are 3 phase and 1 HP or larger (non-hermetic) shall be energy efficient type and shall meet the following NEMA nominal efficiencies as tested in accordance with IEEE Standard 112 TEST METHOD B:

Motor	Open			Enclosed		
HP	3600	1800	1200	3600	1800	1200
1	- - -	82.5	77.0	- - -	80.0	75.5
1.5	80.0	82.5	82.5	78.5	81.5	82.5
2	82.5	825	84.0	81.5	82.5	82.5
3	82.5	86.5	85.5	82.5	84.0	84.0
5	85.5	86.5	86.5	85.5	85.5	85.5
7.5	85.5	88.5	88.5	85.5	87.5	87.5
10	87.5	88.5	90.2	87.5	87.5	87.5
15	89.5	90.2	89.5	87.5	88.5	89.5
20	90.2	91.0	90.2	88.5	90.2	89.5
25	91.0	91.7	91.0	89.5	91.0	90.2
30	90.1	91.7	91.7	89.5	91.0	91.0
40	91.7	92.4	91.7	90.2	91.7	91.7
50	91.7	92.4	91.7	90.2	92.4	91.7
60	93.0	93.0	92.4	91.7	93.0	91.7
75	93.0	93.6	93.0	92.4	93.0	93.0
100	93.0	93.6	93.6	93.0	93.6	93.0
125	93.0	93.6	93.6	93.0	93.6	93.0
150	93.6	94.1	93.6	93.0	94.1	94.1
200	93.6	94.1	94.1	94.1	94.5	94.1

1.24 COMPLETION REQUIREMENTS

A. Before acceptance and final payment, provide:
   1. Accurate record drawings showing in red ink on blueline prints furnished for that purpose all changes from the original plans made during installation of the work. Drawings shall be filed with the Engineer when the work is complete.
   2. Balancing report.
   3. Operation and maintenance manuals.
   4. Operating instructions to the operating personnel.

END OF SECTION

SECTION 15050

BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes basic materials and methods of "Mechanical" work shown on plans.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Pipe and fittings:
   1. Cast iron soil pipe:
      a. Service weight hub and spigot or no-hub according to ANSI 112.5.1, ASTM A74.12 and Commercial Standard 188-66.
      b. Double seal elastomeric compression type joint conforming to ASTM C564 for pipe with hub and plain end spigot or,
      c. Mechanical coupling with neoprene gasket and all stainless steel shield and clamps conforming to ASTM C-564 for pipe with plain ends.
   2. Copper pipe:
      a. Type K and L, hard or soft, conforming to ASTM B88; Type DWV conforming to ANSI B306.
      b. Fittings: wrought copper or bronze, pressure type conforming to ANSI B16.22; cast bronze fittings conforming to ANSI B16.23 on DWV pipe.
      c. Solder: ANSI/ASTM B32, Grade 95TA, or Silverbrite 100 containing 95.5% tin, 4% copper and 0.5% silver.

B. Valves:
   1. Furnish valves for complete control of all risers, branches and each group of fixtures; in addition to valves shown on plans, furnish valves where required for proper servicing in connections at equipment; arrange valves for easy access.
   2. Gate valves:
      a. Screwed ends: 2" and smaller: bronze, rising stem, solid wedge disc, 125 psi SWP, 200 psi WOG; Crane 428, Jenkins 47, or equal.
      b. Solder ends: 1-1/2" and smaller: bronze, rising stem, solid wedge disc, 125 psi SWP, 200 psi WOG; Crane 1334, Jenkins 1242, or equal.
   3. Ball valves: bronze body, chrome plated bronze or brass ball, reinforced Teflon seat and seals, blow-out-proof design.
      a. 1/4" through 3": Watts B-6000, Apollo No. 70, or equal.
      b. Bubble tight shut-off; rated to 600 psi WOG 1/4" to 2" and 400 psi WOG 2-1/2" and 3", 150 psi stem.
      c. Suitable for temperatures from -55°F. to +450°F.

d. Provide level type operating handle.
e. Solder, threaded or flanged ends as shown on plans or as required.

C. Pipe hangers:
1. Clevis type, ITT Grinnell Figure 260 or 269, Crane, or equal, unless otherwise specified; Grinnell CT-65, or equal, for copper tubing.
2. Where loading exceeds manufacturer's recommended maximum for clevis type hanger: steel pipe clamp, Grinnell Figure 212, Crane, or equal, or heavy steel pipe clamp, Grinnell Figure 216, Crane, or equal, as required for loading.
3. Dip all hangers in zinc chromate primer before installation.

D. Structural attachments:
1. To concrete: wedge type concrete insert for loads up to 1,200 lbs. use Grinnell Figure 281, F&S Central, or equal; for loads up to 1,430 lbs. use Grinnell Figure 282, Universal Concrete insert, F&S Central, or equal.
2. To steel: 2" and smaller: use "C" clamp with retaining clip, Grinnell Figure 87, F&S Central, or equal; 2-1/2" and larger: use beam clamp, Grinnell Figure 229, F&S Central, or equal.

E. Pipe protection shields:
1. Protect pipe at point of support by 360° insert of high density, 100 psi, waterproof calcium silicate encased in 360° sheet metal shield; insert same thickness as adjoining pipe insulation; shield length and minimum sheet metal gauge as shown below:

Pipe Size	Shield Length	Minimum Gauge
1/2 - 1-1/2	4	26
2 - 6	6	20

2. Manufacturer and model number: Pipe Shields, Inc. Model CS, or equal.

F. Pipe penetration of walls, floors and beams:
1. Use calcium silicate insert for insulation; Pipe Shields, Inc. Model WFB-CS, or equal for insulated pipes and Pipe shields, Inc. No. WFB, or equal for Uninsulated pipes.

G. Pipe and duct sleeves and escutcheons:
1. Provide sleeves for all pipes and ducts passing through foundations, walls, slabs, floors, ceilings, partitions or other building construction.
2. Pipe sleeves: standard weight steel pipe with minimum 1/2" clear space around pipe passing through.
3. Duct sleeves: minimum 18 gauge galvanized sheet steel with minimum 1/2" clear space around duct passing through.
4. Size sleeves on insulated elements for overall outside dimension of insulation; do not interrupt insulation.
5. Sleeves Passing Through Floor: Extend sleeve 2" above finished floor.

6. Sleeves in Exterior Building Walls: Caulk space between pipe and sleeve with elastomeric caulking compound for weatherproof installation; when indicated seal annular space with link seal bolted gaskets as manufactured by Thunderline.
7. Escutcheons: Concealed catch and latch type, chrome plated; size to fit outside continuous insulation on insulated pipes; Crane No. 10CP, or equal.

H. Pipe, Duct and Conduit Penetration Sealants:
1. Seal all pipe, duct and conduit openings through floor and fire rated walls or partitions with Dow Corning 3-6548 Silicone RTV foam, or equal.
2. Sealant used shall meet or exceed Fire Endurance Test as defined in ASME 119 and shall be UL listed; flame spread rating not to exceed 20.
3. Apply the sealant as per manufacturer's recommendations; use Dow Corning 1200 RTV, or equal; prime coat to improve adhesion.

2.02 PIPE PAINTING AND IDENTIFICATION

A. Paint all exposed piping in accordance with Section 13570.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General:
1. Lay out and install pipes, approximately as shown on plans, straight, plumb and as direct as possible, at right angles to or parallel with walls unless otherwise shown or approved.
2. Keep pipes close to walls, partitions, ceilings and above ceiling structures; offset only where necessary unless otherwise directed.
3. Locate groups of pipes parallel; space pipes to permit applying insulation and servicing of valves.
4. Arrange and isolate pipes passing through walls or floors to comply with codes.
5. Provide dielectric couplings where copper lines connect to iron or steel.

B. Solder Joints: Cut pipe square using roller type tube cutter; burr ends, resize and polish to bright metal; melt solder or brazing alloy by contact with tube and fitting, not by flame directly.

C. Fabricate screwed piping using sharp cutting, threading and reaming tools to maintain proper thread dimension and produce standard thread engagement; sealing and adhesive type compounds not allowed; coat exposed joints at threads with red lead at end of each day's work.

D. Grading:
1. Water: Minimum 1/4" in 10', for draining system.
2. Drainage: 1/4" per foot; may be 1/8" per foot for 4" and larger pipe.

E. Horizontal Piping Supports:
   1. Hanger Attachments to Cored Slabs: At slab joints wherever possible, at core spaces where not possible; attachments not permitted at ribs.
   2. Steel Piping:

Pipe Size (inches)	Rod Diameter (inches)	Maximum Spacing (feet)
Up to 1-1/4	3/8	8
1-1/2 to 2	3/8	10
1-1/2 to 3	1/2	10
4	5/8	10

   3. Copper Piping:

Pipe Size (inches)	Rod Diameter (inches)	Maximum Spacing (feet)
Up to 1	3/8	6
1-1/4 to 2	3/8	8
1-1/2 and Above	1/2	8

   4. Cast Iron Soil Pipe:

Pipe Size (inches)	Rod Diameter (inches)	Maximum Spacing (feet)
2 through 5	3/8	each joint
6 through 10	1/2	each joint
12 through 15	5/8	each joint

F. Unions:
   1. Locate as shown; if not shown:
      a. In bypasses around equipment.
      b. Between shut-off and equipment in connections to equipment requiring disconnection for repair or replacement.
      c. In drainage piping, only on inlet side of fixture trap.

G. Valves:
   1. Locate as shown; if not shown:
      a. In make-up lines to equipment.
      b. In all take-offs from main lines.
   2. Locate for ease of access and operation; stems horizontal to vertical position only.

H. Escutcheons: Install on all pipes passing through walls, floors or ceilings and exposed to view except in mechanical rooms and unfinished spaces.

3.02 WELDING

A. Comply with latest provisions of applicable codes.

B. Welded Joints:
   1. Socket or butt welded.
   2. Branch may be welded into main without fittings where main is at least two sizes larger than branch.

3.03 PIPE IDENTIFICATION

A. Label all piping installed under this Division.

B. Identify with plastic clamp-on legends and arrows, Seton Nameplate Corporation, or equal, indicating pipe and direction of flow. Identification shall be color coded per ANSI/ASME A13.1 "Scheme for Identification of Piping Systems". Identification shall be located as follows:
   1. At each branch riser take-off.
   2. At least every 40'.
   3. At each penetration of wall.

3.04 VALVE IDENTIFICATION

A. Identify valves by distinguishing numbers and letters. Attach 18-gauge polished brass tag to each valve, 1-1/2" diameter, stamped for appropriate service in 1/4" backfilled letters, with 1-3/4" No. 10 brass-s-hooks; furnish four copies of printed valve list showing tag letter, number, service and location; include a copy in each maintenance manual; deliver remaining charts to owner; tags as manufactured by Seton Nameplate Corp., Style 250-BL, or equal.

3.05 IDENTIFICATION OF EQUIPMENT

A. Identify all plumbing equipment by nameplates securely fastened to the equipment. Nameplate notation shall correspond to notations used on plans and specifications. Plates shall be aluminum, 2-1/2" x 3/4" with black enameled background with etches or engraved natural aluminum lettering; or engraved bakelite nameplates of 1/16" thick black engraving stock with white lettering and beveled edges as manufactured by Seton Nameplate Corporation, or equal.

END OF SECTION

SECTION 15250

INSULATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes insulation of mechanical equipment and piping as scheduled on plans. The following systems are included:
   1. Domestic cold and hot water piping.

1.02 FIRE RATINGS

A. Maximum composite products ratings for insulation products: ASTM E84, NFPA 255, UL 723 and NFPA 90A.
   1. Flame spread: 25.
   2. Smoke developed: 50.

B. Label or listing: UL label or listing, satisfactory test results from National Bureau of Standards, or satisfactory certified test report from an approved testing laboratory will be required to indicate that fire hazard ratings for materials proposed for use do not exceed those specified; when insulation, vapor barrier covering, wrapping materials and adhesives are applied separately in field, test each item individually.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Insulation types:
   1. Type I-1: flexible foamed plastic pipe insulation, closed cell structure; temperature limits -40°F. to 220°F.; k value not to exceed 0.26 at 75°F.; permeability rating not to exceed 0.1; Armstrong Armaflex, Manville Aerotube, or equal.
   2. Type I-2: preformed, sectional, fiberglass pipe insulation with factory applied all purpose vapor retarder jacket with pressure sensitive adhesive closure; nominal density 4 lbs./cf; k value not to exceed 0.23 at 75°F.; permeability rating not to exceed 0.02; Owens Corning SSL II, Manville Micro Lok 650, or equal.
   3. Type I-3: flexible glass fiber blanket insulation with factory applied vapor barrier foil facing; temperature limits of 40°F. to 250°F.; permeability rating not to exceed 0.02; Owens Corning T-150, Manville 800, or equal.

4. Type I-4: semi rigid, fiberglass sheet insulation with factory applied all-purpose vapor retarder jacket with pressure sensitive adhesive closure; nominal density 3 lbs./cf; k value not to exceed 0.23 at 75ºF.; permeability rating not to exceed 0.02; Manville 1000 series, or equal.

B. Adhesives, cements and mastics:
   1. As recommended by insulation manufacturer unless noted otherwise.
   2. 25/50 flame and smoke rating both liquid and dry state.
   3. Benjamin-Foster, Chicago Mastic, Childers Products, 3M, or equal.

C. Staples: outward clinching type of 304 or 316 stainless steel.

D. Bands:
   1. 3/4" nominal width metal with a minimum thickness of 0.07".
   2. Aluminum, brass.

E. Pipe insulation protection jacket: 0.016" thick aluminum jacket with felt backing held in place with aluminum bands spaced on 12" centers.

F. Fittings, flanges, valves and similar devices:
   1. Fiberglass insert precut to size and shape of appurtenance jacketed with premolded one-piece pvc cover.
   2. Thickness and finish to match adjoining pipe insulation.
   3. Manville Zeston, Thermazip, or equal.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Pipe surfaces must be clean and certified tight by Contractor before starting application of insulation.

B. Comply with manufacturer's recommended application methods.

C. Tightly butt joints; coat with cements and adhesives where required to ensure vapor barrier; pull jacketing tight and smooth and secure flaps and tape with recommended adhesive.

D. Seal exposed edges of insulation with same material as jacket or facing.

E. Insulate pipe fittings and valves with premolded sections, cut sections of pipe insulation or blanket insulation.

F. Install pipe insulation continuous through wall and floor sleeves.

G. Finished insulation product must be neat without any loose tape; sloppy insulation workmanship will not be acceptable.

H. Insulation schedule: see schedule on plans.

END OF SECTION

SECTION 15400

PLUMBING

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes plumbing systems complete, fully adjusted and ready for use.

B. Code requirements: plumbing systems shall comply with the local codes and ordinances.

PART 2 - PRODUCTS

2.01 SANITARY AND STORM WATER PIPING SYSTEM

A. Pipe and fittings:
   1. Below ground sanitary piping: service weight, hub and spigot cast iron soil pipe and fittings conforming to ASTM A74.
   2. Above ground sanitary piping: hubless cast iron soil pipe and fittings conforming to Cast Iron Soil Pipe Institute Specification 301.
   3. Drain or condensate drain piping: copper tubing, type DWV, ASTM B306, seamless hard drawn copper with cast bronze fittings.
   4. Storm water piping: Schedule 80 PVC; refer to Section 13570 - Inside Process Piping for details.

   5. Manufacturer and model number: Polycast 700 series, or equal.
   6. Provide channels with interlocking joints and horizontal ribs to facilitate anchoring; provide outlets, end caps and properly sloping matching pieces as required.

B. Traps:
   1. Provide traps for all equipment requiring connections to drainage system.
   2. Place trap as near fixture as possible; do not double trap any fixture.

C. Lead flashings and shields:
   1. Floor drains: install all floor drains except those installed in floors laid on ground or over crawl spaces, with 4 lb. sheet lead flashing extending 18" from drain in all directions.

2.02 NON-POTABLE WATER PIPING SYSTEM

A. Pipe and fittings:
   1. Schedule 80 PVC; refer to Section 13570 - Inside Process Piping for details.

B. Wall hydrants: freezeless with vacuum breaker-backflow preventer, satin chrome finish on brass casting, 3/4" hose thread nozzle, permanent type brass valve body with hemispherical seating surface, one-piece valve plunger, hardened stainless steel stem, loose key; chrome finish; Woodford Model B65, Zurn, or equal.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Sanitary, waste, vent, drain and storm piping:
   1. Comply with requirements of local authority having jurisdiction; generally install horizontal drainage piping with slope not less than 1/4" per foot for 3" and smaller and at 1/8" per foot for 4" and larger.
   2. Vent flashings; furnish flashing and counter flashing of vent pipes passing through roof.

B. Non potable water system:
   1. Install water system pitched toward service shutoff valves; provide copper-to-steel insulating adapters where non-ferrous piping joins ferrous piping; install piping below frost depth (minimum of 5 feet).
   2. Expansion and contraction of pipe: provide sufficient swing joints, expansion loops and/or devices necessary for flexible piping system; anchor horizontal runs over 50 feet in length to supporting construction at midpoint of run to force expansion evenly divided toward ends, or as indicated.
   3. Clamp hose bibbs and hose station firmly to wall using clamp assembly; provide warning sign at each hose bibb connected to non-potable water system or at each hose bibb located downstream of backflow preventer; if not shown on plans, install hose bibb at 3'-6" above floor.

3.02 TESTS

A. Test entire soil, waste, vent and storm system hydrostatically; plug all openings in soil, waste and vent lines, fill system or portion thereof, with water to roof level or minimum 10' and check all joints for water tightness.

B. Test water piping hydraulically before insulation is installed; fill system or section to be tested with water and pressurize to 150 psi or 1.5 times the working pressure for a period of 24 hours; repair any leakage located and repeat test until proven watertight.

END OF SECTION

SECTION 16050

ELECTRICAL REQUIREMENTS

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall provide electrical work, complete and operable, in accordance with the Contract Documents.

B. The provisions of this section apply to all sections in Division 16, except as indicated otherwise.

C. The work of this section is required for operation of electrically-driven equipment provided under specifications in other divisions. The Contractor's attention is directed to the requirement for proper coordination of the work of this section with the work of equipment specifications and the work of instrumentation sections.

D. Concrete, excavation, backfill, and steel reinforcement required for encasement, installation, or construction of the work of the various sections of Division 16 is included as a part of the work under the respective sections, including duct banks, manholes, handholes, equipment housekeeping pads, and light pole bases.

1.02 REFERENCE STANDARDS

A. The work of this section and all sections in Division 16 shall comply with the following as applicable:
   1. NEC (NFPA 70) National Electrical Code
   2. NETA International Electrical Testing Association
   3. NEMA 250 Enclosure for Electrical Equipment (1000 Volts Maximum)

B. Electrical equipment shall be listed by and shall bear the label of Underwriters' Laboratories, Inc. (UL) or an independent testing laboratory acceptable to the local code enforcement agency having jurisdiction.

C. Installation of electrical equipment and materials shall comply with OSHA Safety and Health Standards (29 CFR 1910 and 29 CFR 1926, as applicable), state building standards, and applicable local codes and regulations.

D. Where the requirements of the specifications conflict with UL, NEMA, NFPA, or other applicable standards, the more stringent requirements shall govern.

1.03 SIGNAGE AND MARKINGS

A. Identification: Provide danger, caution, and warning signs and equipment identification markings in accordance with applicable federal and state OSHA and NEC requirements.

B. Local Disconnect Switches:
   1. Each local disconnect switch for motors and equipment shall be legibly marked to indicate its purpose unless the purpose is indicated by the location and arrangement.

C. Warning Signs:
   1. 600 volts nominal, or less: Entrances to rooms and other guarded locations that contain live parts shall be marked with conspicuous signs prohibiting unqualified persons to enter.

D. Isolating Switches: Isolating switches not interlocked with an approved circuit interrupting device shall be provided with a sign warning against opening them under load.

1.04 PERMITS AND INSPECTION

A. Permits shall be obtained and inspection fees shall be paid according to the General Conditions.

B. The Contractor shall pay connection and turn-on service charges required by the utility companies.

1.05 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Division 01.

B. Shop Drawings: Include the following:
   1. Complete material lists stating manufacturer and brand name of each item or class of material.
   2. Shop drawings for all grounding work not specifically indicated.
   3. Front, side, rear elevations, and top views with dimensional data.
   4. Location of conduit entrances and access plates.
   5. Component data.
   6. Connection diagrams, terminal numbers, internal wiring diagrams, conductor size, and cable numbers.
   7. Method of anchoring, weight.
   8. Types of materials and finish.
   9. Nameplates.
   10. Temperature limitations, as applicable.
   11. Voltage requirement, phase, and current, as applicable.
   12. Front and rear access requirements.
   13. Test reports.
   14. Grounding requirements.
   15. Catalog cuts or photocopies of applicable pages of bulletins or brochures for mass produced, non-custom manufactured material. Catalog data sheets shall be stamped to indicate the project name, applicable Section and paragraph, model number, and options. This information shall be marked in spaces designated for such data in the Engineer's stamp.

C. Shop drawings shall be custom prepared. Drawings or data indicating "optional" or "as required" equipment are not acceptable. Options not proposed shall be crossed out or deleted from shop drawings.

D. Owner's Manuals: Complete information in accordance with Division 01.

E. Record Drawings: The Contractor shall show invert and top elevations and routing of all duct banks and concealed below-grade electrical installations. Record drawings shall be prepared, be available to the Engineer, and be submitted according to Division 01.

1.06 AREA DESIGNATIONS

A. General
   1. Raceway system enclosures shall comply with Section 16110 - Electrical Raceway Systems.

      Electric work specifically indicated in sections within any of the Specifications shall comply with those requirements.

AREA	NEMA ENCLOSURE CLASSIFICATION						
	1	3R	4X	7	9	12	Notes
Control Bldg. – Process Room						X	
Control Bldg. – Control Room	X						
Control Bldg. – Computer Room	X						

B. Material Requirements
   1. NEMA 1, 3R, and 12 enclosures shall be steel coated with ANSI 61 grey paint unless noted otherwise on plans.
   2. NEMA 4X: stainless steel unless specified otherwise.
   3. NEMA 7: Explosion-proof.

1.07 TESTS

A. The Contractor shall be responsible for factory and field tests required by specifications in Division 16 and by the Engineer or other authorities having jurisdiction. The Contractor shall furnish necessary testing equipment and pay costs of tests, including replacement parts and labor, due to damage resulting from damaged equipment or from testing and correction of faulty installation.

B. Where test reports are indicated, proof of design test reports for mass-produced equipment shall be submitted with the shop drawings, and factory performance test reports for custom-manufactured equipment shall be submitted and be approved prior to shipment. Field test reports shall be submitted for review prior to Substantial Completion.

C. Equipment or material that fails a test shall be removed and replaced.

1.08 CONSTRUCTION SEQUENCING

A. Continuance of existing plant operation during construction is critical. Work shall be scheduled, subject to Owner's approval, to minimize any required shutdown time. The Contractor shall submit a written request, including sequence and duration of activities to be performed during any shutdown.

B. Switching, safety tagging, etc., required for equipment shutdown and power outages shall be performed by the Contractor. In no case shall the Contractor begin any work without written authorization by the Engineer.

C. The Contractor shall visit the Site before submitting a Bid to better acquaint itself with the work of this Contract. Lack of knowledge will not be accepted as a reason for granting extra compensation to perform the work.

PART 2 - PRODUCTS

2.01 GENERAL

A. Equipment and materials shall be new, shall be listed by UL, and shall bear the UL label where UL requirements apply. Equipment and materials shall be the products of experienced and reputable manufacturers in the industry. Similar items in the work shall be products of the same manufacturer. Equipment and materials shall be of industrial grade standard of construction.

B. Where a NEMA enclosure type is indicated in a non-hazardous location, the Contractor shall utilize that type of enclosure, despite the fact that certain modifications such as cutouts for control devices may negate the NEMA rating.

C. On devices indicated to display dates, the year shall be displayed as 4 digits.

2.02 MOUNTING HARDWARE

A. Miscellaneous Hardware:
   1. Nuts, bolts, and washers shall be stainless steel.
   2. Threaded rods for trapeze supports shall be continuous threaded, stainless steel, 3/8" dia. minimum.
   3. Strut for mounting of conduits and equipment shall be stainless steel. Where contact with concrete or dissimilar metals may cause galvanic corrosion, suitable non-metallic insulators shall be utilized to prevent such corrosion. Aluminum strut shall not be utilized for free standing support frames. Strut shall be as manufactured by Unistrut, B- Line, or equal.
   4. Anchors for attaching equipment to concrete walls, floors and ceilings shall be stainless steel expansion anchors, such as "Rawl-Bolt," "Rawl-Stud" or "Lok-Bolt" as manufactured by Rawl; similar by Star, or equal. Wood plugs shall not be permitted.
   5. Refer to Section 16070 – Hangers and Supports for additional details.

2.03 ELECTRICAL IDENTIFICATION

A. Nameplates: Nameplates shall be fabricated from white-letter, black-face laminated plastic engraving stock, Formica type ES-1, or equal. Each shall be fastened securely, using fasteners of brass, cadmium plated steel, or stainless steel, screwed into inserts or tapped holes as required. Engraved characters shall be block style with no characters smaller than 1/8" top to bottom.

B. Conductor and Equipment Identification: Conductor identification devices shall be either imprinted plastic-coated cloth marking devices such as manufactured by Brady, Thomas & Betts, or equal, or shall be heat-shrink plastic tubing, imprinted split-sleeve markers cemented in place, or equal.

PART 3 - EXECUTION

3.01 GENERAL

A. Incidentals: The Contractor shall provide all materials and incidentals required for a complete and operable system, even if not required explicitly by the Specifications or the drawings. Typical incidentals are terminal lugs not furnished with vendor supplied equipment, compression connectors for cables, splices, junction and terminal boxes, and control wiring required by vendor furnished equipment to connect with other equipment indicated in the Contract Documents.

B. Field Control of Location and Arrangement: The drawings diagrammatically indicate the desired location and arrangement of outlets, conduit runs, equipment, and other items. Exact locations shall be determined by the Contractor in the field based on the physical size and arrangement of equipment, finished elevations, and other obstructions. Locations on the drawings, however, shall be followed as closely as possible.
   1. Where "home runs" are shown, the Contractor shall route the conduits in accordance with the indicated installation requirements. Routings shall be exposed or encased as indicated, except that conduit in finished areas shall be concealed unless specifically indicated otherwise. Conduits encased in a slab shall be sized for conduit OD to not exceed one-third of the slab thickness and be laid out and spaced to not impede concrete flow.
   2. Conduit and equipment shall be installed in such a manner as to avoid all obstructions and to preserve head room and keep openings and passageways clear. Lighting fixtures, switches, convenience outlets, and similar items shall be located within finished rooms as indicated. Where the drawings do not indicate exact locations, such locations shall be determined by the Engineer. If equipment is installed without instruction and must be moved, it shall be moved without additional cost to the Owner. Lighting fixture locations shall be adjusted slightly to avoid obstructions and to minimize shadows.

3. Wherever conduits and wiring for power circuits, lighting and receptacles are not indicated, it shall be the Contractor's responsibility to provide required conduits and wiring, based on the actual installed fixture layout and the circuit designations as indicated. Wiring shall be #12 AWG minimum, conduits shall be 3/4" minimum (exposed) and 1" minimum (encased). When circuits are combined in the same raceway, the Contractor shall derate conductor ampacities in accordance with NEC requirements.

C. Workmanship: Materials and equipment shall be installed in strict accordance with printed recommendations of the manufacturer. Installation shall be accomplished by workers skilled in the work. Installation shall be coordinated in the field with other trades to avoid interferences.

Protection of Equipment and Materials: The Contractor shall fully protect materials and equipment against damage from any cause. Materials and equipment, both in storage and during construction, shall be covered in such a manner that no finished surfaces will be damaged, marred, or splattered with water, foam, plaster, or paint. Moving parts shall be kept clean and dry. The Contractor shall replace or refinish damaged materials or equipment, including faceplates of panels and switchboard sections as part of the work.

3.02 CORE DRILLING

A. The Contractor shall perform core drilling required for installation of raceways through concrete walls and floors. Locations of floor penetrations, as may be required, shall be based on field conditions. Verify all exact core drilling locations based on equipment actually furnished as well as exact field placement. To the extent possible, identify the existence and locations of encased raceways and other piping in existing walls and floors with the Owner prior to any core drilling activities. Damage to any encased conduits, wiring, and piping shall be repaired as part of the work.

3.03 CONCRETE HOUSEKEEPING PADS

A. Concrete housekeeping pads shall be provided for indoor floor standing electrical equipment. Housekeeping pads for equipment, including future units, shall be 4" above surrounding finished floor or grade and 2" larger in both dimensions than the equipment, unless otherwise indicated.

B. Concrete housekeeping curbs shall be provided for conduit stub-ups in indoor locations that are not concealed by equipment enclosures. Such curbing shall be 3" above finished floor or grade.

3.04 EQUIPMENT ANCHORING

A. Floor supported, wall, or ceiling hung equipment and conductors shall be anchored in place by methods that will meet seismic requirements in the area where the project is located. Wall-mounted panels that weigh more than 500 lbs. or that are within 18" of the floor shall be provided with fabricated steel support pedestals. If the supported equipment is a panel or cabinet enclosed within removable side plates, it shall match supported equipment in physical appearance and dimensions. Transformers hung from 4" stud walls and weighing more than 300 lbs. shall have auxiliary floor supports.

B. Leveling channels anchored to the concrete pad shall be provided for switchgear and pad-mounted transformer installations.

C. Anchoring methods and leveling criteria in the printed recommendations of the equipment manufacturers are a part of the work of this Contract. Such recommendations shall be submitted as shop drawings under Section 01300 - Submittals.

3.05 EQUIPMENT IDENTIFICATION

A. Equipment and devices shall be identified as follows:
   1. Nameplates shall be provided for panel boards, control and instrumentation panels, starters, switches, and pushbutton stations. In addition to nameplates, control devices shall be equipped with standard collar-type legend plates.
   2. Control devices within enclosures shall be identified as indicated. Identification shall be similar to the subparagraph above.
   3. Toggle switches which control loads out of sight of switch and multi-switch locations of more than 2 switches shall have suitable inscribed finish plates.
   4. Equipment names and tag numbers, where indicated on the drawings, shall be utilized on nameplates.
   5. The Contractor shall furnish typewritten circuit directories for panel boards; circuit directory shall accurately reflect the outlets connected to each circuit.

3.06 CLEANING

A. Before final acceptance, the electrical work shall be thoroughly cleaned. Exposed parts shall be thoroughly cleaned of cement, plaster, and other materials. Oil and grease spots shall be removed with a non-flammable cleaning solvent. Such surfaces shall be carefully wiped and cracks and corners scraped out. Touch-up paint shall be applied to scratches on panels and cabinets. Electrical cabinets or enclosures shall be vacuum-cleaned.

END OF SECTION

SECTION 16070

HANGERS AND SUPPORTS

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. Conduit and equipment supports.

B. Anchors and fasteners.

1.02 REFERENCES

A. NECA - National Electrical Contractors Association.

B. ANSI/NFPA 70 - National Electrical Code.

1.03 REGULATORY REQUIREMENTS

A. Conform to requirements of ANSI/NFPA 70.

B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.04 CONTRACTOR SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Division 01 and Section 16050 - Electrical Requirements.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials and Finishes: Provide stainless steel hangers, supports and anchors to provide complete corrosion resistance.

B. Provide materials, sizes, and types of anchors, fasteners and supports to carry the loads of equipment and conduit.

C. Anchors and Fasteners:
   1. Concrete Structural Elements:
      a. Use steel or malleable iron concrete inserts set in place prior to placing new concrete.
      b. Use expansion anchors not less than 1/4″ bolt size and not less than 1-1/8″ embedment in existing concrete.
         1) Use power set fasteners not less than 1/4 inch diameter with depth of penetration not less than 3 inches in existing concrete.
         2) Use vibration and shock resistant anchors and fasteners for attaching to concrete ceilings.
            a)Steel Structural Elements: Use beam clamps or spring steel clips.
            b) Concrete Surfaces: Use self-drilling anchors or expansion anchors.
            c) Hollow Masonry, Plaster and Gypsum Board Partitions: Use toggle bolts and hollow wall fasteners.
            d) Solid Masonry Walls: Use expansion anchors.
            e) Sheet Metal: Use sheet metal screws.
            f) Wood Elements: Use wood screws.

2.02 MANUFACTURERS

A. Superstrut, Unistrut, B-line, or equal.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify all channels, fasteners, anchors and miscellaneous equipment are suitable for the application.

3.02 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Provide anchors, fasteners, and supports in accordance with NECA "Standard of Installation".

C. Do not fasten supports to pipes, ducts, mechanical equipment and conduit.

D. Obtain permission from Engineer before using powder-actuated anchors.

E. Obtain permission from Engineer before drilling or cutting structural members.

END OF SECTION

SECTION 16110

ELECTRICAL RACEWAY SYSTEMS

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3.02 CONDUIT

PART 1 - GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall provide electrical raceway systems, complete and in place, in accordance with the Contract Documents.

1.02 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Division 01, and Section 16050 - Electrical Requirements.

B. Shop Drawings
   1. Complete catalog cuts of raceways, fittings, boxes, supports, and mounting hardware, marked where applicable to show proposed materials and finishes.
   2. Dimensioned layout drawings of cable tray routings, including elevations.

PART 2 - PRODUCTS

2.01 GENERAL

A. Pull and junction boxes, fittings, and other indicated enclosures that are dedicated to the raceway system shall comply with this section.

B. Electrical raceways and associated fittings shall be UL listed and approved for the intended installation.

2.02 CONDUIT

A. Rigid Aluminum (RAL) Conduits

1. Rigid aluminum conduit shall be manufactured of 6063 alloy, temper T-1.
2. Rigid aluminum conduit shall be manufactured in accordance with ANSI C80.5 - Rigid Aluminum Conduit, and UL-6 - Rigid Metal Electrical Conduit.
3. Suitable for use in exterior and corrosive environment applications. Aluminum conduit to be utilized in Control Building Process Room.
4. Manufacturers, or equal.
   a. V.A.W. of America
   b. Alcoa

B. Rigid Galvanized Steel (RGS) Conduit:
1. Rigid steel conduit shall be mild steel, hot-dip galvanized inside and out.
2. Rigid steel conduit shall be manufactured in accordance with ANSI C80.1 - Rigid Steel Conduit, Zinc Coated, and UL-6.
3. Suitable for use as exposed conduit in indoor applications.
4. Manufacturers, or equal.
   a. LTV Steel
   b. Triangle
   c. Wheatland Tube

C. Liquidtight Flexible Conduit:
1. Liquidtight flexible conduit shall be constructed of a flexible aluminum or galvanized metal core with a sunlight resistant thermoplastic outer jacket.
2. Liquidtight flexible conduit shall be manufactured in accordance with UL-360 - Steel Conduits, Liquid-Tight Flexible.
3. Suitable for use at equipment connections and applications where vibration is expected. Liquidtight conduit length to be kept to minimum.
4. Aluminum inner core shall be utilized when used when terminated to rigid aluminum raceways.
5. Manufacturers, or equal.
   a. Anaconda, Sealtite
   b. Electriflex, Liquatite Type LA

D. Electrical Metallic Tubing (EMT) or Intermediate conduit (IMC) will not be accepted except where shown on plans.

2.03 FITTINGS AND BOXES

A. General:
1. Cast and malleable iron fittings for use with metallic conduit shall be the threaded type with 5 full threads.
2. Fittings and boxes shall have neoprene gaskets and non-magnetic stainless steel screws. Covers shall be attached by means of holes tapped into the body of the fitting. Covers for fittings attached by means of clips or clamps will not be acceptable.
3. Boxes larger than standard cast or malleable types shall be 304 stainless steel, NEMA 4X.

4. In outdoor areas, conduit shall be terminated in raintight hubs as manufactured by Myers, O.Z. Gedney, Appleton, or equal. In other than outdoor areas, sealed locknuts and bushings shall be used.
5. Conduit, fittings, and boxes in hazardous locations shall be suitable for the Class and Division indicated.

B. Cast Aluminum Fittings and Boxes
   1. Cast aluminum boxes and fittings shall have less than 0.40% copper content and shall be utilized with aluminum conduit.
   2. Manufacturers, or equal.
      a. O.Z. Gedney
      b. Appleton
      c. Crouse-Hinds

C. Malleable Iron Fittings and Boxes:
   1. Fittings and boxes for use with galvanized steel conduit shall be of malleable iron or gray-iron alloy with zinc plating.
   2. Manufacturers, or equal.
      a. O.Z. Gedney
      b. Crouse-Hinds
      c. Appleton

D. Stainless Steel Boxes:
   1. Stainless steel boxes shall be used with pvc coated RGS conduit and where indicated.
   2. Stainless steel boxes shall be NEMA 4X, Type 304.
   3. Stainless steel shall be minimum 14-gauge thickness, with a brushed finish.
   4. Doors shall have full length stainless steel piano hinges. Non-hinged boxes are not acceptable.
   5. Manufacturers, or equal.
      a. Hoffman
      b. Rohn
      c. Hammond

E. Sheet Steel Boxes:
   1. Sheet steel boxes shall be galvanized steel outlet and switch boxes.
   2. Manufacturers, or equal.
      a. Raco
      b. Steel City
      c. Appleton Electric

2.04 CONDUIT SCHEDULE

A. Refer to Section 16050.

PART 3 - EXECUTION

3.01 GENERAL

A. Wiring shall be run in raceway unless indicated otherwise.

B. Raceways shall be installed between equipment as indicated. Raceway systems shall be electrically and mechanically complete before conductors are installed. Bends and offsets shall be smooth and symmetrical, and shall be accomplished with tools designed for this purpose. Factory elbows shall be utilized wherever possible.

C. Where raceway routings are indicated on plan views, follow those routings to the extent possible; Conduits shall be concealed in walls unless indicated otherwise; do not conceal conduits inside concrete floors unless shown specifically on drawings or authorized by the Engineer.

D. Where raceways are indicated but routing is not indicated, such as home runs, raceway routings shall be the Contractor's choice and in strict accordance with the NEC and customary installation practice. Raceway shall be encased, exposed, concealed, or under floor as indicated; conduits in finished areas (offices, hallways etc.) shall be concealed unless specifically indicated otherwise.

E. Routings shall be adjusted to avoid obstructions. Coordinate between trades prior to installation of raceways. Lack of such coordination shall not be justification for extra compensation, and removal and re-installation to resolve conflicts shall be by the Contractor as part of the work.

F. Exposed raceways shall be installed parallel or perpendicular to structural beams.

G. Install expansion fittings with bonding jumpers wherever raceways cross building expansion joints.

H. Exposed raceways shall be installed at least 1/2" from walls or ceilings except that at locations above finished grade where damp conditions do not prevail, exposed raceways shall be installed 1/4" minimum from the face of walls or ceilings by the use of clamp backs or struts.

I. Wherever contact with concrete or dissimilar metals can produce galvanic corrosion of equipment, suitable insulating means shall be provided to prevent such corrosion.

3.02 CONDUIT

A. Exposed indoor conduit shall be rigid galvanized steel except as follows, unless indicated otherwise:
   1. In Control Building Process Room, rigid aluminum conduit shall be utilized.
   2. Where galvanized conduit has to be cut, the galvanized coating shall be repaired per manufacturer's instructions.
   3. Exposed outdoor mounted conduit shall be rigid aluminum.

B. Conduit concealed or encased in concrete, except for analog control conduit which shall be PVC coated RGS, shall be rigid Schedule 40 PVC; exterior buried conduit can be rigid Schedule 40 PVC or flexible non-metallic high density polyethylene (HDPE). Where conduit emerges from concrete encasement, a pvc coated RGS elbow shall be utilized for transition from the concrete. Conduit shall emerge from the concrete perpendicular to the surface whenever possible.

C. Exposed conduit shall be 3/4" minimum trade size. Encased conduit shall be 1" minimum trade size. Supports shall be installed at distances required by the NEC.

D. Conduit shall not be encased in the bottom floor slab below grade.

E. Concrete cover for conduit and fittings shall not be less than 1-1/2" for concrete exposed to earth or weather, or less than 3/4" for concrete not exposed to weather or in contact with the ground.

F. Conduits passing through a slab, wall, or beam shall not impair significantly the strength of the construction.

G. Conduits embedded within a slab, wall, or beam (other than those merely passing through) shall satisfy the following:
   1. Conduits with their fittings embedded within a column shall not displace more than 4% of the gross area of cross section.
   2. Conduits shall not be larger in outside dimension than one third the overall thickness of slab, wall, or beam in which embedded.
   3. Conduits shall not be spaced closer than 3 outside diameters on centers.

H. Conduit shall be placed so that cutting, bending, or displacing reinforcement from its proper location will not be required.

I. Threads shall be coated with a conductive lubricant before assembly.

J. Joints shall be tight, thoroughly grounded, secure, and free of obstructions in the pipe. Conduit shall be adequately reamed to prevent damage to the wires and cables inside. Strap wrenches and vises shall be used to install conduit to prevent wrench marks on conduit. Conduit with wrench marks shall be replaced.

K. Wherever possible, conduit runs shall slope to drain at one or both ends of run. Wherever conduit enters substructures below grade, the conduit shall be sloped to drain water away from the structure. Extreme care shall be taken to avoid pockets or depressions in conduit.

L. Installation of rigid steel conduit though a core-drilled hole in an exterior wall below grade shall utilize a sealing device as manufactured by Link Seal or equal.

M. Connections to lay-in type grid lighting fixtures shall be made using flexible metal conduit not exceeding 4' in length. Connections to motors and other equipment subject to vibration shall be made with liquid-tight flexible conduit not exceeding 3' in length. Equipment subject to vibration that is normally provided with wiring leads shall be provided with a cast junction box for the make-up of connections.

N. Conduit passing through walls or floors shall have plastic sleeves.

O. Conduit, fittings, and boxes required in hazardous classified areas shall be suitably rated for the area and shall be provided in strict accordance with NEC requirements.

P. Empty conduits shall be tagged at both ends to indicate the final destination. Where it is not possible to tag the conduit, destination shall be identified by a durable marking on an adjacent surface. A pull-cord shall also be installed in each empty conduit. This shall apply to conduits in floors, panels, manholes, equipment, etc.

END OF SECTION

SECTION 16120

WIRES AND CABLES

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall provide wires and cable, complete and operable, in accordance with the Contract Documents.

1.02 CONTRACTOR SUBMITTALS

A. The Contractor shall submit shop drawings in accordance with Division 01 and Section 16050 - Electrical Requirements.

PART 2 - PRODUCTS

2.01 GENERAL

A. Conductors, include grounding conductors, shall be copper. Aluminum conductor wire and cable will not be permitted. Insulation shall bear UL label, the manufacturer's trademark, and identify the type, voltage, and conductor size. All conductors except flexible cords and cables, fixture wires, and conductors that form an integral part of equipment such as motors and controllers shall conform to the requirements of Article 310 of the National Electric Code, latest edition, for current carrying capacity. Flexible cords and cables shall conform to Article 400, and fixture wires shall conform to Article 402. Wiring shall have wire markers at each end.

2.02 POWER AND LIGHTING WIRE

A. Wire rated for 600 volts in duct or conduit for all power and lighting circuits shall be Class B Type XHHW cross-linked polyethylene conforming to UL-44 - UL Standard for Thermoset-Insulated Wires and Cables. THHN/THWN for all wires smaller than or equal to No. 4 AWG; XHHW insulation for all wires larger than No. 4 AWG.

B. Conductors for feeders as defined in Article 100 of the NEC shall be sized to prevent a voltage drop exceeding 3% at the farthest outlet of power, heating, and lighting loads, or combinations of such loads, and where the maximum total voltage drop on both feeders and branch circuits to the farthest connected load does not exceed 5%.

C. Conductors for branch circuits as defined in Article 100 of the NEC, shall be sized to prevent voltage drop exceeding 3% at the farthest connected load or combinations of such loads and where the maximum total voltage drop on both feeders and branch circuits to the farthest connected load does not exceed 5%.

D. Wiring for 600 volt class power and lighting shall be as manufactured by General Cable, Okonite, or Rome Cable.

2.03 CONTROL WIRE

A. Control wire in duct or conduit shall be the same type as power and lighting wire indicated above.

B. Control wiring shall be No.14 AWG.

C. Control wires at panels and cabinets shall be machine tool grade type MTW, UL approved, rated for 90 C. at dry locations, and be as manufactured by American, Carol Cable, or equal.

2.04 INSTRUMENTATION CABLE

A. Instrumentation cable shall be rated at 300 volts.

B. Instrumentation cables shall be composed of two 18 gauge stranded tinned copper conductors, 0.19″ thick polyethylene insulation, an aluminum polyester foil outer shield, a No. 20 AWG stranded tinned copper drain wire, and a pvc outer jacket with a thickness of 0.028".

C. Manufacturer and model number: Belden 8760, or equal.

2.05 DATA HIGHWAY CABLE

A. Communication Cable
   1. Category 5E cable conforming to ANSI TIA/EIA-568-B.2-2001.
   2. Shielded with stranded conductors.
   3. 4 pair, 24 AWG; capable of transmitting data up to 1000 MBPS.
   4. Heavy duty oil and sunlight resistant PVC jacket with sequential markings at 2′ interval; NEC rated and UL listed.
   5. Belden or equal.

B. Bluehose cable: 1 pair, 20 AWG, 7/28 stranded, tinned copper, polyethylene insulation, Beldfoil +55% tinned copper braid and drain wire, Blue sunlight resistant PVC jacket. Nominal diameter: 0.238"; cable shall be Belden Part No. 9463, or equal.

2.06 CABLE TERMINATIONS

A. Compression connectors shall be Burndy "Hi Lug", Thomas & Betts "Sta-Kon,", or equal. Threaded connectors shall be split bolt type of high strength copper alloy. Pressure type, twist-on connectors will not be acceptable.

B. Pre-insulated fork tongue lugs shall be Thomas & Betts, Burndy, or equal.

C. General purpose insulating tape shall be Scotch No. 33, Plymouth "Slip-knot", or equal. High temperature tape shall be polyvinyl as manufactured by Plymouth, 3M, or equal.

D. Labels for coding 600 volt wiring shall be computer printable or pre-printed, self-laminating, self-sticking, as manufactured by W.H. Brady, 3M, or equal.

PART 3 - EXECUTION

3.01 GENERAL

A. The Contractor shall provide and terminate all conductors except where indicated.

3.02 INSTALLATION

A. Conductors shall not be pulled into raceway until raceway has been cleared of moisture and debris.

B. Pulling tensions on raceway cables shall be within the limits recommended by the cable manufacturer. Wire pulling lubricant, where needed, shall be UL approved.

C. Instrumentation, telephone and RS-485 cables shall not be run in the same raceway with power and control wiring except where specifically indicated.

D. Wire in panels, cabinets, and wire ways shall be neatly grouped using nylon tie straps, and shall be fanned out to terminals.

3.03 SPLICES AND TERMINATIONS

A. General:
   1. Wire taps and splices shall be properly taped and insulated according to their respective classes.
   2. In general, there shall be no cable splices in underground manholes or pull boxes. If splices are necessary, the cables shall be brought aboveground and terminated in a NEMA 4X, stainless steel terminal or splice cabinet on a concrete pad. Splices in underground manholes and pull boxes may be made only with the approval of the Engineer.
   3. Stranded conductors shall be terminated directly on equipment box lugs making sure that all conductor strands are confined within lug. Use forked-tongue lugs where equipment box lugs have not been provided.
   4. Excess control and instrumentation wire shall be properly taped and terminated as spares.

B. Control Wire and Cable:
   1. Control conductors shall be spliced or terminated only at the locations indicated and only on terminal strips or terminal lugs of vendor furnished equipment.
   2. In junction boxes, motor control centers, and control panels, control wire and spare wire shall be terminated to terminal strips.

C. Instrumentation Wire and Cable:
   1. Shielded instrumentation cables shall be grounded at one end only, preferably the receiving end on a 4-20 mA system.
   2. Two- and three-conductor shielded cables installed in conduit runs which exceed available standard cable lengths may be spliced in pull boxes. Such cable runs shall have only one splice per conductor.

D. Power Wire and Cable:

1. All 120/208-volt, 120/240-volt, and 480/277-volt branch circuit conductors may be spliced in suitable fittings at locations determined by the Contractor.
2. Splices to motor leads in motor terminal boxes shall be wrapped with mastic material to form a mold and then shall be taped with a minimum of 2 layers of varnished cambric tape overtaped with a minimum of 2 layers of high temperature tape.

3.04 CABLE IDENTIFICATION

A. General: Wires and cables shall be identified for proper control of circuits and equipment and to reduce maintenance effort. Identification shall appear within 3" of conductor terminals and at each pull or junction box.

B. Identification Numbers: The Contractor shall assign to each control and instrumentation wire and cable a unique identification number. Numbers shall be assigned to all conductors having common terminals and shall be shown on "as built" drawings. "Control Conductor" shall be defined as any conductor used for alarm, annunciator, or signal purposes.
   1. Multiconductor cable shall be assigned a number which shall be attached to the cable at intermediate pull boxes and at stub-up locations beneath free-standing equipment. It is expected that the cable number shall form a part of the individual wire number. Individual control conductors and instrumentation cable shall be identified at pull points as described above. The instrumentation cable numbers shall incorporate the loop numbers assigned in the Contract Documents.
   2. All 120/208-volt conductors shall be color coded as follows: Phase A - black, Phase B - red, Phase C - blue, and Neutral - white.
   3. All 120/240-volt system conductors shall be color coded as follows: Line 1 - Black, Line 2 - Red, and Neutral - White.
   4. All 480/277- volt system conductors shall be color coded as follows: Phase A - Brown, Phase B - Orange, Phase C - Yellow, and Neutral - Gray.
   5. Color coding tape shall be used where colored insulation is not available. Branch circuit switch shall be yellow. Insulated ground wire shall be green, and neutral shall be gray. Color coding and phasing shall be consistent throughout the Site, but bars at panelboards, switchboards, and motor control centers shall be connected Phase A-B-C, top to bottom, or left to right, facing connecting lugs.
   6. General purpose AC control cables shall be red. General purpose DC control cables shall be blue.
   7. Spare cable shall be terminated on terminal screws and shall be identified with a unique number as well as with destination.
   8. Terminal strips shall be identified by computer printable, cloth, self-sticking marker strips attached under the terminal strip.

3.05 TESTING

A. Cable Assembly and Testing: Cable assembly and testing shall comply with applicable requirements of ICEA Publication No. S-68-516 - Ethylene-Propylene-Rubber Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy. Factory test results shall be submitted with the shop drawings. The following field tests shall be the minimum requirements:
   1. Power cable rated at 600 volts shall be tested for insulation resistance between phases and from each phase to a ground using a megohmeter.
   2. Field testing shall be done after cables are installed in the raceways.
   3. Field tests shall be performed by a certified test organization acceptable to the cable manufacturer. Test results shall be submitted to the Engineer for review and acceptance.
   4. Cables failing the tests shall be replaced with a new cable or be repaired. Repair methods shall be as recommended by the cable manufacturer and shall be performed by persons certified by the industry.

B. Continuity Test: Control and instrumentation cables shall be tested for continuity, polarity, undesirable ground, and origination. Such tests shall be performed after installation and prior to placing cables in service.

END OF SECTION

SECTION 16450

GROUNDING

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3.01 GROUNDING

PART 1 - GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall provide the electrical grounding system, complete and operable, in accordance with the Contract Documents.

B. The requirements of Section 16050 - Electrical Requirements apply to this section.

C. Single Manufacturer: Like products shall be the end product of one manufacturer in order to achieve standardization of appearance, operation, maintenance, spare parts and manufacturer's services.

1.02 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Division 01 and Section 16050 - Electrical Requirements.

B. Shop Drawings: Manufacturer's product information for connections, clamps, and grounding system components, showing compliance with the requirements of this section.

PART 2 - PRODUCTS

2.01 GENERAL

A. Components of the grounding electrode system shall be manufactured in accordance with ANSI/UL 467 - Standard for Safety Grounding and Bonding Equipment, and shall conform to the applicable requirements of National Electrical Code Article 250 and local codes.

2.02 GROUNDING SYSTEM

A. Grounding loop conductors shall be bare annealed copper conductors suitable for direct burial. Conductors shall be No. 4/0 unless indicated otherwise.

B. Ground Rods:
   1. Unless indicated otherwise, the ground rod shall be a minimum of 3/4" in diameter, 10' long, and have a uniform covering of electrolytic copper metallically bonded to a rigid steel core. The copper to steel bond shall be corrosion resistant.
   2. Conform to ANSI/UL 467.
   3. Sectional type joined by threaded copper alloy couplings.

C. Buried cable-to-cable and cable-to-ground rod connections shall be made using exothermic welds by Cadweld, Enrico Products, or equal.

D. Exposed grounding connectors shall be of the compression type (connector to cable), made of high copper alloy, and be manufactured specifically for the particular grounding application. The connectors shall be Burndy, O.Z. Gedney, or equal.

E. Grounding clamps shall be used to bond each separately derived system to the grounding electrode conductors.

F. Equipment Grounding Circuit Conductors:
   1. These conductors shall be the same type and insulation as the load circuit conductors. The minimum size shall be as outlined in Table 250.122 of the National Electrical Code, unless indicated otherwise.
   2. Metallic conduit systems shall have equipment grounding wires as well as being equipment grounding conductors themselves.

G. Manufacturers of grounding materials shall be Copperweld, Blackburn, Burndy, or equal.

PART 3 - EXECUTION

3.01 GROUNDING

A. Provide a separate grounding conductor, securely grounded in each raceway independent of raceway material.

B. Provide a separate grounding conductor for each motor and connect at motor box. Do not use bolts securing motor box to frame or cover for grounding connectors.

C. Size as given on the conduit schedule and in accordance with the NEC-Article 250.

D. Route conductors inside raceway.

E. Provide a grounding type bushing for secondary feeder conduits which originate from the secondary section of each MCC section, switchboard, or panelboard.

F. Individually bond these raceways to the ground bus in the secondary section.

G. Provide a green insulated wire as grounding jumper from the ground screw to a box grounding screw and, for grounding type devices, to equipment grounding conductor.

H. Provide a separate grounding conductor in each individual raceway for parallel feeders.

I. Interconnect the secondary switchgear neutral bus to the ground bus in the secondary switchgear compartment only at service entrance point or after a transformer.

J. Bond cold water pipe system and building structure to separate grounding electrode per NEC.

K. Provide the duct bank ground system indicated, including, trenching, splices, ground rods, and connections to equipment and structures.

L. Measure ground impedance in accordance with IEEE STD 81 after installation but before connecting the electrode to the remaining grounding system.

M. Low Voltage Grounded System (600V or less): A low voltage grounded system is a system where the local power supply is a transformer with the transformer secondary grounded.
   1. Grounding system connections for a premises wired system supplied by a grounded AC service shall have a grounding electrode connector connected to the grounded service conductor at each service, in accordance with the NEC.
   2. The grounded circuit conductor shall not be used for grounding non-current carrying parts of equipment, raceways, and other enclosures except where specifically listed and permitted by the NEC.

N. Embedded Ground Connections:
   1. Underground and grounding connections embedded in concrete shall be UL listed compression type ground grid connectors.
   2. The connection shall be made in accordance with the manufacturer's instructions.
   3. The Contractor shall not conceal or cover any ground connections until the Engineer or authorized representative has established that every grounding connection conforms to the Contract Documents and has given the Contractor written confirmation.

O. Ground Ring:
   1. Furnish trenching and materials necessary to install the ground ring as indicated.
   2. Bonding conductor shall be in direct contact with the earth and be of the size indicated.
   3. Minimum burial depth 36" or as indicated on the drawings, whichever is greater.
   4. Re-compact disturbed soils to original density in 6" layers.

P. Ground Rods:
   1. Locations shall be as indicated.
   2. Rods forming an individual ground array shall be equal in length.

Q. Shield Grounding:
   1. Shielded instrumentation cable shall have its shield grounded at one end only unless shop drawings indicate the shield will be grounded at both ends.
   2. The grounding point shall be at the control panel or otherwise at the receiving end of the signal carried by the cable.
   3. Termination of shield drain wire shall be on its own terminal screw.
   4. Terminal screws shall be jumpered together using manufactured terminal block jumpers.
   5. Connection to the ground bus shall be via a green No. 12 conductor to the main ground bus for the panel.

END OF SECTION

SECTION 16480

LOW VOLTAGE MOTOR CONTROL CENTERS

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall modify existing motor control centers (MCC's), complete and operable, in accordance with the Contract Documents. Contractor shall furnish and install feeder circuit to new Pump Skid Control Panel.

B. The requirements of Section 16050 - Electrical Work, General, apply to the work of this section.

C. In the event that motors provided are larger horsepower than motors indicated, raceways, conductors, starters, overload elements, and branch circuit protectors shall be revised as necessary to control and protect the increased motor horsepower. Adjustments shall be made as a part of the work.

1.02 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Division 01 and Section 16050.

B. Shop Drawings
1. Enclosure NEMA rating and color.
2. Horizontal and vertical bus ampacities, voltage rating and interrupting capacity. Include materials of construction.
3. Ground bus size and material of construction.
4. Conduit entrance provisions.
5. Main incoming line entry provision (top or bottom).

6. Control unit nameplate schedule.
7. Circuit breaker types, frames and settings.
8. Starter NEMA sizes, auxiliary contact provisions, coil voltage.
9. Relays, timers, pilot devices, control transformer VA and fuse sizes.
10. Elementary schematic ladder diagrams for each compartment. Custom schematics shall be furnished. Diagrams shall include remote devices. Submittals with drawings not meeting this requirement will not be reviewed further and will be returned to the Contractor stamped "REVISE-RESUBMIT".
11. Short circuit rating of the complete assembly.
12. Replacement parts lists and operation and maintenance procedures.
13. Time-current curves for protective devices.

C. Complete set of shop drawings showing coordination and interconnection wiring between MCC and control integrator drawings.

PART 2 - PRODUCT

2.01 GENERAL

A. The manufacturer of the low voltage motor control center shall also be the manufacturer of at least the following:
   1. Molded case circuit breakers up to and including 225 amp. frame size.
   2. Disconnect switches.
   3. Magnetic motor starters.
   4. Control and timing relays rated at 600 volts AC.
   5. Pushbuttons, lights, and selector switches, including remote mounted control stations.

B. Devices of the same type shall be products of the same manufacturer. This requirement applies to control devices, and insofar as practical, to equipment manufactured on a production basis. It also applies without exception to equipment custom fabricated for this project.

C. Motor control centers shall conform to the standards for NEMA Class IIS, Type B diagrams and wiring.

D. MCC Schedule

MCC DESIGNATION	LOCATION
MCC-3 (Existing)	Control Building-Control Room

2.02 DESIGN, CONSTRUCTION, AND MATERIAL REQUIREMENTS

A. The motor control centers shall be 600 volt class suitable for operation on a 3 phase, 60 Hz system. The system operating voltage and number of wires shall be as indicated.

B. The motor control centers shall receive power from a 3 phase, wye connected 277/280 volt transformer with a grounded neutral. Power distribution from the MCC shall be 480 volt, 3 phase, 3 wire, however the MCC shall include provision for termination of an incoming neutral conductor in conformance to NEC requirements for service entrance.

C. Enclosure shall be NEMA Type 1 enclosure. Compartment doors shall be interlocked with compartment circuit breakers. The interlock shall be fitted with a maintenance override.

D. Size and Arrangement
   1. Motor control centers shall be of mechanical groupings of control center units, assembled into a lineup of control center sections. Each control section shall be nominally 90" tall by minimum 20" deep.
   2. MCC's shall be designed to not exceed the space requirements as indicated on the contract drawings, including spaces, spares, and future compartments. MCC's shall be subject to rejection for exceeding the lengths indicated where allotted space is critical.
   3. Equipment within the MCC may be rearranged at the discretion of the manufacturer, providing the MCC provides the spares, space, and future provisions indicated.
   4. Switches and circuit breakers used as switches shall be located so that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, will not be more than 6'-7" above the floor, including the height of the concrete pad.

E. Components
   1. Busses
      a. A continuous copper ground bus shall be provided with full width of the motor control center line-up.
      b. The main horizontal bus shall be tin-plated copper located within an isolated compartment. The bus shall be rated 600 amp. minimum, but in no instance less than the main lug or main breaker frame size.
      c. The vertical bus in each section shall consist of a single tin-plated copper conductor per phase with a current capacity of not less than 600 amps. The vertical bus shall be completely isolated and insulated, and shall extend the full height of the section wherever possible.
      d. Fully rated continuous copper neutral bus shall be provided through the control center. Lugs of appropriate capacity shall also be provided.
      e. Power buses shall be braced to withstand 65,000 amp., minimum.

2. Wireways: A separate vertical wireway shall be provided adjacent to each vertical unit and shall be covered by a hinged door. Each individual unit compartment shall be provided with a side barrier to permit pulling wire in the vertical wireway without disturbing adjacent unit components.

F. Cabinet
1. Structural members shall be fabricated of not less than 12 gauge steel and side and top panels and doors shall be not less than 14 gauge steel.
2. Spaces designated as "SPACE" or "BLANK" shall include blank hinged doors and vertical bus bars.
3. Control units inside compartments shall be clearly identified with tags or stencil markings.
4. Each control unit including spares, spaces and blanks, lights, and devices shall be identified by an engraved nameplate. Identification shall include circuit number as indicated.
5. Each motor control center shall be fitted with the manufacturer's nameplate which shall include the NEMA Standard electric rating and other pertinent data, including manufacturer, sales order number, date of manufacture, and place of manufacture.
6. Where "L" or "U" shaped MCC layouts are indicated, corner compartments shall have similar current and short circuit ratings as functional compartments.
7. Fans, heat exchangers, transformers, capacitors, junction boxes, or other devices may not be mounted on the outside of the motor control center enclosure.
8. Finish for motor control center shall be light grey, ANSI 61. The panels shall be given 2 coats of primer inside and out and 2 coats of enamel finish. External colors other than ANSI 61 will not be acceptable.

2.03 FEEDER CIRCUIT BREAKERS

A. Circuit breakers having a frame size of 150 amp. or less shall be molded-case type with thermal magnetic non-interchangeable, trip-free, sealed trip units.

B. Circuit breakers with a frame size of 225 amp. to 1,200 amp. shall be molded case with RMS sensing electronic trip elements; provide adjustable trip on units with 400 amp. rating or higher.

C. The interrupting capacity of main, and feeder branch circuit breakers shall be a minimum of 65,000 RMS symmetrical amperes. Service disconnects rated 1000 A or more shall provide ground fault protection of equipment.

D. Circuit breaker disconnect operators shall be capable of accommodating 3 padlocks for locking in the "open" position.

2.04 MANUFACTURER

A. Feeder circuit breaker shall be compatible with existing Westinghouse MCC.

PART 3 - EXECUTION

3.01 GENERAL

A. The Contractor shall install motor control centers and ancillary devices in accordance with manufacturer's published instructions. Conduit installation shall be coordinated with manufacturer's as-fabricated drawings so that conduit stub-ups are within the area allotted for conduit. Conduit shall be stubbed up in the section that contains the devices to which conductors are terminated.

3.02 INSTALLATION

A. The Contractor shall:
   1. Torque bus bar bolts to manufacturer's recommendations. Tighten sheet metal and structure assembly bolts.
   2. Adjust motor circuit protector (MCP) devices to the instantaneous trip setting position recommended for the actual horsepower and full load amps of the motor. Verify that overload devices are proper for equipment installed; make necessary changes in overload devices as required for motors having power factor correcting capacitors.
   3. After equipment is installed, touch up scratches and verify that nameplate, and other identification is accurate.
   4. Provide high voltage switchboard matting in front of the MCC. The mat shall be 1/4" thick and 36" wide and shall be Model M36 as manufactured by W.H. Salisbury & Co., or equal.

3.03 FIELD TESTS

A. Visual and mechanical inspection after installation.
   1. Inspect for physical damage, proper anchorage, and grounding.
   2. Verify that the ratings of the thermal overload heaters match the motor full-load current nameplate data.
   3. Check tightness of bolted connections.

B. Electrical Tests
   1. Insulation tests
      a. Measure insulation resistance of each bus section phase to phase and phase to ground for one minute. Test voltage and minimum acceptable resistance shall be in accordance with manufacturer's recommendations.

b. Measure insulation resistance of each starter section phase to phase and phase to ground with the starter contacts closed and the protective device open. Test voltage and minimum acceptable resistance shall be in accordance with the manufacturer's recommendations.
c. Measure insulation resistance of each control circuit with respect to ground.

2. Verify proper operation of control logic in each mode of control.

END OF SECTION

SECTION 17100

PROCESS CONTROL AND INSTRUMENTATION SYSTEMS

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. This section describes process control and instrumentation systems.

B. The Contractor shall provide all Process Control and Instrumentation Systems (PCIS) complete and operable, in accordance with the Contract Documents.

C. The requirements of this section apply to all components of the PCIS unless indicated otherwise.

D. Related work specified elsewhere:
   1. Division 16 - Electrical.
   2. Section 17200 - Instrumentation and Control Equipment.
   3. Section 17300 - Control Panels.

1.02 REFERENCES

A. National Fire Protection Association (NFPA):
   1. NFPA 70 - National Electrical Code (NEC), latest edition.

B. National Electrical Manufacturers Association (NEMA):
   1. NEMA ICS-2 - Industrial Control Devices, Controllers, and Assemblies.
   2. NEMA 250 - Enclosures for Electrical Equipment.

C. Underwriters Laboratories (UL):

1. UL 508 - Industrial Control Equipment.

1.03 GENERAL

A. The Contractor shall use a Controls Integrator (CI) and qualified electrical installers to furnish, install, and place into service process instrumentation, controls and appurtenant work as specified and shown.

B. Contractor shall assign to the CI full responsibility for the functional operation of instrumentation and integrated controls systems. The Controls Integrator shall:
   1. Perform engineering required to select, to furnish, to supervise installation and connection, to calibrate, and to place into operation additional sensors, instruments, controls, accessories, and other equipment as specified.
   2. Be responsible for the integration of related systems and shall ensure compatibility of components through the coordination of all hardware, signal converters, communications software and accessories.
   3. Be under direct, written agreement with the Contractor and comply with specified requirements of these Documents.
   4. Not be the employee of nor be affiliated with manufacturers or manufacturers' representatives of major equipment such that a conflict of interest could adversely affect progress of the Work.

C. Work specified in Division 17 includes furnishing, installing, start-up, testing and adjusting of all required equipment, including instruments, equipment, hardware, software, wiring, accessory equipment, and training to provide a completely operational process control and instrumentation system.

D. It shall be the responsibility of the Contractor through the use of the CI to furnish a complete and fully operating system; The Contractor shall be responsible for all details which may be necessary to properly install, adjust and place in operation the complete installation; The Contractor shall assume full responsibility for additional costs which may result from unauthorized deviations from the Contract Documents.

E. It shall be the responsibility of the CI to examine all new and existing equipment that is transmitting signals to, or receiving signals from, equipment specified in Division 17; The CI shall be responsible for providing signal converters, buffer amplifiers, and isolation devices to make signal levels, reference to ground, etc. compatible between devices specified in Division 17 and existing equipment.

1.04 CONTROLS INTEGRATOR EXPERIENCE AND CAPABILITIES

A. The CI shall be normally engaged in assembly, installation, repair, and maintenance of process control and instrumentation systems and must have been supplying similar types/quantities of control systems in municipal water and wastewater treatment industry for a minimum of 15 years; submit list of minimum 35 installations for which integrator has provided similar type/quantity of equipment, including name and telephone number of person responsible for operation and maintenance of each installation.

B. The CI shall have qualified, trained service personnel on staff who are capable of programming, maintaining and adjusting the system; The CI shall be capable of offering an extended service contract after completion of the warranty period, including 24 hour, 7 day a week emergency services; service personnel must be available within 8 hours of verbal notice on all days of week.

C. Submit:
   1. 100% supply/performance/payment bond.
   2. Certificate-showing evidence of $1,000,000 insurance coverage for professional liability/ errors and omissions.
   3. Certificate-showing evidence of $1,500,000 insurance coverage for comprehensive general liability (All Risk Insurance).
   4. Copy of liability insurance policy with same limits as comprehensive general liability policy to protect Owner and Engineer against any and all claims in liabilities for injury to or death of persons or damage to property caused whole or in part by any negligent acts or omissions of integrator arising from work on this project; name Owner and Engineer against as additional insured and maintain this policy in full force and effect for entire duration of this project.

D. The CI shall have service and parts office within 200 miles of project site and shall be able to provide service within time period acceptable to the Owner or shall have the capability to provide service to project site remotely by modem; the local office shall have full-time service personnel and answer telephone calls in person; provide home telephone numbers of management personnel for use in case of emergencies.

E. The Controls Integrator shall be Tri-City Electric Company (Davenport, Iowa), or equal as approved by the Contracting Authority.

1.05 SUBMITTALS

A. Submit informational literature/data for following materials and equipment in accordance with general procedures set forth in Specifications:
   1. All equipment and components indicated on Drawings and specified in this section.
   2. Software packages including complete description of features and capabilities.

B. Submit shop drawings for following materials and equipment in accordance with general procedures set forth in Specifications:
   1. Panel drawings including system schematic drawings, terminal numbering, component schematic drawings, dimension drawings, layout drawing and nameplate schedule.
   2. Overall system diagram showing all components, converters, cables, and connectors.
   3. Programmable Logic Controller (PLC) programs in ladder format including verbal description of each rung's function; assign point numbers to all inputs and outputs, and show point numbering in PLC program.
   4. Proposed graphic displays; submit actual hardcopy of programmed graphic screens.
   5. The submittal shall address all hardware and software to be supplied. In addition, include:
      a. Identification of the respective responsibilities of each party to the project. Including what is provided by the system manufacturer, what is to be subcontracted etc.
      b. Description of the major user related features and operating characteristics of the proposed system.
      c. Description of all master site hardware and software updates including examples of HMI and PC SCADA displays, control loops, reports, and how the operator will interface with the system to achieve each specified function.
      d. Description and operation of all required configuration features of the I/O and local and remote control loop characteristics.
      e. Description containing startup implementation plan, participant's responsibilities and a schedule of events.
      f. All significant equipment to be supplied shall be listed followed by descriptive data sheets. The equipment list shall include each component name, manufacturer, model number, a description of the operation, quantity supplied, and any special setup and operation and maintenance characteristics.
      g. Drawings of equipment to be supplied shall include as a minimum, overall dimension details for each unit including installation arrangements, door mounted operator devices and instruments. Wiring diagrams of all system components including field device connections shall be included and specific installation wiring responsibilities identified.

C. Operations and Maintenance (O&M) Manuals: submit minimum of five (5) sets of operation and maintenance manuals containing:
   1. A detailed written description of system hardware, software, and system operation shall be provided. The description of hardware and software shall identify pertinent references to sections of standard hardware and software manuals where operational procedures are detailed. Control loops shall be fully described in the O&M manual.
   2. Panel equipment, field devices and instruments, including "as-built" system schematics.

3. Final copy of PLC program on 8-1/2" x 11" sheets in ladder format including verbal description of each rung's function.
4. PLC program burned on DVD.
5. Point lists for all PLC inputs/outputs; identify point number (tag), point description, point type, range in engineering units (if analog point), PLC number, rack and slot number, and point address.

D. Final as-built drawings.

E. All submittals bound in 3-ring binders with labeled tabs separating sections.

1.06 GUARANTEE

A. Contractor shall guarantee operation of system and that materials and workmanship of equipment be free from defects for period as defined in General Conditions of project manual providing equipment has been operated and maintained in accordance with manufacturer's recommendations.

1.07 WARRANTY

A. Controls Integrator shall provide a comprehensive two (2) year parts and labor warranty for complete control system.

1.08 TESTING

A. The controller and peripherals shall be tested as best possible at the factory as an integrated unit prior to shipment. The engineer shall be notified at least 2 weeks in advance of the system test. Include test results as an attachment to the equipment.

B. Panel furnished under this section constructed in accordance with UL 508.

C. Panel shop-inspected by UL or constructed in UL-recognized facility; completed panel shall bear serialized UL label indicating acceptance under Standard 508.

PART 2 - PRODUCTS

2.01 GENERAL

A. Code and Regulatory Compliance: PCIS work shall conform to or exceed the applicable requirements of the National Electrical Code. Conflicts between the requirements of the Contract Documents and any codes or referenced standards or specifications shall be resolved accordingly.

B. Current Technology: Meters, instruments, and other components shall be the most recent field-proven models marketed by their manufacturers at the time of submittal of the Shop Drawings unless otherwise required to match existing equipment.

C. Hardware Commonality: Instruments which utilize a common measurement principle (for example, d/p cells, pressure transmitters, level transmitters that monitor hydrostatic head) shall be furnished by a single manufacturer. Panel mounted instruments shall have matching style and general appearance. Instruments performing similar functions shall be of the same type, model, or class, and shall be from a single manufacturer.

D. Loop Isolators and Converters: Signal isolators shall be provided as required to ensure adjacent component impedance match where feedback paths may be generated, or to maintain loop integrity during the removal of a loop component. Dropping precision wirewound resistors shall be installed at all field side terminations in the control panels to ensure loop integrity. Signal conditioners and converters shall be provided where required to resolve any signal level incompatibilities or provide required functions.

E. Environmental Suitability: Indoor and outdoor control panels and instrument enclosures shall be suitable for operation in the ambient conditions associated with the locations designated in the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided in order to maintain all instrumentation devices 20% within the minimums and maximums of their rated environmental operating ranges. The Contractor shall provide power wiring for these devices. Enclosures suitable for the environment shall be furnished. All instrumentation in hazardous areas shall be suitable for use in the particular hazardous or classified location in which it is to be installed.

F. Signal Levels: Analog measurements and control signals shall be as indicated herein, and unless otherwise indicated, shall vary in direct linear proportion to the measured variable. Electrical signals outside control panels shall be 4 to 20 ma. dc except as indicated. Signals within enclosures may be 1 to 5 volts dc. Electric signals shall be electrically or optically isolated from other signals. Pneumatic signals shall be 3 to 15 psig with 3 psig equal to 0% and 15 psig equal to 100%.

G. Control Panel Power Supplies: Control panels shall be provided with redundant power supplies which are configured in a fault-tolerant manner to prevent interruption of service upon failure and interruption of service necessitated by the replacement of a power supply. Power supplies shall have an excess rated capacity of 40%. The failure of a power supply shall be annunciated at the control panel and repeated to the PLC.

H. Alternative Equipment and Methods: Equipment or methods requiring redesign of any project details are not acceptable without prior written approval of the Engineer through the "or equal" process of Section 01600 - Material and Equipment. Any proposal for approval of alternative equipment or methods shall include evidence of improved performance, operational advantage, and maintenance enhancement over the equipment or method indicated, or shall include evidence that an indicated component is not available.

2.02 OPERATING CONDITIONS

A. The PCIS shall be designed and constructed for satisfactory operation and long, low maintenance service under the following conditions:
   1. Environment: a water treatment plant facility.
   2. Temperature Range: 32 through 104°F.
   3. Thermal Shock: 1°F. per minute, max.
   4. Relative Humidity: 20 through 95%, non-condensing.

2.03 SPECIAL TOOLS

A. The CI shall furnish a priced list of any and all special tools required to calibrate and maintain the instrumentation provided under the Contract Documents. After approval the CI shall furnish the requested tools on that list.

B. Special tools shall be submitted before startup commences, suitably wrapped and identified.

PART 3 - EXECUTION

3.01 PROJECT MANAGEMENT

A. Supplier shall provide engineering and administrative services necessary to fulfill requirements of Specifications.

B. Supplier shall provide services of experienced project manager as overall coordinator during course of project.

3.02 INSTALLATION

A. General:
   1. Instrumentation, including instrumentation furnished under other divisions, shall be installed under Division 17 and the manufacturers' instructions.
   2. Equipment Locations: The monitoring and control system configurations indicated are diagrammatic. The locations of equipment are approximate. The exact locations and routing of wiring and cables shall be governed by structural conditions and physical interferences and by the location of electrical terminations on equipment. Equipment shall be located and installed so that it will be readily accessible for operation and maintenance. Where job conditions require reasonable changes in approximated locations and arrangements, or when the Owner exercises the right to require changes in location of equipment which do not impact material quantities or cause material rework, the Contractor shall make such changes without additional cost to the Owner.

B. Conduit, Cables, and Field Wiring:
   1. Conduit shall be provided under Division 16 without delay to the work of Division 17.

2. Process equipment control wiring, 4-20 mA signal circuits, signal wiring to field instruments, PLC input and output wiring and other field wiring and cables shall be provided under Division 16.
3. Terminations and wire identification at PCIS equipment furnished under this or any other division shall be provided under Division 17.

C. Ancillary Devices: The Contract Documents show all necessary conduit and instruments required to make a complete instrumentation system. The Contractor shall be responsible for providing any additional or different type connections as required by the instruments and specific installation requirements. Such changes shall not be a basis of claims for extra work or delay.

D. Installation Criteria and Validation: Field-mounted components and assemblies shall be installed and connected according to the requirements below:
1. Installation personnel have been instructed on installation requirements of the Contract Documents.
2. Technical assistance is available to installation personnel at least by telephone.
3. Installation personnel have at least 1 copy of the approved Shop Drawings and data.
4. Instrument process sensing lines shall be installed in conduit under Section 16050 - Electrical General Provisions. Individual tubes shall be run parallel and near the surfaces from which they are supported. Supports shall be used at intervals of not more than 3' of rigid tubing.
5. Bends shall be formed to uniform radii with the proper tool without deforming or thinning the walls of the tubing. Plastic clips shall be used to hold individual plastic tubes parallel. Ends of tubing shall be square cut and cleaned before being inserted in the fittings. Bulkhead fittings shall be provided at panels requiring pipe or tubing entries.
6. Differential pressure elements shall have 3 valve manifolds.
7. Flexible cables and capillary tubing shall be installed in flexible conduits. The lengths shall be sufficient to withdraw the element for periodic maintenance.
8. Power and signal wires shall be terminated with crimped type lugs.
9. Connectors shall be, as a minimum, water tight.
10. Wires shall be mounted clearly with an identification tag that is of a permanent and reusable nature.
11. Wire and cable shall be arranged in a neat manner and securely supported in cable groups and connected from terminal to terminal without splices unless specifically approved by the Engineer. Wiring shall be protected from sharp edges and corners.
12. Mounting stands and bracket materials and workmanship shall comply with requirements of the Contract Documents.
13. Verify the correctness of each installation, including polarity of electric power and signal connections, and make sure process connections are free of leaks. The Contractor shall certify in writing that discrepancies have been corrected for each system checked out.
14. The Owner will not be responsible for any additional cost of rework attributable to actions of the Contractor or the Controls Integrator.

3.03 CALIBRATION

A. General: Devices provided under Division 17 shall be calibrated according to the manufacturer's recommended procedures to verify operational readiness and ability to meet the indicated functional and tolerance requirements.

B. Calibration Points: Each instrument shall be calibrated at 20, 40, 60, 80 and 100% of span using test instruments to simulate inputs. The test instruments shall have accuracies traceable to National Institute of Standards and Testing.

C. Bench Calibration: Instruments that have been bench-calibrated shall be examined in the field to determine whether any of the calibrations are in need of adjustment. Such adjustments, if required, shall be made only after consultation with the Engineer.

D. Field Calibration: Instruments which were not bench-calibrated shall be calibrated in the field to insure proper operation in accordance with the instrument data sheets.

E. Analyzer Calibration: Each analyzer system shall be calibrated and tested as a workable system after installation. Testing procedures shall be directed by the manufacturers' technical representatives. Samples and sample gases shall be furnished by the manufacturers.

F. Calibration Sheets: Each instrument calibration sheet shall provide the following information and a space for sign-off on individual items and on the completed unit:
   1. Project name.
   2. Tag number.
   3. Manufacturer.
   4. Model number.
   5. Serial number.
   6. Calibration range.
   7. Calibration data: Input, output, and error at 10%, 50%, and 90% of span.
   8. Switch setting, contact action, and deadband for discrete elements.
   9. Space for comments.
   10. Space for sign-off by Controls Integrator and date.
   11. Test equipment used and associated serial numbers.

G. Calibration Tags: A calibration and testing tag shall be attached to each piece of equipment or system at a location determined by the Engineer. The Contractor shall have the Instrumentation Supplier sign the tag when calibration is complete. The Engineer will sign the tag when the calibration and testing has been accepted.

3.04 START-UP

A. The Controls Integrator shall provide skilled programmer/instrumentation engineer or technician who shall complete troubleshooting and start-up to place entire system into satisfactory operation; engineer or technician shall make necessary inspection of completed installation, make necessary final field adjustments and make program revisions as required for start-up.

B. Demonstrate proper operation of all system features and functions to Owner and Engineer.

C. Coordinate start-up scheduling with Owner and Engineer.

3.05 ON-SITE SERVICES

A. In addition to other services specified including start up, provide competent technician or programmer/instrumentation engineer to perform following services at times approved by Owner:
   1. Software revisions and training: One 8 hour days on-site to train Owner's personnel on:
      a. Operation and maintenance of all equipment furnished.
      b. SCADA system operations.
      c. PLC programming.

END OF SECTION

SECTION 17300

CONTROL PANELS

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PART 1 - GENERAL

1.01 THE REQUIREMENT

A. General: The Contractor shall provide a control panel/system modifications, complete and operable, in accordance with the Contract Documents.

B. The requirements of Section 17100 - Process Control and Instrumentation Systems apply to this Section.

1.02 CONTRACTOR SUBMITTALS

A. General: Submittals shall be furnished in accordance with Division 01.

B. Control Panel Engineering Submittal: The Contractor shall submit a control panel engineering submittal (CPES) for the control panel. The CPES shall completely define and document the construction, finish, layout, power circuits, signal and safety grounding circuits, fuses, circuit breakers, signal circuits, internally mounted instrumentation, face plate mounted instrumentation components, internal panel arrangements, and external panel arrangements. All panel drawings shall, as a minimum, be "B" size with all data sheets and manufacturer specification sheets being "A" size. The submittal shall be in conformance with ISA-S20 - Standard Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves, shall be submitted as a singular complete bound volume or multi-volume package within 120 calendar days after Notice to Proceed, and shall have the following contents:

1. A complete index shall appear in the front of the bound volume. Panel tagging and nameplate nomenclature shall be consistent with the requirements of the Contract Documents.
2. Scaled physical arrangement drawings drawn to scale which define and quantify the physical groupings comprising control panel sections, auxiliary panels, subpanels, and racks. Cutout locations with nameplate identifications shall be shown.
3. Front of panel layout for the control panel.
4. Schematic/elementary diagrams shall depict all control devices and circuits and their functions.
5. Wiring/connection diagrams shall locate and identify electrical devices, terminals, and interconnecting wiring. These diagrams shall show interconnecting wiring by lines, designate terminal assignments, and show the physical location of all electrical and control devices.
6. Interconnection diagrams shall locate and identify all external connections between the control panel/control panel devices and associated equipment. These diagrams shall show interconnecting wiring by lines, designate terminal assignments, and show the physical location of all panel ingress and egress points.
7. A bill of material which enumerates all devices associated with the control panel.
8. Submit informational literature/data for all components including but not limited to Control Panel internal devices, PLC hardware and software, etc.
9. Programmable Logic Controller (PLC) programs in ladder format including notated description of each rung's function; assign point numbers to all inputs and outputs, and show point numbering in PLC program.
10. Proposed graphic displays; submit actual hard copy of programmed graphic screens.

C. Operations Manual: Provide operations and maintenance information for the following:
   1. Panel equipment, field devices and instruments, including "as-built" system schematics.
   2. Final copy of PLC program on 8-1/2" x 11" sheets in ladder format including verbal description of each rung's function.
   3. Floppy disks containing final PLC program and final distributed control software program.
   4. Complete software documentation including programming information and operator's guides.
   5. Point lists for all PLC inputs/outputs; identify point number (tag), point description, point type, range in engineering units (if analog point), PLC number, rack and slot number, and point address.

D. All submittals shall be bound in 3-ring binders with labeled tabs separating each section.

1.03 QUALITY ASSURANCE

A. All materials, equipment and parts shall be new and unused of current manufacturer.

B. Control panel supplier shall be responsible for providing all necessary accessories required for a complete and operable system.

C. All control panels shall be constructed in accordance with UL 508A standards and shall bear the UL listing.

1.04 WARRANTY

A. See Division 01 for additional requirements.

PART 2 - PRODUCTS

2.01 GENERAL

A. Environmental Suitability: The control panel shall be suitable for operation in the ambient conditions associated with the location designated in the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided as necessary in order to maintain all instrumentation devices 20% within the minimums and maximums of their rated environmental operating ranges. The Contractor shall provide all power wiring for these devices. Enclosures suitable for the environment shall be provided.

B. The control panel controls shall be 120 VAC. Control conductors shall be provided in accordance with the indicated requirements.

C. Each source of foreign voltage shall be isolated by providing disconnecting or pull-apart terminal blocks or a disconnect operable from the control panel front. Each control panel shall be provided with identified terminal strips for the connection of all external conductors. The Contractor shall provide sufficient terminal blocks to connect 25% additional conductors for future use.

D. Control panel mounted devices shall be mounted a minimum of 3' above finished floor elevation.

2.02 CONTROL PANELS

A. SCADA Control Panel
   1. Existing control panel modified by Controls Integrator.
   2. Controls Integrator shall provide labor and materials necessary to integrate new

Gray Water Pump System process data and alarms into existing SCADA system.

3. Furnish control panel components necessary to facilitate termination of Ethernet communication cable.

B. Mounting of Instruments
   1. The panel vendor shall provide cutouts, and shall mount all instrument items indicated to be panel mounted.
   2. The panel vendor shall also mount behind the panels other instrument accessory items as required for functionality as indicated.
   3. Equipment mounted at the rear of panel shall be installed to allow for commissioning adjustments, servicing requirements, and cover removal.
   4. Spare space shall be kept clear of wiring, etc., to give maximum space for future additions.

C. Panel Wiring
   1. Wire type and sizes: Conductor shall be flexible stranded copper machine tool wire, UL listed Type MTW, and shall be rated 600 volts. Wires for power circuits within panel shall be No. 14 minimum and sized for the load. Wires for instrument signal circuits and alarm input circuits within panel shall be No. 16 AWG. All shielded cables, shall be No. 18 AWG minimum.
   2. Wire Marking: Wire numbers shall be marked using white numbered wire markers made from plastic-coated cloth, Brady Type B 500 or equal, or shall be heat shrink plastic.
   3. For case grounding, panels shall be provided with a 1/4" x 1" copper ground bus complete with solderless connector for one No. 4 AWG bare stranded copper cable. The copper cable shall be provided by the Contractor and be connected to a system ground loop.
   4. Power Supply Wiring
      a. Unless otherwise indicated, instruments, and alarm systems shall operate on 120 volt, 60 Hz circuits.
      b. Each potentiometer type instrument, electronic transducer, controller, or analyzer shall have an individual disconnect switch. Disconnect switches shall have metal or plastic tags indicating instrument tag numbers. Individual plug and cord set power supply connections may be used without switches when indicated in the material specification.
   5. Alarm Wiring: The panel vendor shall install and wire alarms including light cabinets, audible signal units, test and acknowledge switches, and remote logic units as indicated. Interconnecting wiring to panel mounted initiating devices shall also be wired by the panel vendor. The wiring from external initiating devices shall be provided by the Contractor. Where plug and cord sets are provided for component interconnection, the panel vendor shall harness and support the cables in neat and orderly fashion. Where separate wire is required, panel vendor shall install No. 16 AWG with THWN or THHN insulation between all components.
   6. Signal Wiring

a. Signal wire shall be twisted pair or triads. Cable shall be constructed of No. 16 AWG copper signal wires with THWN or THHN insulation.
b. Color code for instrument signal wiring shall be as follows:
Positive (+) – Black
Negative (-) – White

2.03 PROGRAMMABLE LOGIC CONTROLLER

A. General:
1. Modify existing programmable logic controller (PLC) control program to communicate with new Gray Water Pump System Control Panel.
2. PLC and all components shall be designed, manufactured and tested in accordance with latest applicable UL standards.

B. PLC
1. Existing PLC is Allen-Bradley ControlLogix with RS Logic 5000 programming software.
6. All software is to be licensed to the Owner.

2.04 DISTRIBUTED CONTROL SOFTWARE

A. Fully tested and documented standard software package, commercially available, ready for configuration to fit specific project requirements.

B. Fully configured by Contractor to satisfy requirements of functional descriptions in Section 17400 - Control Descriptions.

C. Software Tags
1. The software package shall handle all external data, internal data, and functions in "tag" format. Tags shall be a group of standardized software routines that can be set up by an operator to manipulate data.
2. The program shall use the software tags throughout all software routines. It shall be possible for different routines to access the same tag.
3. Allow operator to call any tag to the computer screen. The tag display shall indicate type of tag, point name, value or state, alarm conditions and other information depending on the tag type.
4. Allow operator to write new tags, combine tags, and manipulate tags to develop new closed-loop functions, graphics and data-bases.
5. As a minimum, the following tag types shall be provided:
a. Analog Tag - include operator entries for high alarm point, low alarm point, rate-of-change alarm point, conversion to engineering units, scan frequency, filtering, and trending sample frequency.

b. Digital Tag - include operator entries for scan frequency, inverting digital value, and overriding digital value to 0 or 1 state.
c. Alarm Tag - include operator entries for editing alarm message on screen, enable/disable alarm, report return to normal status.
d. Calculation Tag - include operator entries to perform logical and mathematical functions on any analog or digital values input to the tag. Allow up to eight input variables. Perform addition, subtraction, multiplication, division, sine, cosine, square root, natural logarithm, logarithm, Boolean functions, scan frequency, and trending sample frequency.

6. Allow operator to call tag summaries to a computer screen and/or printer. Standard summaries shall include:
   a. Tags in alarm
   b. Tags in standby
   c. Tags with disabled alarms
   d. Tags off
   e. All tags
7. Contractor shall program the system and configure a tag for each PLC input and output point. Contractor shall enter tag values, alarm points, ranges, scan frequency, etc. so that all tags are available for use at the computers by the Owner when additional graphics and trends are built in the future.

D. Computer Graphics
1. Computers shall have color video graphic displays showing the plant process. Provide a menu for selection of the various graphics. Graphics shall have at least 64 colors.
2. Graphics shall show current analog values (in engineering units), digital values and equipment status. Graphics showing process equipment (e.g., pumps, blowers, valves, etc.) shall be interfaced with all related input/output points so that current status of the equipment is shown:
   a. White - motor off or valve closed.
   b. Green - motor on or valve open.
   c. Red - alarm condition.
   d. Flashing - valve in intermediate position.
   e. Yellow - motor required.
3. Software shall contain "graphics builder" routine to allow the operator to create additional graphics. Graphics builder shall contain a menu of standard symbols, lines and shapes, and commands to facilitate building or modifying graphics. The graphics builder feature shall include a menu of common symbols (such as pumps, tanks, piping fittings, etc.) and shapes that can be selected using a mouse. Graphic builder shall include edit functions such as "copy", "move", "cut" and "paste" to facilitate making new screens and modifying existing screens.

4. Graphics shall be dynamic, capable of being linked with a software tag so that the graphic changes as analog or digital values change (e.g., a tank changes color as it is filled up).
5. Contractor shall build the initial graphics for the project. Screen layout, menus, directories, graphic designs and color selections shall be submitted for review and shall be confirmed with the Engineer and Owner during construction.
6. System Overview Graphic - Contractor shall build a graphic screen that is representative of the overall wastewater treatment facilities. The screen shall allow the operator to access other graphic screens by "clicking" the mouse on the appropriate building/structure. When an alarm occurs, the associated building/structure shall flash in red on the overview graphic.
7. Individual Building / Process Graphics - Contractor shall build approximately 50 graphics showing all processes. The graphics shall be linked to all related PLC inputs/outputs to display equipment running status, alarm conditions, water levels (dynamic display), flow rates, etc.
8. Control Graphics - Contractor shall build approximately 25 graphics for operator control of pumps, valves and equipment as specified. Each graphic shall allow operator to place equipment in "AUTO" mode and adjust setpoints and timing values as specified in the functional descriptions for each equipment item.
9. Provide graphical links between process graphics and control graphics so operator may transition between related screens with a single mouse operation.
10. In addition to the graphics specified previously and elsewhere in this Specification, Contractor shall build 6 graphics as determined by Owner/Engineer during construction.

E. Alarms
1. Computer shall have an alarm screen that shows new alarms, acknowledged alarms and daily alarm log.
2. Each alarm point shall identify the alarm location, a 20-character minimum alarm description, and time of occurrence.
3. Computer shall allow operator to acknowledge alarms and to print alarm summary on demand.
4. Print all alarm occurrences on the alarm printer, including date and time of occurrence and time of acknowledgment.
5. Alarms shall sound through the computer internal speakers and alarm horn in each Building.
6. Allow the operator to disable any alarm points via the computer (for equipment maintenance, etc.). This feature shall require a password to enable/disable alarms.
7. New alarm conditions shall display as a single line at the bottom of the computer screens when the alarm summary is not displayed.
8. Computer shall have a list of all alarms on a screen. Allow operator to enable or disable alarms.

9. Analog Value Alarms:
    a. Allow operator to assign "high" and "low" software setpoints to all analog inputs and outputs. If measured value exceeds the high setpoint or falls below the low setpoint, energize an associated alarm at the computer. All displays and software setpoints shall be in engineering units.
    b. Analog value alarms shall function as described above for plant alarms.
10. Equipment "Fail" Alarms
    a. Where a PLC calls for an equipment item to operate, the PLC shall monitor the associated equipment "RUNNING" contacts.
    b. If a RUNNING signal is not returned after five seconds (adjustable), then generate a descriptive alarm point.
11. Communication Failure Alarms
    a. Provide alarms to indicate loss of communication with each device on the network.

F. Faceplate Displays
    1. Computers shall have menu screens that allow operators to call any analog value or PID loop to the screen. The screen shall show the analog value or PID loop as a faceplate display with analog scale, numerical value, alarm limits, and other related information.
    2. Through mouse commands, allow operator to modify scale, alarm limits, setpoint (if PID), and to call related tags.

G. Historical Data Collection
    1. Scan all analog inputs and outputs each minute, and store data in a file. At the end of each hour, calculate maximum, minimum and average value for each point, and store the three values in a new file.
    2. Each day prompt the operator to select either to store the previous day's one-minute values on a memory stick, on the hard drive, or to delete the data from the computer.
    3. Retain the hourly minimums, maximums, totals, and averages for use in trending and reports. At the end of each month, allow the operator up to 15 days to select to either store the data on a memory stick, on the hard drive, or to delete the data from the computer.
    4. The software shall allow the operator to establish different scan rates for each point, with up to six (6) selectable rates.
    5. Supplier shall meet with Owner during software development to confirm the desired initial configuration, and to establish historical data protocol.

H. Trending
   1. Provide historical trend screens to recall data that has been collected by the historical data base. Allow the operator to select from 1 to 8 points on each trend display. The data shall have the appearance of a vertical-scale strip chart recorder with resolution of 2% of span. Display values in engineering units.
   2. Allow operator to access any time window within the last month (for hourly data) and within the last 24 hours (for one-minute data).
   3. Allow operator to build real-time trend screens with up to 8 points per screen. Continuously update the screens as real-time data is collected.

I. Reports
   1. Software shall be fully DDE-compliant to allow report generation using Microsoft Excel, latest revision (no substitutions).
   2. Supplier shall build the following reports:
      a. General Requirements for Reports - Report formats will be furnished to the Supplier during construction. Each report listed below shall have columnar format with the number of columns and rows as indicated. Provide footer rows with column total, average, minimum and maximum for each parameter as is applicable. Develop the report to automatically obtain and calculate each parameter where data is available via the process control system. Prompt the operator where manually-entered data is needed. Each parameter may consist of one of the following types of data:
         (1) Manual - A value entered by the operator.
         (2) Automatic - A value obtained from the process control system.
         (3) Calculated - A formula is applied to the entered or monitored data.
         (4) Combination - The parameter is determined through some combination of manual data, automatic data and/or calculations.
      b. Provide the following individual reports:
         (1) Monthly State Operating Reports
         (2) Daily Operating Reports - 130 values by 24 hours (130 columns by 24 rows).
         (3) Monthly Operating Report - 130 values by 31 days.
         (4) Runtime / Flow Summary - Daily report showing accumulated daily runtime for each process equipment item, and totalized flow for each flowmeter input. Provide monthly report summary with monthly runtimes, monthly totalized flows, and average daily flow computation. Perform totalization in the plant PLCs so data is not lost during computer failure.

PART 3 - EXECUTION

3.01 SIGNAL AND CONTROL WIRING

A. Wiring Installation: Wires shall be run in plastic wireways except (1) field wiring, (2) wiring between mating blocks in adjacent sections, (3) wiring from components on a swing out panel to components on a part of the fixed structure, and (4) wiring to panel mounted components. Wiring run from components on a swing out panel to other components on a fixed panel shall be made up in tied bundles. These bundles shall be tied with nylon wire ties and shall be secured to panels at both sides of the "hinge loop" so that conductors are not strained at the terminals.

B. Wiring run to control devices on the panel front shall be tied together at short intervals with nylon wire ties and be secured to the inside face of the panel using adhesive mounts.

C. Wiring to rear terminals on panel-mount instruments shall be in plastic wireways secured to horizontal brackets above or below the instruments in about the same plane as the rear of the instruments.

D. Shop Drawings shall show conformance to the above wiring installation requirements.

E. Wire Marking: Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on Shop Drawings. These numbers shall be marked on conductors at every terminal.

3.02 PROGRAMMING SERVICES

A. Program programmable logic controllers (PLCs) and operator interface terminal as required by functional descriptions.

B. Provide additional programming during start-up, training, and call-back periods as specified.

C. Control Integrator shall coordinate with process equipment manufacturer's supplied PLCs and their field service representative to set up network and coordinate all aspects of acquiring and transmitting various control functions from vendor furnished PLCs.

3.03 INSPECTION AND APPROVAL

A. It shall be the responsibility of the Contractor to furnish all necessary testing devices and sufficient manpower to perform the tests required by the Engineer.

B. Field Testing: The control panel shall be tested again for functional operation in the field after the connection of external conductors and prior to equipment startup.

END OF SECTION

SECTION 17400

CONTROL DESCRIPTIONS

INDEX

PART 1 - GENERAL
1.01 DESCRIPTION
1.02 GENERAL REQUIREMENTS
1.03 OIT SCREENS

PART 2 – FUNCTIONAL DESCRIPTIONS
2.01 GENERAL
2.02 GRAY WATER PUMP SKID

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section describes how each portion of control system operates.

B. The functional descriptions, in conjunction with the drawings and technical requirements for products as described in Section 17300 - Control Panels, define the minimum requirements for installation.

C. All products used to meet the functional descriptions shall be those specified in Sections 17300.

D. Related work specified elsewhere:
   1. Division 16 - Electrical.
   2. Section 17100 - Process Control and Instrumentation System.
   3. Section 17300 - Control Panels.

1.02 GENERAL REQUIREMENTS

A. Alarm/Event Logging Colors. The following is the color scheme for alarms and events that are displayed on the Panelview.
   1. Cyan: Operator entered event.
   2. Red: Active unacknowledged alarm.
   3. Yellow: Active acknowledged alarm.
   4. Blue: Unacknowledged alarm - returned to normal.
   5. White: Acknowledged alarm - returned to normal.

B. Equipment Status and Data Information for MMI Displays. The following is the color scheme for dynamic changing status:

1. Gray: equipment which is not controlled and/or does not supply status information to the control system i.e. manual valves.
2. Yellow: Equipment Off-line (lockout/tagout system).
3. Blue: Equipment in the off state, valves closed i.e. process non-active state.
4. Cyan: Equipment or subsystems in standby mode.
5. Magenta: Equipment in the on state, valves open i.e. process active state.
6. Green: analog process values, bar graphs, etc. which indicate operating within acceptable limits (not an alarm state).
7. Red Flashing: Indication of an alarm that is not acknowledged.
8. Red: Indication of an acknowledged alarm.
9. Bordered Box: Indication of an analog process variable.
10. Double Border Box: Indication of an analog process operator entered setpoint.

C. Alarm/Event Logging. All alarms and events shall be logged to a tabular display on the display screen with date, time, tag name, description, status, value, and priority of alarms/events. The tabular display screen shall allow the Operator to acknowledge all alarms. Events shall include start/stop of equipment, open/close or position change of valves, operator initiated changes, setpoint changes, etc. Up to an Operator adjustable setpoint number of current events and alarms shall be displayed on the tabular screen with the older events and alarms beyond that setpoint number being stored in the historical database log.

D. General Monitoring and Displaying of Discrete Input Signals. Discrete input signals which represent equipment status shall be displayed on the display screens.

E. General Monitoring, Displaying, and Recording of Analog Input Signals. Process variable signals shall be displayed on the display screens. They shall be scaled in engineering units. All alarm limits are assigned to the associated process variable. Values shall be historically logged and trended as required.

F. Process Status. All process alarms, equipment status, and process variable values shall be available at any of the computer software display screens. Failures of any PLC on the digital communications network shall also be alarmed.

G. Equipment Run Times. The running time for all motorized equipment located in the plant and at all remote sites shall be totalized and displayed.

H. Automatic Rollover. Provide automatic rollover back to zero for all run times, meter totalizations, etc. Provide reports with automatic calculation to account for the automatic rollover to zero.

I. All computer display screens that allow an Operator to enter setpoints and to change software switches shall be password protected. An Operator must successfully log in with his password before any changeable setpoints are allowed.

J. Provide an Operator adjustable time delay setpoint with all setpoints throughout the control system.

K. Provide de-bounce timers or other programming logic throughout the system to prevent all alarms, setpoints, or controls repeat; and nuisance or otherwise unneeded alarms, starts, stops, etc.

L. Provide scan rate time delays or other programming logic throughout the system to prevent all alarms, setpoints, or controls repeat; and nuisance or otherwise unneeded alarms, starts, stops, etc.

M. Provide testing and logic to positively ensure that no lockout conditions can develop in anyway or in any form of operation, be it standard, non-standard, or emergency.

N. Monitor communications status of all remote facilities and plant panels.

O. Where alarms are called for provide High and High-High, Low and Low-Low, and others if specifically required.

P. Provide software Hand/Off/Auto switches, Duty/Standby switches, Local/Off/Remote switches, On-line/Off-line switches, Open/Close switches, Open/Stop/Close switches, Open/Stop/Close/Auto switches, Manual/Auto switches, On/Off pushbuttons, etc. for each equipment item.

Q. In the Off or Off-line position, provide a software pop-up "tag-out" box with descriptor lines for Operator entry of wording describing the reason for the device being out of service, for each item of equipment, instrumentation, etc. Provide a yellow tag on the equipment device on the applicable screens to visually indicate that it is off-line and tagged out, and cannot be operated through the control system as long as tagged out. The Off-Line switch and Tag-Out shall be used to isolate the particular device, but shall not affect the operation of the particular treatment process or plant as a whole.

R. Change piping/valves/equipment/building color to indicate flowing or not, working or not, operational or not, running or not, opened or closed, etc.

S. Screens shall be fully dynamic.

1.03 OIT SCREENS

A. The Controls Integrator shall develop graphical screens to dynamically depict the operation and status of the Treatment Plant functions, and tabular screen(s) to present system setpoints and summarize process values/quantities. The screens shall include but not be limited to:

1. Operator authentication/authorization.
2. Overview screen.
3. Pumps, treatment processes, etc.
4. Process setpoints.
5. Process values/quantities.
6. Alarm status/history.

B. The Controls Integrator shall develop a preliminary set of screens for submission to the Owner/Engineer for review and comment prior to finalizing the screens.

PART 2 - FUNCTIONAL DESCRIPTIONS

2.01 GENERAL

A. Control descriptions included herein are generic in nature and may not include all functions, status and alarms; these descriptions will be tweaked during submittal stage; Control Integrator shall develop algorithms based on the input/output point schedule and control descriptions.

2.02 GRAY WATER PUMP SKID

A. Gray Water Pump Skid shall be controlled and monitored by skid-mounted control panel. Equipment supplier furnished panel shall provide local control interface via panel-mounted display screen.

B. Gray water pumps shall maintain Operator adjustable pressure setpoints via manufacturer developed control algorithm.

C. Provide for monitoring of the following minimum equipment process data and alarms at existing Computer Room SCADA Control Panel via Ethernet network connection.

1. Pump 1 Running
2. Pump 1 Fault
3. Pump 1 In Auto
4. Pump 2 Running
5. Pump 2 Fault
6. Pump 2 In Auto
7. Pump 3 Running
8. Pump 3 Fault
9. Pump 3 In Auto
10. System Suction Pressure
11. Low Suction Pressure Alarm
12. System Discharge Pressure

13. High Discharge Pressure Alarm
14. Low Discharge Pressure Alarm

PART 3 - EXECUTION

Not Applicable.

END OF SECTION

City of Davenport

Department: Public Works - Admin
Contact Info: Nicole Gleason | 563-326-7734

Action / Date
2/10/2021

Subject:
Resolution approving the purchase of a John Deere 744L endloader for the Compost Facility from Martin Equipment of Rock Island, Illinois in the amount of $361,160 using Sourcewell contract #032119-JDC. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
Sourcewell, formerly known as NJPA, is a cooperative bidding organization that processes bids for members from across the country. The City of Davenport is a member. Sourcewell processed a bid for endloaders and Martin Equipment of Rock Island, Illinois is the local dealer.

This endloader is for the Compost Facility. This will replace an old endloader that will be disposed of at auction.

Funding for this purchase is from Compost's Replacement Vehicle Account #51161976 530302, with a current balance of $365,000.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Admin	Moses, Trish	Approved	1/27/2021 - 11:25 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:25 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:40 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION approving the purchase of a John Deere 744L endloader for the Compost Facility from Martin Equipment of Rock Island, Illinois in the amount of $361,160 using Sourcewell contract #032119-JDC.

WHEREAS, the City needs to purchase a new endloader for the Compost Facility; and

WHEREAS, Martin Equipment was awarded the Sourcewell contract as the lowest responsive and responsible bidder.

NOW THEREFORE, IT IS HEREBY RESOLVED by the City Council of the City of Davenport, Iowa, that:

1. the purchase of a John Deere endloader from the Martin Equipment of Rock Island, Illinois using Sourcewell contract #032119-JDC is approved; and

2. Mayor Mike Matson or designee is authorized to sign and manage any related agreements.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Public Works - Engineering
Contact Info: Brian Schadt | 563-326-7923

Action / Date
2/10/2021

Subject:
Resolution adopting the Iowa Statewide Urban Design Standards for Public Improvements, Iowa Statewide Urban Standard Specifications for Public Improvement, and the City of Davenport Supplemental Specifications manuals. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
This Resolution approves the adoption of the current versions of the SUDAS Design Manual, Standard Specifications, and the Davenport Supplemental Specifications as the requirements for designing and constructing public improvements for the City of Davenport.

The adoption of these updated standards will provide better uniformity of design and construction practices, update requirements based on Iowa laws, and provide a method for the implementation of the latest techniques and materials used in public improvements.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Engineering	Admin, Default	Approved	1/28/2021 - 1:02 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION adopting the Iowa Statewide Urban Design Standards for Public Improvements, the Iowa Statewide Urban Standard Specifications for the Public Improvements, and the City of Davenport Supplemental Specifications manuals.

WHEREAS, it is recommended by City of Davenport Public Works that the City adopt the Iowa Statewide Urban Design Standards of Public Improvements, the Iowa Statewide Urban Standard Specifications for Public Improvements, and the City of Davenport Supplemental Specifications manuals; and

WHEREAS, these design standards and construction specifications will be used to design and construct public improvements within the City; and

WHEREAS, Public Works will periodically review these standards and specifications and modify as needed under the direction of the City Engineer and the Public Works Director; and

WHEREAS, the adoption of these standards and specifications shall become effective upon approval of this Resolution.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport, Iowa that the most recent published editions of the Iowa Statewide Urban Design Standards for Public Improvements, the Iowa Statewide Urban Standard Specifications for the Public Improvements, and the City of Davenport Supplemental Specifications manuals are hereby adopted by the City of Davenport, Iowa.

Passed and approved this 10th day of February 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Public Works - Admin
Contact Info: Scharlet Clement | 563-326-7793

Action / Date
2/10/2021

Subject:
Resolution assessing the cost of boarding up building at various lots and tracts of real estate. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
The City allows 60 days from the invoice date for a bill to be paid. After 60 days, unpaid bills are levied to the Scott County Treasurer as a special assessment against the property.

ATTACHMENTS:

	Type	Description
	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Admin	Moses, Trish	Approved	1/27/2021 - 11:23 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:23 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:40 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION assessing the cost of boarding up building at various lots and tracts of real estate.

WHEREAS, that the following lots or tracts of real estate situated in the City of Davenport, and the owners, thereof, be hereby assessed the amounts set forth, and the same being the cost of boarding up building on said lots or tracts.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that the City treasurer be and is hereby ordered to collect the same as ordinary taxes to-wit.

BE IT FURTHER RESOLVED, if any amount assessed against property herein does not exceed $500.00, such assessment must be made in 1 annual payment; if amount assessed exceeds $500.00, such assessment may be in 10 annual installments; in the manner and with the same interest rate provided for assessment against benefited property under the State Code of Iowa as amended with the current interest rate of 2%. All assessments bear interest at the current rate of 2%.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

Board Up Building Invoices for Levy

CUST ACCT	NAME	PARCELID	INVOICE	BALANCE
300075545	PHILLIPS, MIRIAM	G0035-39	80030393	**$686.00**
300021757	BEAULIEU, FLORENCE	G0051-17	80030395	**$188.50**
300190876	RILEY, ELIZABETH A	R0402-30	80030467	**$348.25**
400001613	LUDTKE, WILLIAM	J0007-02	80030526	**$325.50**
000043161	STAHL, MATTHEW	G0036-07	80031015	**$108.00**
800003562	JACKSON, JCHEMELA	G0028-13	80031712	**$102.50**
300185831	MOFFIT, TARA A	F0029-27	80031823	**$198.00**
000068850	D6 DEVELOPMENT	N1810-06	80031942	**$144.00**
000078282	FLIPPING CAPITAL LLC	G0047-19	80032021	**$85.00**
000059535	FAUST, LINDSAY	H0056-30	80032054	**$602.00**
000036693	MEIER, HELEN	J0037-24	80032056	**$85.00**
800003884	KNIGHTS OF PYTHIES	L0001-28	80032058	**$217.00**
000031870	BANKS, NAOMI LEE	K0007-19	80032113	**$542.00**
400004156	PRICE, HELEN	F0028-20	80032220	**$704.50**
300238234	LEIGHT, THAO HA	B0033-13	80032442	**$92.00**
120188485	CYCLONE DEVELOPMENT	H0052-68	80032446	**$168.00**
300085159	BAKER, BARBARA A	F0009-50	80032538	**$93.00**
000088498	MORTGAGE, GSF	G0010-15	80032547	**$293.00**
300111249	HESS, PETER A	G0036-33	80033164	**$810.00**
300085159	BAKER, BARBARA A	F0009-50	80033166	**$145.50**
000066780	RESIDENTIAL EQUITY PARTNERS LL	G0030-30	80033168	**$87.75**
800003981	CONARD, JOE LOUIS	F0023-33	80033170	**$165.75**
400001613	LUDTKE, WILLIAM	J0007-02	80033478	**$118.00**
800003884	KNIGHTS OF PYTHIES	L0001-28	80033480	**$108.00**

Number of Accounts to Levy **24** **Total Balance Outstanding:** **$6,417.25**

City of Davenport

Department: Public Works - Admin
Contact Info: Scharlet Clement | 563-326-7793

Action / Date
2/10/2021

Subject:
Resolution assessing the cost of brush and debris removal at various lots and tracts of real estate. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
The City allows 60 days from the invoice date for a bill to be paid. After 60 days, unpaid bills are levied to the Scott County Treasurer as a special assessment against the property.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Admin	Moses, Trish	Approved	1/27/2021 - 11:23 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:24 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:41 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION assessing the cost of brush and debris removal at various lots and tracts of real estate.

WHEREAS, that the following lots or tracts of real estate situated in the City of Davenport, and the owners, thereof, be hereby assessed the amounts set forth, and the same being the cost of brush and debris removal on said lots or tracts.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that the City treasurer be and is hereby ordered to collect the same as ordinary taxes to-wit.

BE IT FURTHER RESOLVED, if any amount assessed against property herein does not exceed $500.00, such assessment must be made in 1 annual payment; if amount assessed exceeds $500.00, such assessment may be in 10 annual installments; in the manner and with the same interest rate provided for assessment against benefited property under the State Code of Iowa as amended with the current interest rate of 2%. All assessments bear interest at the current rate of 2%.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

Brush and Debris Invoices for Levy

CUST ACCT	NAME	PARCELID	INVOICE	BALANCE
000079402	KIKEL, JON	K0016-08	80029790	**$171.25**
000086783	CHISHOLM, HEATHER	W0317-04	80030414	**$153.00**
000086788	CONKLIN, RAYMOND	20607-31	80030420	**$202.75**
300249237	BRYNER, ANGELA	C0047-11	80030427	**$153.25**
000025832	RALEY, DANNY E	G0021-06	80030442	**$337.00**
000084929	GTA 511 LLC	G0053-10	80030446	**$153.25**
000072898	STONE, ROLLAND	H0026-26	80030453	**$153.25**
810001999	JUSTIN YOUNG	H0060-06	80030457	**$169.75**
810002905	NGUYEN INC	K0006-47A	80030462	**$177.00**
000055678	LESTER MONKUS	R0414-12	80030469	**$162.75**
000076709	MCBRIDE AND CONNORS LLC	C0036-16	80030476	**$153.25**
300075545	PHILLIPS, MIRIAM	G0035-39	80030498	**$658.00**
300021757	BEAULIEU, FLORENCE	G0051-17	80030500	**$293.75**
000059535	FAUST, LINDSAY	H0056-30	80030503	**$153.25**
000072428	HEIDI ROBB	J0025-19	80030508	**$153.00**
810000254	BELLA VISTA ESTATES	W0923D02	80030518	**$161.50**
000086268	ZIA ULLAH	G0023-39	80030524	**$178.00**
300262792	ANDERSON, MONTE	H0056-16	80030547	**$264.75**
000085544	CONTRARIAN HOLDINGS LLC	H0064-46	80030549	**$289.50**
300200841	COMPASSION CHURCH	H0011-35C	80030555	**$169.75**
300011494	GOMEZ, CORY	R0417-42	80030559	**$161.50**
300262000	LIVIN OUR DREAMS LLC	O1651B01	80030563	**$191.25**
000013827	S & J REALTY	G0051-53	80030995	**$153.25**
000047728	CRIST, SARA B	I0039-08A	80031018	**$161.50**
000058342	RYAN JOHNSON PROPERTIES LLC	J0008-23	80031057	**$153.25**
000058342	RYAN JOHNSON PROPERTIES LLC	K0006-03	80031061	**$153.25**
000059535	FAUST, LINDSAY	H0056-30	80031068	**$187.50**
000061939	R GENERATIONS PROPERTY MANAG	C0059-10	80031074	**$161.50**
000070593	QUIET CAPITAL	K0016-14	80031110	**$153.25**
000082360	MJ HAWKEYES PROPERTIES LLC	G0030-12	80031165	**$153.25**
000085503	RIVER BOUND PROPERTIES LLC	K0006-08	80031184	**$153.25**
000087064	PHH MORTGAGE CORPORATION	T2023C06	80031191	**$179.75**
120226578	LIVING QUARTERS FOR DOLLARS LL	G0019-30	80031214	**$153.25**
400004156	PRICE, HELEN	F0028-20	80031361	**$153.00**
810002933	NICOLAS MALONGA	H0064-40	80031415	**$161.50**

000004462	WEBSTER PROPERTIES LLC	H0053-03	80031419	**$186.25**
000070297	TITAN REAL ESTATE LLC	K0022-03A	80031486	**$413.00**
000079758	CLAUSS, STEPHANIE	F0037-09	80031523	**$154.50**
400001301	NGUYEN INC	F0048-11	80031702	**$178.00**
300203051	RUDD, KRISTY	B0057-04	80031741	**$119.75**
300163410	CARLSON, MICHELLE A	C0023-01	80031742	**$103.00**
300254039	CHASCO LLC	F0024-13	80031754	**$103.25**
300258874	GRANADO, EMETERIO	F0029-18	80031757	**$167.25**
800003562	JACKSON, JCHEMELA	G0028-13	80031761	**$105.75**
300150900	MT OLIVE CHURCH OF GOD	G0037-06	80031762	**$103.25**
400002988	HARRISON, ANDRE	H0037-11	80031769	**$111.50**
810002905	NGUYEN INC	J0024-07	80031773	**$326.25**
810001394	GOODWIN PROPERTIES LLC	J0035-12	80031774	**$103.25**
400001222	OWENS, WILLIE	K0006-04	80031775	**$103.25**
000076196	TRIPLE I SERVICES LLC	K0007-31	80031776	**$111.50**
000087394	HEN HOUSE INVESTMENTS LLC	K0031-01	80031778	**$148.25**
000071183	PEIRSON FRANCHOT	C0064-35	80031810	**$153.25**
810001409	GRACE BROTHER PROPERTIES LLC	C0029-27	80031818	**$169.75**
300010229	SIMON, CHARLES R	K0018-12	80031851	**$153.25**
300261233	RYAN JOHNSON PROPERTIES	H0055-52A	80031853	**$161.50**
000050962	CHELSEA GREEN	E0017-24	80031857	**$169.75**
000059394	VILLAGE PROPERTY MANAGEMENT I	B0027-16	80031859	**$153.25**
810002901	NGUYEN INC % R NGUYEN	K0008-20	80031867	**$178.00**
810002905	NGUYEN INC	K0006-47A	80031869	**$169.75**
000087443	SARUN TEERAVECHYAN	F0026-07	80031873	**$161.50**
120207186	PARKS, SCOTT	F0044-17	80031879	**$304.75**
000086688	PINNACLE ESTATES LLC	F0020-04	80031881	**$174.75**
000074613	FUTURE CAPITAL	H0025-28	80031895	**$289.50**
300243241	GOFF, RICHARD II	K0008-34	80031897	**$153.25**
000084746	BEN MOCKMORE	G0012-41	80031912	**$570.73**
300085159	BAKER, BARBARA A	F0009-50	80031918	**$161.50**
300222912	DUBIN, ELIZABETH	B0049-01	80031922	**$153.25**
000051570	LIVING OUR DREAMS LLC /MIKE CO	O2107C40	80031924	**$184.75**
000064170	ANDREW, CHANDLER	W1003A24	80031926	**$150.00**
000080976	GTA PETERSON LLC	K0006-23A	80031930	**$161.50**
000071364	MILLER, TAYLOR	G0044-21	80031932	**$153.25**
000078975	VOOGD & ASSOCIATES	H0050-10	80031934	**$161.50**
000036108	3 WAY FARMS INC	I0005B05	80031965	**$81,380.50**
000054015	DERRIC CARTER	31846-12A	80031967	**$153.75**
000068040	ADAM ANDERSON	F0009-44	80031969	**$377.50**
300220210	ESTLUND, CARRIE E	A0007C46	80031971	**$161.50**

300260086	MOCHA MAYA LLC	C0064-33	80031979	**$169.75**
810002594	MAYLONE WILLIAM	C0046-08	80031981	**$161.50**
000054747	AUBREY SCHLUE	G0033-09	80031983	**$53.25**
000074613	FUTURE CAPITAL	K0019-14	80031989	**$169.75**
300260086	MOCHA MAYA LLC	C0064-33	80032005	**$161.50**
810002905	NGUYEN INC	K0006-47A	80032009	**$192.25**
000036693	MEIER, HELEN	J0037-24	80032013	**$161.50**
000051425	JAMES EDWARD WALLER	H0053-57	80032017	**$186.25**
400002900	REED, DANIEL	G0025-21	80032023	**$178.00**
300115216	BURRAGE, HENRY C	G0045-42	80032031	**$153.75**
120174455	CHAPIN, ALAN	L0002-40	80032033	**$153.25**
000013827	S & J REALTY	F0052-07	80032035	**$150.00**
000077915	KRAUSE IOWA INVESTMENTS LLC	G0048-07	80032037	**$161.50**
300264692	LA MILLER & ASSOC	F0015-18	80032039	**$171.75**
000087449	SAPHAN INVESTMENTS LLC	G0034-29C	80032041	**$186.25**
000059535	FAUST, LINDSAY	H0056-30	80032043	**$171.00**
810000256	NORTH SHORE ESTATES	W1003C02	80032045	**$273.00**
000083435	DAKOTA ROUDEBUSH	K0011-25	80032047	**$150.00**
300259936	OSWALT, PATSY J	P1113A03	80032061	**$113.00**
810002901	NGUYEN INC % R NGUYEN	H0055-32	80032063	**$178.00**
000051870	DAVID CRAFT II	G0047-18	80032067	**$214.50**
000151883	BARTON, MARK E	B0023-12	80032075	**$161.50**
300262000	LIVIN OUR DREAMS LLC	O1651B01	80032077	**$178.00**
000066926	JOHN DUNN	F0012-12	80032079	**$153.25**
300155245	DENNIS, DAWN	F0052-05	80032081	**$153.25**
300254928	NGUYEN, ROBERT	S2923A29	80032083	**$158.25**
000087820	LEATHY, KATHLEEN	B0010-33	80032085	**$161.00**
000079430	BRUNELL, GARRETT	G0035-36	80032091	**$264.75**
000074613	FUTURE CAPITAL	E0031-20	80032093	**$717.75**
120202197	MORELAND, KENNETH C	H0064-02	80032099	**$153.25**
000075518	PETE HENSLER	B0007-18	80032103	**$161.00**
000053147	FIG TREE HOLDINGS LLC	B0027A13	80032105	**$169.75**
000076190	ROGER RUETTEN	H0049-10	80032118	**$169.75**
000051222	LIVING QUARTERS FOR DOLLARS	L0001-12	80032120	**$198.00**
300096263	LUCIER, DANIEL L	J0024-39	80032122	**$153.25**
000051570	LIVING OUR DREAMS LLC /MIKE CO	O2107C40	80032130	**$161.50**
000088067	ROI CAPITAL LLC	R0405A01	80032134	**$178.00**
810002933	NICOLAS MALONGA	H0064-40	80032136	**$153.25**
300021877	FRUEH, JOHN L	G0051-52	80032138	**$402.00**
300263370	LITTIG, SAMUEL	G0036-02	80032140	**$153.25**
800000063	S & J REALITY	H0042-05A	80032148	**$161.50**

400001861	PLAMBECK, CLARK	J0027-41	80032154	**$169.75**
300253462	BEAM, JAMES	K0018-35	80032156	**$153.25**
810002905	NGUYEN INC	K0019-20B	80032158	**$178.00**
000059532	WHITE, NIKE	F0034-07	80032160	**$125.00**
000063686	ANDREW WOLD INVESTMENTS LLC	F0016-08	80032164	**$153.25**
000066335	MMTL INVESTMENTS LLC	F0063-10	80032168	**$153.25**
000068871	BROWNE, THEODORE	H0058-09	80032170	**$153.25**
000080891	PEARSON, RAYNA	C0062-15	80032172	**$153.25**
120238976	HOMECOMINGS FINANCIAL LLC	G0013-10	80032176	**$153.25**
000060742	JOHNSON, TAMARA R	F0017-05	80032178	**$153.25**
120236261	MILLER, WALTER J	G0047-10A	80032182	**$158.25**
000063686	ANDREW WOLD INVESTMENTS LLC	F0016-07	80032184	**$161.00**
000080449	GURU NANAK FOOD MART INC	F0002-02B	80032188	**$161.50**
810002905	NGUYEN INC	J0024-07	80032192	**$161.50**
300169277	CHAVEZ, MANUEL G	G0020-04	80032196	**$161.50**
000068871	BROWNE, THEODORE	H0058-08	80032198	**$169.75**
000076190	ROGER RUETTEN	H0049-10	80032200	**$169.75**
000063686	ANDREW WOLD INVESTMENTS LLC	C0050-46	80032202	**$169.75**
000068871	BROWNE, THEODORE	H0058-10	80032204	**$169.75**
300257487	HARPER, MONSHEEKA	G0020-03	80032206	**$169.75**
000064161	HEATHERTON COOPERATIVE	O2107A30	80032208	**$171.00**
300260086	MOCHA MAYA LLC	C0064-33	80032212	**$252.25**
000074613	FUTURE CAPITAL	E0031-30	80032214	**$392.00**
000068871	BROWNE, THEODORE	H0058-12	80032216	**$399.00**
300214210	KELCHA INC	G0054-37	80032218	**$857.75**
000071183	PEIRSON FRANCHOT	C0064-35	80032232	**$161.50**
000012667	HALLMAN, HAZIE M	F0031-38	80032234	**$471.00**
300216097	HEBBELN, DENNIS A	H0025-02	80032236	**$312.75**
000076190	ROGER RUETTEN	H0049-10	80032238	**$153.25**
000080449	GURU NANAK FOOD MART INC	F0002-02B	80032242	**$178.00**
300198288	LAKE, SALLY M	S2921B25	80032248	**$185.25**
000085544	CONTRARIAN HOLDINGS LLC	H0064-11	80032254	**$161.50**
000074613	FUTURE CAPITAL	G0024-42	80032256	**$162.75**
300260086	MOCHA MAYA LLC	C0064-33	80032258	**$153.25**
000073640	HOMES MIDWEST LLC, STEWARDSHI	W0318-13	80032297	**$153.25**
000074613	FUTURE CAPITAL	K0019-14	80032301	**$153.25**
300200841	WORD OF FAITH TABERNACLE	H0011-35C	80032303	**$256.50**
000061123	DENNIS FUESSEL	F0011-16	80032305	**$169.75**
000056721	CAHILL, JAMES T	G0036-18	80032307	**$376.25**
300233304	GREINER, JENNIFER J	F0004-12	80032309	**$171.00**
300237956	WOODS, MATT	J0015-09	80032311	**$169.75**

300188922	LEASURE, AMY	C0035-44	80032321	**$153.25**
300157392	VAN WHY, KENT	E0038-01	80032334	**$153.00**
300161485	BURROUGHS, MIGNON R	F0011-37	80032340	**$546.75**
300119078	BUTLER, CAROL	F0034-08	80032364	**$153.25**
000076190	ROGER RUETTEN	H0049-10	80032410	**$161.50**
000031870	BANKS, NAOMI LEE	K0007-19	80032420	**$1,361.00**
000061922	KELLER, FRANCES	O2113D10	80032428	**$153.25**
300208916	CROCKETT, TINA	P1116C14	80032432	**$153.00**
000025832	RALEY, DANNY E	G0021-06	80032448	**$169.75**
000078992	FOX 3 INVESTMENTS LLC	I0057-17	80032454	**$169.75**
300258525	DAVIS, FAHTIMAH-ROSE	O2101C02	80032458	**$169.25**
300206590	JONES, BRIAN	O1601C27A	80032460	**$153.25**
810002905	NGUYEN INC	K0006-40	80032464	**$202.75**
400004119	CLINE, SANDRA	C0061-06	80032468	**$145.00**
300229123	FREDERIKSEN, MATTHEW L	B0021-38	80032470	**$169.75**
000080891	PEARSON, RAYNA	C0062-15	80032522	**$153.25**
300099665	SONNEVILLE, ROBERT	D0044-06	80032528	**$153.00**
300149438	DETERMAN, STEVE	D0051-22	80032530	**$153.00**
300051213	GILLESPIE, WILLIAM	F0008-44	80032536	**$161.00**
000077113	NATHAN HANSEN	F0010-01	80032540	**$161.50**
000061123	DENNIS FUESSEL	F0011-16	80032542	**$161.50**
810004405	ZEILNER MICHAEL	G0019-21	80032549	**$171.50**
400001861	PLAMBECK, CLARK	J0027-41	80032573	**$161.50**
810000229	BEAM JAMES C	K0018-35	80032591	**$153.25**
300231366	STEAK & SHAKE RESTAURANT #686	O1633-03B	80032603	**$201.50**
000073758	JOSE SANCHEZ	J0015-25	80032688	**$161.25**
000076190	ROGER RUETTEN	H0049-10	80032690	**$169.75**
300210678	DM HOLDINGS LLC	X1201-15B	80032749	**$169.75**
000078992	FOX 3 INVESTMENTS LLC	I0057-17	80032751	**$161.50**
300255488	BAKER, KARLY	C0047-01	80032757	**$281.25**
000061123	DENNIS FUESSEL	F0011-16	80032759	**$169.75**
000077480	CALIBER HOME LOANS INC	H0041-13	80032761	**$153.25**
300262000	LIVIN OUR DREAMS LLC	O1651B01	80032763	**$178.00**
300218952	BECK, MARYANNE	C0018-33	80032781	**$169.00**
300199770	TOT, ANGELA J	C0062-14	80032787	**$153.25**
000073071	DANNATTA BINION	F0021-39	80032801	**$256.50**
000084746	BEN MOCKMORE	G0012-41	80032815	**$256.50**
000077915	KRAUSE IOWA INVESTMENTS LLC	G0048-07	80032843	**$256.50**
000085040	TRUST, GEODE	H0007-04	80032853	**$153.25**
000058221	NATHAN VALENTINE	H0010-07	80032855	**$248.00**
120188485	CYCLONE DEVELOPMENT	H0052-68	80032857	**$208.75**

000065977	HOME OPPORTUNITY LLC	H0056-27	80032863	**$248.25**
120202197	MORELAND, KENNETH C	H0064-02	80032869	**$208.75**
400001613	LUDTKE, WILLIAM	J0007-02	80032871	**$217.00**
300259872	FRAISE, CHASE	J0026-11	80032873	**$233.50**
000085853	BURKE, EMILY	J0051-31	80032877	**$225.50**
810002905	NGUYEN INC	K0010-03	80032879	**$172.00**
300141712	HIERSEMAN, WAYNE R	N1807A07D	80032882	**$153.00**
000051570	LIVING OUR DREAMS LLC /MIKE CO	O2107C40	80032884	**$383.75**
300256900	ACKERMAN, REVAMYRNE J	R0413-06	80032890	**$209.00**
300135400	LACY, LINDA L	F0047-34	80033017	**$383.25**
000076182	ALPHA ASSETS	F0048-31A	80033019	**$281.50**
000051570	LIVING OUR DREAMS LLC /MIKE CO	O2107C40	80033023	**$384.50**
000061123	DENNIS FUESSEL	F0011-16	80033025	**$195.00**
400001861	PLAMBECK, CLARK	J0027-41	80033027	**$153.25**
000084746	BEN MOCKMORE	G0012-41	80033029	**$161.50**
000072104	BYAMLENI, FALIA	F0012-21	80033037	**$161.50**
000084746	BEN MOCKMORE	G0012-41	80033039	**$169.75**
000061123	DENNIS FUESSEL	F0011-16	80033041	**$235.00**
000062650	AGREE DAVENPORT IA LLC	N0833-04B	80033122	**$343.25**
300244678	BULLOCK, TOM	H0042-10	80033124	**$743.75**
000088498	MORTGAGE, GSF	G0010-15	80033126	**$384.25**
000069907	MUNN, BUGE	J0010-27	80033128	**$400.00**
000025832	RALEY, DANNY E	G0021-06	80033130	**$702.50**
300240475	LACINA, WILLIAM T	C0062-40	80033132	**$224.75**
810001473	GENO DELPREORE	K0003-12	80033134	**$159.00**
000050349	JAMES ALLEN	B0006-33	80033136	**$246.75**
400000154	OHP 50 LC	F0011-33	80033138	**$153.25**
000079758	CLAUSS, STEPHANIE	F0037-09	80033142	**$391.75**
000004462	WEBSTER PROPERTIES LLC	G0034-07	80033144	**$153.25**
000080449	GURU NANAK FOOD MART INC	F0002-02B	80033148	**$362.25**
400001301	NGUYEN INC	F0048-11	80033152	**$242.00**
810002901	NGUYEN INC % R NGUYEN	F0048-10	80033154	**$222.25**
000055566	JOAN MALLONEE	B0046-08	80033158	**$153.00**
000076182	ALPHA ASSETS	F0048-30	80033246	**$169.75**
300231366	STEAK & SHAKE RESTAURANT #686	O1633-03B	80033248	**$169.75**
000061123	DENNIS FUESSEL	F0011-16	80033250	**$294.50**
000084746	BEN MOCKMORE	G0012-41	80033252	**$248.25**
000053805	CRYSTAL BEVERLIN	H0022-10	80033254	**$112.75**
000051570	LIVING OUR DREAMS LLC /MIKE CO	O2107C40	80033256	**$178.00**
000076190	ROGER RUETTEN	H0049-10	80033260	**$169.75**
120226578	LIVING QUARTERS FOR DOLLARS LL	G0019-30	80033264	**$161.50**

300119078	BUTLER, CAROL	F0034-08	80033266	**$153.25**
000074535	NICOLE BARNHART	C0031-33	80033268	**$153.25**
000088557	STICKEL, COLE	F0003-01	80033270	**$153.25**
300260086	MOCHA MAYA LLC	C0064-33	80033272	**$161.50**
000078974	RAPP, ERIC	G0051-09	80033337	**$153.25**
000051570	LIVING OUR DREAMS LLC /MIKE CO	O2107C40	80033385	**$376.25**
800003884	KNIGHTS OF PYTHIES	L0001-28	80033387	**$161.50**
000063236	BRANDON WAFER	A0038-16	80033391	**$185.75**
000076190	ROGER RUETTEN	H0049-10	80033393	**$161.50**
300262000	LIVIN OUR DREAMS LLC	O1651B01	80033395	**$178.00**
810000204	BARHOPPERS LLC	G0009-05	80033397	**$153.25**
000004462	WEBSTER PROPERTIES LLC	F0016-34	80033399	**$161.50**
810002905	NGUYEN INC	J0024-07	80033403	**$169.75**
000075894	KEOKUK COUNTY LINE LLC	H0007-11	80033462	**$1,419.05**
300144457	JOHNS, VICKIE L	I0039-04	80033464	**$202.25**
000062293	SHIRLEY EDMONDS	G0020-24	80033470	**$169.75**
300100118	LIKENS, SONYA	I0005D28	80033474	**$169.75**
300242330	PORTER, ANITA	F0020-27	80033539	**$177.25**
000051870	DAVID CRAFT II	G0047-18	80033541	**$177.00**
000082357	EJH PROPERTIES LLC	F0001-25A	80033543	**$169.75**
810003595	SCHWARTZ SHARON	B0006-19	80033545	**$161.00**
000076190	ROGER RUETTEN	H0049-10	80033547	**$161.50**
300216049	JOHNSON, MEGAN	B0049-42	80033549	**$177.00**
000084746	BEN MOCKMORE	G0012-41	80033551	**$161.50**
000073071	DANNATTA BINION	F0021-39	80033553	**$169.75**
300259229	GRACE BROTHERS PROPERTIES	C0058-25	80033555	**$169.75**
000089280	LAMPTON, NATHANIAL	E0015A02	80033557	**$153.25**
000076184	LAKEVIEW LOAN SERVICING	A0005C38	80033665	**$177.00**
300262000	LIVIN OUR DREAMS LLC	O1651B01	80033669	**$169.75**
300260086	MOCHA MAYA LLC	C0064-33	80033671	**$153.25**
120247594	PEACOCK, GREGORY A	F0032-31	80033673	**$169.00**
000051209	NICHOLS, TRAVIS R	H0012-10	80033675	**$154.50**
810002905	NGUYEN INC	J0024-07	80033677	**$153.25**
000050899	DAVID BRUMMETT	W0319D12	80033783	**$169.00**
000009112	ERENBERGER, JOE	F0033-30	80033785	**$155.00**
000078580	JENSMA, KEN	H0054-36	80033787	**$161.50**
810000077	AMERICAN HOME SOLUTIONS LLC	G0019-05	80033859	**$186.25**
000025832	RALEY, DANNY E	G0021-06	80033861	**$273.00**
300223407	KEMPER, MATT	F0019-36	80033863	**$153.25**
000080449	GURU NANAK FOOD MART INC	F0002-02B	80033865	**$161.50**
000085853	BURKE, EMILY	J0051-31	80033867	**$153.25**

000081437	RYAN KOPS	B0025-38	80033871	**$153.25**
000089674	READY SET GO INVESTING LLC	F0005-05	80033873	**$290.50**
000032024	BROWN PROPERTY DEVELOP LLC	G0022-05	80033875	**$161.50**
300236115	TURNER, CHRYSTAL	K0032-39	80033879	**$161.25**
000089068	ANTHONY KAZENSKE	H0020-02	80033881	**$169.25**
810002905	NGUYEN INC	J0024-07	80033883	**$161.50**
810002905	NGUYEN INC	K0019-20B	80033887	**$169.75**
300085159	BAKER, BARBARA A	F0009-50	80033889	**$178.00**
000015870	SECRETARY OF HOUSING & URBAN	H0041-13	80033893	**$74.75**
300239649	ROSENBOOM, COLT	R0414-05	80033897	**$158.25**
300257487	HARPER, MONSHEEKA	G0020-03	80033899	**$153.25**

Number of Accounts to Levy **292** **Total Balance Outstanding:** **$141,304.53**

City of Davenport

Department: Public Works - Admin
Contact Info: Scharlet Clement | 563-326-7793

Action / Date
2/10/2021

Subject:
Resolution assessing the cost of condemned property demolition at various lots and tracts of real estate. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
The City allows 60 days from the invoice date for a bill to be paid. After 60 days, unpaid bills are levied to the Scott County Treasurer as a special assessment against the property.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Admin	Moses, Trish	Approved	1/27/2021 - 11:24 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:24 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:42 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION assessing the cost of condemned property demolition at various lots and tracts of real estate.

WHEREAS, that the following lots or tracts of real estate situated in the City of Davenport, and the owners, thereof, be hereby assessed the amounts set forth, and the same being the cost of condemned property demolition on said lots or tracts.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that the City treasurer be and is hereby ordered to collect the same as ordinary taxes to-wit.

BE IT FURTHER RESOLVED, if any amount assessed against property herein does not exceed $500.00, such assessment must be made in 1 annual payment; if amount assessed exceeds $500.00, such assessment may be in 10 annual installments; in the manner and with the same interest rate provided for assessment against benefited property under the State Code of Iowa as amended with the current interest rate of 2%. All assessments bear interest at the current rate of 2%.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

Building Demolition Invoices for Levy

CUST ACCT	NAME	PARCELID	INVOICE	BALANCE
000152069	LOVE, ZONA R	H0039-09	80032146	**$ 15,050.00**
000078968	SAMUEL, MICHAEL	G0046-27	80032553	**$ 7,550.00**
000151057	HICKMAN, ALBERTA	F0037-07	80033460	**$ 15,960.57**

Number of Accounts to Levy **3** **Total Balance Outstanding:** **$38,560.57**

City of Davenport

Department: Public Works - Admin
Contact Info: Scharlet Clement | 563-326-7793

Action / Date
2/3/2021

Subject:
Resolution assessing the cost of sidewalk repair at various lots and tracts of real estate. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
The City allows 60 days from the invoice date for a bill to be paid. After 60 days, unpaid bills are levied to the Scott County Treasurer as a special assessment against the property.

ATTACHMENTS:

	Type	Description
	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Admin	Moses, Trish	Approved	1/27/2021 - 11:28 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:28 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:45 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION assessing the cost of sidewalk repair at various lots and tracts of real estate.

WHEREAS, that the following lots or tracts of real estate situated in the City of Davenport, and the owners, thereof, be hereby assessed the amounts set forth, and the same being the cost of sidewalk repair on said lots or tracts.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that the City treasurer be and is hereby ordered to collect the same as ordinary taxes to-wit.

BE IT FURTHER RESOLVED, if any amount assessed against property herein does not exceed $500.00, such assessment must be made in 1 annual payment; if amount assessed exceeds $500.00, such assessment may be in 10 annual installments; in the manner and with the same interest rate provided for assessment against benefited property under the State Code of Iowa as amended with the current interest rate of 2%. All assessments bear interest at the current rate of 2%.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

Sidewalk Invoices for Levy

CUST ACCT	NAME	PARCELID	INVOICE	BALANCE
300129535	THOMAS, DOUGLAS	J0031-10	80029885	**$401.50**

Number of Accounts to Levy **1** **Total Balance Outstanding:** **$401.50**

City of Davenport

Department: Public Works - Admin
Contact Info: Scharlet Clement | 563-326-7793

Action / Date
2/10/2021

Subject:
Resolution assessing the cost of snow removal from sidewalks at various lots and tracts of real estate. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
The City allows 60 days from the invoice date for a bill to be paid. After 60 days, unpaid bills are levied to the Scott County Treasurer as a special assessment against the property.

ATTACHMENTS:

	Type	Description
	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Admin	Moses, Trish	Approved	1/27/2021 - 11:27 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:27 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:46 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION assessing the cost of snow removal from sidewalks at various lots and tracts of real estate.

WHEREAS, that the following lots or tracts of real estate situated in the City of Davenport, and the owners, thereof, be hereby assessed the amounts set forth, and the same being the cost of snow removal from sidewalks at various lots and tracts of real estate.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that the City treasurer be and is hereby ordered to collect the same as ordinary taxes to-wit.

BE IT FURTHER RESOLVED, if any amount assessed against property herein does not exceed $500.00, such assessment must be made in 1 annual payment; if amount assessed exceeds $500.00, such assessment may be in 10 annual installments; in the manner and with the same interest rate provided for assessment against benefited property under the State Code of Iowa as amended with the current interest rate of 2%. All assessments bear interest at the current rate of 2%.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

Snow Invoices for Levy

CUST ACCT	NAME	PARCELID	INVOICE	BALANCE
000013827	S & J REALTY	K0006-06	80030997	**$64.40**
000014562	DIAZ, JOSE L	K0007-34	80030999	**$64.40**
000023090	LE, HOA THI	L0003-16A	80031005	**$170.00**
000030110	INGLEBY, MICHAEL A	M1035-01B	80031013	**$182.00**
000048742	GELLER, DREW D	B0013-16	80031022	**$78.80**
000050707	BELLE ESTATES	W1019B28A	80031029	**$69.20**
000052443	DANG, DAVID H	H0061-31	80031037	**$74.00**
000054173	NORTH SHORE ESTATES LC	W1019B30	80031041	**$78.80**
000054173	NORTH SHORE ESTATES LC	W1019B32	80031043	**$78.80**
000056825	ALLEN, MARY C	J0007-01	80031051	**$112.40**
000058342	RYAN JOHNSON PROPERTIES LLC	J0008-23	80031055	**$71.60**
000058342	RYAN JOHNSON PROPERTIES LLC	K0006-03	80031059	**$66.80**
000058574	SHOPPA, LLOYD H	K0002-25	80031063	**$78.80**
000060742	JOHNSON, TAMARA R	F0017-05	80031070	**$100.40**
000066696	LOWE'S HOME CENTERS INC	N1707-02D	80031090	**$675.92**
000068871	BROWNE, THEODORE	H0058-07	80031100	**$69.20**
000068871	BROWNE, THEODORE	H0058-12	80031102	**$72.32**
000070866	HIT HOLDINGS LLC	H0062-06	80031114	**$83.60**
000072600	MICHAEL RUGGER	B0004-43B	80031124	**$137.84**
000074012	CAPITAL LLC, FUTURE	E0032-12	80031128	**$160.40**
000074030	ESTATES LLC, COTTAGE	W1019C50B	80031130	**$182.00**
000077102	GIOVANNI RIOS	E0032-10	80031140	**$88.40**
000078580	JENSMA, KEN	K0007-40	80031150	**$69.20**
000078980	LOWE, DANIEL	H0064-37	80031156	**$78.80**
000079273	HILARY ABBAN	N2902C04	80031158	**$171.92**
000083011	DAY, BRADLEY	P1114A31	80031167	**$88.88**
000087069	MCCALEBB, JOEL	E0010-20	80031199	**$76.40**
120091704	TEEL, MARY M	K0006-14	80031206	**$64.40**
120174455	CHAPIN, ALAN	L0002-40	80031210	**$81.20**
120247594	PEACOCK, GREGORY A	F0032-31	80031216	**$107.60**
300008382	JOHNSON, JACQUELINE	H0049-11	80031218	**$78.80**
300020544	SMITH, LARRY V	G0025-05	80031228	**$179.60**
300027119	MADDEN, MICHAEL W	M1051-16A	80031230	**$136.40**
300027119	MADDEN, MICHAEL W	W1017D01	80031232	**$120.08**
300127486	GORDON, SHARON A	P1114B12	80031248	**$86.00**

300132932	PAGE, RONALD D	H0064-56	80031250	**$136.40**
300159463	MANNHARDT, KELSEY	E0020-11	80031256	**$190.64**
300214792	JERUSALEM TEMPLE APOSTOLIC CH	K0007-41	80031283	**$64.40**
300214792	JERUSALEM TEMPLE APOSTOLIC CH	K0007-42	80031285	**$64.40**
300214792	JERUSALEM TEMPLE APOSTOLIC CH	K0007-43A	80031287	**$74.00**
300225508	HART, JOAN	D0052-03	80031300	**$86.00**
300234975	WALGREEN #6186	N0839-05A	80031304	**$298.64**
300242918	DONOVAN, KAREN L	W0923D12	80031312	**$155.60**
300254834	FINANCIAL DISTRICT PROP	L0007-29	80031320	**$179.23**
300257595	HANKINS, STACEY M	C0058-21	80031322	**$74.00**
300261200	HESSELTINE III, DON M	H0049-13	80031328	**$75.92**
300261793	QC MARTS	N0737A01	80031331	**$290.96**
300264508	DANIEL, RICK L	P1114B13	80031333	**$86.00**
400000337	LOPEZ, DONALD	L0002-41	80031341	**$81.20**
400004440	BRONTE ESTATES LC	W1019B29A	80031365	**$93.20**
400004440	BRONTE ESTATES LC	W1019C41A	80031367	**$78.80**
400004440	BRONTE ESTATES LC	W1019C45A	80031369	**$78.80**
400004440	BRONTE ESTATES LC	W1019C48A	80031371	**$78.80**
300174832	NGUYEN, RACHEL M	H0064-34	80031373	**$107.60**
800000063	S & J REALITY	K0006-07	80031375	**$64.40**
800000063	S & J REALITY	L0002-05	80031377	**$74.00**
810000253	BELLA VISTA ESTATES LC	W0923A30	80031387	**$78.80**
810000254	BELLA VISTA ESTATES	W0923A31	80031389	**$146.00**
810000254	BELLA VISTA ESTATES	W0923D02	80031391	**$78.80**
810001118	ERIC LUDTKE	W0923A25	80031401	**$90.32**
810002271	LARSON MARY G	D0052-04	80031405	**$158.00**
810002416	KATHLEEN LONGSHORE	F0017-03	80031407	**$64.40**
810002416	KATHLEEN LONGSHORE	F0017-04	80031409	**$64.40**
000004462	WEBSTER PROPERTIES LLC	H0053-03	80031417	**$71.60**
000016390	MENDEZ, RICHARD L	G0046-03	80031425	**$183.44**
000026958	SMITH, DARRYL J	H0025-24	80031433	**$74.00**
000036225	TAYLOR, SANDY	G0046-42	80031441	**$72.08**
000048261	AKRIGHT, TONYA	K0006-33	80031445	**$62.00**
000049643	HINES, ROBERT E SR	H0055-50	80031447	**$65.36**
000051211	LORTON, MICHELE C	G0048-05	80031451	**$154.16**
000052141	ALISON OSWALT	J0018-25	80031457	**$158.48**
000055526	WILLIAM NIGEY	N0951-50A	80031459	**$123.64**
000061730	ALISON SWITZER	O1607D10	80031464	**$84.08**
000062271	VANESSA TATUM	G0035-23	80031466	**$251.60**
000066696	LOWE'S HOME CENTERS INC	N1707-02D	80031477	**$674.00**
000071441	MONTE JOHNSON	C0051-01	80031493	**$136.40**

000072892	SPEAK, SHANNON	F0022-36	80031499	**$152.24**
000073652	DE LA PENA, SUSANA SAINZ	H0053-37	80031501	**$114.80**
000075793	ANNETTE SVENDSEN	H0012-08	80031506	**$157.04**
000075985	ELEI LAM	J0025-37	80031508	**$64.40**
000077445	MACKENZIE CORT	H0062-38	80031512	**$81.20**
000078269	FROILAN LULE	F0022-37	80031516	**$85.52**
000078819	ANDREW TOBAR	J0018-24	80031519	**$156.08**
000079448	ASHLEY HACKETT	H0021-25	80031521	**$74.00**
000080000	RICKY GLOSSIP	C0002-42	80031525	**$70.16**
000081127	KRAFT HEINZ FOODS COMPANY	K0007-08A	80031534	**$107.60**
000081127	KRAFT HEINZ FOODS COMPANY	K0007-13A	80031536	**$208.40**
000081127	KRAFT HEINZ FOODS COMPANY	K0008-04A	80031538	**$153.20**
000081127	KRAFT HEINZ FOODS COMPANY	L0001-36B	80031540	**$170.00**
000087084	STOLAT FINANCIAL	H0061-07	80031563	**$78.80**
000087089	SAMPILLER, DEBRA	M1511B47	80031565	**$73.04**
000087368	TIMLEY PROPERTY SOLUTIONS	J0025-36	80031567	**$66.80**
120188485	CYCLONE DEVELOPMENT	H0052-68	80031574	**$71.60**
120202197	MORELAND, KENNETH C	H0064-02	80031576	**$71.60**
120205906	BUDDIN, BARBARA	M1514-11	80031578	**$98.00**
120220705	PATTON, STEPHEN M	H0049-17	80031580	**$74.00**
300075545	PHILLIPS, MIRIAM	G0035-38	80031605	**$134.48**
300148588	HATCH, MATTHEW D	P1115B17	80031617	**$85.52**
300200841	WORD OF FAITH TABERNACLE	H0011-35C	80031629	**$240.56**
300200849	VARGAS, DORA	J0051-06	80031631	**$69.20**
300203019	ONEILL, CAROL A	C0029-31	80031633	**$134.96**
300214391	NELSON, JAY A	K0004-18	80031647	**$150.80**
300214602	SHAFER CENTRE	N0735-04A	80031649	**$133.52**
300222683	HANSEN, TOM	M1511B46	80031653	**$73.04**
300222863	ADKINS, MAUREEN	G0035-03	80031655	**$108.08**
300222863	ADKINS, MAUREEN	G0035-32	80031657	**$74.96**
300222863	ADKINS, MAUREEN	G0035-34	80031659	**$141.68**
300222863	ADKINS, MAUREEN	G0035-35	80031661	**$60.56**
300227747	JOHNSON, PAULINE	F0022-18	80031663	**$152.72**
300235314	GOODSON, LUCAS	C0062-46	80031667	**$74.00**
300238664	CANTU, JOSHUA	K0006-32	80031669	**$62.00**
300244678	BULLOCK, TOM	H0061-04	80031673	**$212.72**
300253446	GARCIA, MEGAN	K0006-31	80031675	**$77.84**
300259251	QUAD CITIES PEDIATRICS PC	Y0823-02	80031683	**$147.92**
300261233	RYAN JOHNSON PROPERTIES	H0055-52A	80031692	**$62.96**
300263239	IMBOREK, JOSHUA	G0004-08	80031694	**$146.00**
300264951	BURKHART, TONY	J0063-12	80031700	**$77.36**

400004188	GESSEL, QIANG/GREG	X0253B36	80031708	**$134.00**
300214597	LOPEZ, DONALD D	L0002-38	80031714	**$81.20**
810001632	HIERSEMAN WAYNE R	C0062-44	80031730	**$134.00**
300157870	MCCOY, MARK	H0002-17	80031765	**$71.12**
000011537	ARTHUR J JOHNSON FAMILY LP	K0005-18A	80031792	**$242.00**
120207186	PARKS, SCOTT	G0045-16	80031841	**$156.56**
000079746	LUND, MISTY	G0052-39C	80031843	**$215.60**
300021757	BEAULIEU, FLORENCE	G0051-17	80031845	**$71.60**
300207710	GOSNELL, JOSH	N0909C19	80031847	**$88.40**
000087442	HAWKER, NATHANIAL	M1507-34	80031883	**$98.00**
000085544	CONTRARIAN HOLDINGS LLC	W1019C44A	80031889	**$78.80**
000085544	CONTRARIAN HOLDINGS LLC	W1019C44A	80031891	**$83.60**
000085544	CONTRARIAN HOLDINGS LLC	W1019C43A	80031893	**$78.80**
000070011	CORELINE INVESTMENTS LLC	J0045-09	80031938	**$141.20**
300079658	MOREHEAD, DEANNA L	C0004-07	80032019	**$69.20**

Number of Accounts to Levy **132** **Total Balance Outstanding:** **$15,617.35**

City of Davenport

Department: Public Works - Admin
Contact Info: Scharlet Clement | 563-326-7793

Action / Date
2/10/2021

Subject:
Resolution assessing the cost of tree removal at various lots and tracts of real estate. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
The City allows 60 days from the invoice date for a bill to be paid. After 60 days, unpaid bills are levied to the Scott County Treasurer as a special assessment against the property.

ATTACHMENTS:

	Type	Description
	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Admin	Moses, Trish	Approved	1/27/2021 - 11:28 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:28 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:47 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION assessing the cost of tree removal at various lots and tracts of real estate.

WHEREAS, that the following lots or tracts of real estate situated in the City of Davenport, and the owners, thereof, be hereby assessed the amounts set forth, and the same being the cost of tree removal on said lots or tracts.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that the City treasurer be and is hereby ordered to collect the same as ordinary taxes to-wit.

BE IT FURTHER RESOLVED, if any amount assessed against property herein does not exceed $500.00, such assessment must be made in 1 annual payment; if amount assessed exceeds $500.00, such assessment may be in 10 annual installments; in the manner and with the same interest rate provided for assessment against benefited property under the State Code of Iowa as amended with the current interest rate of 2%. All assessments bear interest at the current rate of 2%.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

Tree Removal Invoices for Levy

CUST ACCT	NAME	PARCELID	INVOICE	BALANCE
300249768	NICOLE AGAN	M1507-13	01323140	**3,000.00**
300038157	HESTER, CHRISTINE	N1801B17	01323460	**2,750.00**
300138276	BRIBRIESCO, SHARI	F0008-39	01323678	**875.00**
120238976	HOMECOMINGS FINANCIAL LLC	G0013-10	80032051	**550.00**

Number of Accounts to Levy **4** **Total Balance Outstanding:** **$7,175.00**

City of Davenport

Department: Public Works - Admin
Contact Info: Scharlet Clement | 563-326-7793

Action / Date
2/10/2021

Subject:
Resolution assessing the cost of weed cutting at various lots and tracts of real estate. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
The City allows 60 days from the invoice date for a bill to be paid. After 60 days, unpaid bills are levied to the Scott County Treasurer as a special assessment against the property.

ATTACHMENTS:

	Type	Description
	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Public Works - Admin	Moses, Trish	Approved	1/27/2021 - 11:29 AM
Public Works Committee	Moses, Trish	Approved	1/27/2021 - 11:29 AM
City Clerk	Admin, Default	Approved	1/27/2021 - 12:47 PM

Resolution No. _____

Resolution offered by Alderman Dunn.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION assessing the cost of weed cutting at various lots and tracts of real estate.

WHEREAS, that the following lots or tracts of real estate situated in the City of Davenport, and the owners, thereof, be hereby assessed the amounts set forth, and the same being the cost of weed cutting on said lots or tracts.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that the City treasurer be and is hereby ordered to collect the same as ordinary taxes to-wit.

BE IT FURTHER RESOLVED, if any amount assessed against property herein does not exceed $500.00, such assessment must be made in 1 annual payment; if amount assessed exceeds $500.00, such assessment may be in 10 annual installments; in the manner and with the same interest rate provided for assessment against benefited property under the State Code of Iowa as amended with the current interest rate of 2%. All assessments bear interest at the current rate of 2%.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

Weed Cutting Invoices for Levy

CUST ACCT	NAME	PARCELID	INVOICE	BALANCE
000072423	ARSENAL PROPERTIES LLC	H0045-35	80028483	**226.25**
810001409	GRACE BROTHER PROPERTIES LLC	C0029-27	80029552	**285.00**
300211187	BLACKHAWK FOUNDRY	J0029-05	80030404	**340.00**
300211187	BLACKHAWK FOUNDRY	J0029-06A	80030406	**1,355.00**
300211187	BLACKHAWK FOUNDRY	J0029-06B	80030408	**1,065.00**
300211187	BLACKHAWK FOUNDRY	J0037-40A	80030410	**340.00**
000005876	HANSON, RONALD R	F0033-29	80032222	**108.75**
000033222	SMITH, SONIA	E0017-21	80032224	**108.75**
120219483	TAYLOR, DEREK	F0007-39	80032226	**108.75**
400004156	PRICE, HELEN	F0028-20	80032228	**735.00**
300198288	LAKE, SALLY M	S2921B25	80032230	**108.75**
300239607	MEISENBURG, DENNIS	H0064-48	80032261	**167.50**
400001613	LUDTKE, WILLIAM	J0007-02	80032263	**226.25**
000073652	DE LA PENA, SUSANA SAINZ	H0053-37	80032265	**108.75**
000056721	CAHILL, JAMES T	G0036-18	80032267	**226.25**
300208463	NICHOLSON, DARRYL	J0023-21	80032269	**108.75**
000062293	SHIRLEY EDMONDS	G0020-24	80032271	**157.31**
300252099	CUMMINGS, VANESSA	I0042-15	80032273	**108.75**
000078947	USA ENTERTAINMENT VENTURES LL	F0025-07	80032275	**226.25**
000078992	FOX 3 INVESTMENTS LLC	I0057-17	80032277	**285.00**
120238976	HOMECOMINGS FINANCIAL LLC	G0013-10	80032279	**167.50**
300012864	IMMING, SCOTT	H0024-01	80032281	**167.50**
300264692	LA MILLER & ASSOC	F0015-18	80032283	**108.75**
300135400	LACY, LINDA L	F0047-34	80032285	**167.15**
120207186	PARKS, SCOTT	F0044-17	80032287	**167.50**
300132941	MATTHIAE, DOUGLAS	J0007-24	80032289	**167.50**
000053216	TRAN, DUNG	J0047A11	80032291	**226.25**
000151833	ALMANZA, KRISTINA	F0053-09	80032293	**108.75**
300059193	SMITH, JEREMIAH	F0031-31	80032295	**108.75**
300248612	HINKLE, DAVID R	A0036-16	80032323	**267.50**
300161485	BURROUGHS, MIGNON R	F0011-37	80032338	**167.50**
000060742	JOHNSON, TAMARA R	F0017-05	80032348	**285.00**
400003029	UNITED NEIGHBORS	F0018-04	80032350	**167.50**
000023990	MENGLER, MYLA	F0029-23	80032354	**125.00**

810001434	GREENE BRENDA N	F0031-29	80032358	**167.50**
000012667	HALLMAN, HAZIE M	F0031-38	80032360	**108.75**
120247594	PEACOCK, GREGORY A	F0032-31	80032362	**226.25**
000054452	WARICK, KRIS	F0035-05	80032366	**108.75**
000088498	MORTGAGE, GSF	G0010-15	80032372	**167.50**
810000077	AMERICAN HOME SOLUTIONS LLC	G0019-05	80032376	**226.25**
000015549	HIBBS, MICHAEL A	G0035-11	80032378	**167.50**
000062271	VANESSA TATUM	G0035-23	80032380	**167.50**
300075545	PHILLIPS, MIRIAM	G0035-38	80032382	**226.25**
300075545	PHILLIPS, MIRIAM	G0035-39	80032384	**167.50**
400003029	UNITED NEIGHBORS	G0043-32	80032386	**167.50**
400003029	UNITED NEIGHBORS	G0043-34	80032388	**167.50**
300213863	MCCRACKEN, GREGORY S	G0046-25	80032390	**167.50**
000043229	COBERLY, ELIJAH J	G0046-28	80032394	**167.50**
000036225	TAYLOR, SANDY	G0046-42	80032396	**167.50**
000051870	DAVID CRAFT II	G0047-18	80032398	**226.25**
300021757	BEAULIEU, FLORENCE	G0051-17	80032400	**108.75**
300021877	FRUEH, JOHN L	G0051-52	80032402	**167.50**
000079746	LUND, MISTY	G0052-39C	80032404	**285.00**
300214210	KELCHA INC	G0054-37	80032406	**108.75**
300256542	PARROW, DAVID	H0041-04	80032408	**108.75**
000043771	YORK, GARY II	H0051-11	80032412	**108.75**
000066780	RESIDENTIAL EQUITY PARTNERS LL	H0056-65	80032414	**167.50**
000078980	LOWE, DANIEL	H0064-37	80032416	**108.75**
300108473	STAGGS, DEANNA M	J0024-01	80032418	**108.75**
120217330	CLASSIC PROPERTIES INC	M1512A37	80032422	**108.75**
000068850	D6 DEVELOPMENT	N1810-06	80032426	**461.25**
300198288	LAKE, SALLY M	S2921B25	80032436	**108.75**
300229459	LINENBERGER, RUTH	W0318-10	80032438	**108.75**
000062901	JBB ENTERPRISES	C0017-43	80032478	**226.25**
000061277	STEPHANIE SIMMONS	X1107-01F	80032482	**285.00**
120242609	WHITAKER, SUZANNE L	F0030-25	80032486	**226.25**
300199764	NICHOLSON, TANISHIA	F0029-30	80032488	**226.25**
000151057	HICKMAN, ALBERTA	F0037-07	80032490	**343.75**
300252270	BUTLER, STACEY	F0050-23A	80032492	**226.25**
000072192	MICHAEL DETERMAN	R0417-44	80032496	**167.50**
000075793	ANNETTE SVENDSEN	H0012-08	80032498	**167.50**
000088524	BELL, JEAN	A0007D11	80032500	**167.50**
000083123	TWINS CAPITAL HOLDINGS LLC	F0050-37	80032504	**167.50**
000073071	DANNATTA BINION	F0021-39	80032508	**167.50**
000066780	RESIDENTIAL EQUITY PARTNERS LL	P1316B12	80032510	**226.25**

300238234	LEIGHT, THAO HA	B0033-13	80032512	**255.00**
000050376	HOLST PAUL	C0056-16	80032518	**196.00**
300240475	LACINA, WILLIAM T	C0062-40	80032524	**226.25**
000080892	BOENS, JAWAYNE	E0017-39	80032532	**285.00**
000002441	BROWN, MARK	F0003-42	80032534	**226.25**
300012864	IMMING, SCOTT	H0024-01	80032557	**167.50**
000078980	LOWE, DANIEL	H0064-37	80032559	**108.75**
000069907	MUNN, BUGE	J0010-27	80032563	**108.75**
300250335	VAN ARNAM, JEFF	J0013-05A	80032565	**226.25**
300013566	BROWN, LEGOURRI S	J0022-42	80032567	**167.50**
300010533	LINDSAY, RUSSELL S	J0025-02	80032569	**226.25**
000081127	KRAFT HEINZ FOODS COMPANY	K0007-13A	80032575	**108.75**
000061272	KRAFT FOODS GROUP INC	K0007-14	80032577	**285.00**
400001608	GARCIA, RUBEN	K0008-21	80032583	**196.00**
810000134	KRAFT FOODS GLOBAL INC	K0010-09	80032585	**226.25**
000009477	DARSHAN'S IOWA PROPERTIES FOUI	K0012-42	80032587	**167.50**
000078996	MALONGA, NICHOLAS	K0014-04	80032589	**196.00**
800003884	KNIGHTS OF PYTHIES	L0001-28	80032593	**167.50**
300214189	ENTERPRISE ACCEPTANCE CO LLC	L0005-21	80032595	**285.00**
810000783	CYCLONE MAC LLC	M1049-13E	80032599	**285.00**
000035967	WHITE, TERRY L	R0402-10	80032607	**196.00**
000053228	ABC GARAGE COM INC	X1107-01H	80032631	**196.00**
300258874	GRANADO, EMETERIO	F0029-18	80032636	**226.25**
000057080	ZACHARY BOOTS	B0049-20	80032638	**285.00**
300197174	OLEARY, DANIEL	B0064-45	80032640	**343.75**
000084599	MCADEN, HENRY	G0038-27	80032642	**343.75**
000084213	END OF THE ROAD LLC	G0027-21	80032644	**343.75**
000026214	DAVIS, GLEN O	F0044-04	80032646	**314.00**
000053276	JOHNSON, JEREMIAH	F0044-23	80032648	**285.00**
000079756	FISHER, MICHAEL	F0044-30	80032650	**343.75**
000075605	CALVIN CLEVENGER	F0033-25	80032652	**255.00**
000002889	PORTER, RANDY L	E0003-13	80032654	**402.50**
000033222	SMITH, SONIA	E0017-21	80032656	**323.75**
120165410	THOMAS, STACEY L	E0017-28	80032658	**314.00**
120223102	KURSCHAT, CLAUDIO W	F0048-18	80032660	**345.75**
300135400	LACY, LINDA L	F0047-34	80032662	**226.25**
300264631	QC RENTAL PROPS	F0013-28	80032666	**285.00**
000086268	ZIA ULLAH	G0023-39	80032670	**108.75**
000069742	MIDWEST CRAFT DISTRIBUTORS INC	F0037-21	80032672	**343.75**
300235347	LYNN GEERTS	F0050-14	80032680	**285.00**
300100191	MILLS, RICHARD	J0026-23	80032682	**226.25**

000081495	JAMIE DOUGHTY	B0010-05	80032684	**167.50**
300211945	VANDERVEER, TAMARA C	R0511-04	80032699	**285.00**
120188485	CYCLONE DEVELOPMENT	H0052-68	80032707	**255.00**
000067559	MORALES, VERONICA	K0011-09	80032709	**206.00**
000088849	MCCALLUM, MEGHAN	G0045-24	80032713	**402.50**
120207186	PARKS, SCOTT	G0045-16	80032715	**402.50**
000152069	LOVE, ZONA R	H0039-09	80032717	**402.50**
000062293	SHIRLEY EDMONDS	G0020-24	80032719	**285.00**
000062901	JBB ENTERPRISES	H0010-05	80032721	**261.50**
120139036	MEYER, RICHARD A	H0024-46	80032723	**343.75**
300190876	RILEY, ELIZABETH A	R0402-30	80032727	**285.00**
300239607	MEISENBURG, DENNIS	H0064-48	80032729	**285.00**
000077926	WENDY WELCH	J0024-24	80032731	**271.00**
400001613	LUDTKE, WILLIAM	J0007-02	80032733	**226.25**
000085853	BURKE, EMILY	J0051-31	80032735	**343.75**
300108473	STAGGS, DEANNA M	J0024-01	80032737	**167.50**
400004744	HOFFMANN, GENIE	P1111B03	80032739	**285.00**
120223710	WALKER, MARY L	F0023-23	80032741	**343.25**
300043765	LINDSAY, JOSEPH L	J0025-10	80032743	**72.77**
300059186	SIMATOVICH, GENE	U0953-15	80032747	**308.50**
000076184	LAKEVIEW LOAN SERVICING	A0005C38	80032767	**206.00**
300248612	HINKLE, DAVID R	A0036-16	80032769	**200.00**
300002172	POWERS, JULIE S	A0036-27	80032771	**311.00**
300256900	ACKERMAN, REVAMYRNE J	B0004-49	80032775	**167.50**
300255488	BAKER, KARLY	C0047-01	80032785	**271.00**
000084622	CITY VISION NATIONAL REVITALIZ	E0016-38	80032789	**243.87**
000070593	QUIET CAPITAL	F0001-22	80032793	**258.00**
120219483	TAYLOR, DEREK	F0007-39	80032797	**285.00**
300085159	BAKER, BARBARA A	F0009-50	80032799	**243.87**
400004156	PRICE, HELEN	F0028-20	80032805	**314.37**
000056694	CHARLES VAN FOSSEN	F0036-05	80032807	**285.00**
120207186	PARKS, SCOTT	F0044-17	80032809	**285.00**
000043161	STAHL, MATTHEW	G0036-07	80032817	**285.00**
000043161	STAHL, MATTHEW	G0036-08	80032819	**285.00**
000056721	CAHILL, JAMES T	G0036-18	80032821	**252.00**
300150900	MT OLIVE CHURCH OF GOD	G0037-06	80032823	**285.00**
000018462	THE BEAUTY OF NEW BEGINNINGS L	G0037-19	80032825	**311.00**
300150900	MT OLIVE CHURCH OF GOD	G0038-06	80032827	**343.75**
300021999	MORINING, GUNNIE JR	G0043-15	80032831	**226.25**
300106783	RHOMBERG, PENNY BUZZE	G0043-24	80032833	**285.00**
000151725	STEVERSON, MARVELL	G0043-28	80032835	**285.00**

400003029	UNITED NEIGHBORS	G0043-29	80032837	**285.00**
300111234	BALLARD, LUCINDA	G0045-07	80032839	**461.00**
000076483	REJEAN WAGNER	G0045-40	80032841	**343.75**
300021757	BEAULIEU, FLORENCE	G0051-17	80032849	**343.75**
000079746	LUND, MISTY	G0052-39C	80032851	**311.00**
300262792	ANDERSON, MONTE	H0056-16	80032859	**314.00**
000065977	HOME OPPORTUNITY LLC	H0056-27	80032861	**285.00**
300151851	YATES, ROBERT	O2109B34	80032886	**285.00**
300259775	THOMPSON FAMILY HOLDINGS LLC	P1316-22	80032888	**261.50**
000084278	MIDWEST EQUITY GROUP LLC	S2919-12	80032892	**343.75**
000069423	RAJAK RANDHAWA	X0251B19	80032894	**271.00**
300212662	SHREVE, DAVID	W0315-41	80032901	**311.00**
300198288	LAKE, SALLY M	S2921B25	80032903	**167.50**
120202197	MORELAND, KENNETH C	H0064-02	80032905	**252.00**
000073652	DE LA PENA, SUSANA SAINZ	H0053-37	80032907	**206.00**
000051870	DAVID CRAFT II	G0047-18	80032909	**193.00**
000078282	FLIPPING CAPITAL LLC	G0047-19	80032911	**280.00**
000036225	TAYLOR, SANDY	G0046-42	80032913	**295.00**
300075545	PHILLIPS, MIRIAM	G0035-38	80032915	**265.00**
300075545	PHILLIPS, MIRIAM	G0035-39	80032917	**302.00**
000079430	BRUNELL, GARRETT	G0035-36	80032919	**245.00**
300244678	BULLOCK, TOM	H0061-04	80032921	**167.50**
000054452	WARICK, KRIS	F0035-05	80032923	**226.25**
120238976	HOMECOMINGS FINANCIAL LLC	G0013-10	80032925	**262.00**
000085033	STRANG, BRADLEY	W0907A25	80032927	**252.00**
000088525	SPA 2 LLC	G0019-10	80032931	**308.00**
000068850	D6 DEVELOPMENT	N1810-06	80032933	**389.00**
810000077	AMERICAN HOME SOLUTIONS LLC	G0019-05	80032935	**232.00**
120247594	PEACOCK, GREGORY A	F0032-31	80032937	**258.00**
000060742	JOHNSON, TAMARA R	F0017-05	80032939	**226.25**
000012667	HALLMAN, HAZIE M	F0031-38	80032941	**206.00**
300121110	DIPPEL, RICHARD L	P1113C24	80032951	**226.25**
000073947	DEVELOPMENT LLC, CJ	E0018-03	80032957	**343.75**
000052609	DAMON PETERSON	J0018-03	80032959	**219.00**
300208433	CONKLIN, MICHELLE	J0006-04	80032961	**245.00**
000025832	RALEY, DANNY E	G0021-06	80032965	**343.75**
300208463	NICHOLSON, DARRYL	J0023-21	80032967	**232.00**
300008382	JOHNSON, JACQUELINE	H0049-11	80032969	**206.00**
000053216	TRAN, DUNG	J0047A11	80032971	**285.00**
000015549	HIBBS, MICHAEL A	G0035-11	80032973	**213.00**
000085040	TRUST, GEODE	H0007-04	80032975	**207.00**

300225451	BREBNER, ANDY	E0004-20	80032977	**245.00**
000043771	YORK, GARY II	H0051-11	80032983	**206.00**
000078980	LOWE, DANIEL	H0064-37	80032991	**167.50**
300108473	STAGGS, DEANNA M	J0024-01	80032993	**285.00**
400003029	UNITED NEIGHBORS	F0018-04	80032997	**219.00**
810002416	KATHLEEN LONGSHORE	F0017-04	80032999	**206.00**
810002416	KATHLEEN LONGSHORE	F0017-03	80033001	**206.00**
000088914	JOHNSON, TAMARA	F0017-09	80033003	**108.75**
000074613	FUTURE CAPITAL	G0024-42	80033005	**193.00**
000074613	FUTURE CAPITAL	B0063-37	80033007	**285.00**
300229459	LINENBERGER, RUTH	W0318-10	80033011	**245.00**
300203051	RUDD, KRISTY	B0057-04	80033013	**350.00**
300192987	MUHS, DAVID	B0055-28A	80033052	**258.00**
000052986	LILA, LLC	L0001-09	80033056	**137.50**
000076182	ALPHA ASSETS	F0048-29	80033058	**108.75**
000047983	CARLSON, BRYAN L	G0008-17	80033060	**245.00**
000088498	MORTGAGE, GSF	G0010-15	80033062	**343.75**
000150800	JBB ENTERPRISES LLC	J0042-22	80033064	**167.50**
300214210	KELCHA INC	G0054-37	80033066	**206.00**
300261508	SCOTT, MARJORY J	R0417-34	80033068	**226.25**
000080925	CR 2018 LLC	R0402-16	80033070	**167.50**
300229459	LINENBERGER, RUTH	W0318-10	80033072	**245.00**
400003029	UNITED NEIGHBORS	G0043-34	80033074	**226.25**
400003029	UNITED NEIGHBORS	G0043-35	80033076	**213.00**
400003029	UNITED NEIGHBORS	G0043-33	80033078	**226.25**
400003029	UNITED NEIGHBORS	G0043-32	80033080	**226.25**
300264227	LIDDELL II, KRAIG	K0012-02A	80033084	**285.00**
000076182	ALPHA ASSETS	F0048-30	80033086	**226.25**
000076182	ALPHA ASSETS	F0048-31A	80033088	**285.00**
120223102	KURSCHAT, CLAUDIO W	F0048-18	80033090	**167.50**
810001434	GREENE BRENDA N	F0031-29	80033092	**298.00**
300021410	YOKE, JOYCE E	L0003-07	80033096	**226.25**
000057080	ZACHARY BOOTS	B0049-20	80033100	**108.75**
000075605	CALVIN CLEVENGER	F0033-25	80033102	**219.00**
120242609	WHITAKER, SUZANNE L	F0030-25	80033104	**245.00**
300199764	NICHOLSON, TANISHIA	F0029-30	80033106	**258.00**
000061277	STEPHANIE SIMMONS	X1107-01F	80033108	**219.00**
000075693	JASON HAGGARD	W1019C30	80033162	**252.00**
300099269	MIRFIELD, JULIE A	M1033-03A	80033180	**252.00**
000002441	BROWN, MARK	F0003-42	80033182	**219.00**
300258874	GRANADO, EMETERIO	F0029-18	80033184	**167.50**

000063236	BRANDON WAFER	A0038-16	80033190	**125.00**
300001974	MCILEECE, MICHAEL E	A0007C09	80033192	**245.00**
300264631	QC RENTAL PROPS	F0013-28	80033194	**206.00**
300198288	LAKE, SALLY M	S2921B25	80033196	**167.50**
000084600	KAPELL, ANDREW	W1019D10	80033208	**245.00**
300149374	CARDINAS, VENTURA	E0014-28	80033212	**219.00**
000077110	LADLUS55 INVESTOR GROUP INC	G0020-28	80033214	**167.50**
400001608	GARCIA, RUBEN	K0008-21	80033218	**206.00**
000082057	SCHNELL, CATHERINE	G0046-24	80033220	**226.25**
000043229	COBERLY, ELIJAH J	G0046-28	80033224	**226.50**
000066780	RESIDENTIAL EQUITY PARTNERS LL	G0030-30	80033226	**343.75**
810001177	FIG TREE HOLDINGS LLC	R0403-07	80033228	**150.50**
300096263	LUCIER, DANIEL L	J0024-39	80033230	**226.25**
810001315	GEARHEAD PROPERTIES LC	X0253B41	80033232	**206.00**
000066780	RESIDENTIAL EQUITY PARTNERS LL	P1316B12	80033234	**180.00**
300108473	STAGGS, DEANNA M	J0024-01	80033238	**167.50**
300010533	LINDSAY, RUSSELL S	J0025-02	80033240	**167.50**
300100191	MILLS, RICHARD	J0026-23	80033242	**167.50**
000068786	GRAINCOMM III LLC	W0332-12A	80033274	**750.00**
000089227	SB REAL ESTATE	W0305-17	80033281	**311.00**
000059047	MOORE LEGACY LLC	L0013-22B	80033287	**395.00**
000059047	MOORE LEGACY LLC	L0013-21	80033289	**108.75**
000089228	BIG REMODELING	F0050-28	80033291	**206.00**
000014321	HOBBS, ARTHUR M	H0008-21B	80033293	**108.75**
120207186	PARKS, SCOTT	G0045-16	80033297	**239.00**
120202197	MORELAND, KENNETH C	H0064-02	80033299	**167.50**
300244678	BULLOCK, TOM	G0064-14	80033301	**239.50**
300256542	PARROW, DAVID	H0041-04	80033307	**285.00**
000082824	SILKE CAPITAL INVESTMENTS LLC	F0049-19C	80033309	**206.00**
000043551	CYNTHIA S SCHALK 2011	W0305-06	80033311	**206.00**
300212258	LAING, JACK	H0024-05	80033313	**219.00**
300012864	IMMING, SCOTT	H0024-01	80033315	**239.00**
000079746	LUND, MISTY	G0052-39C	80033317	**285.00**
300021757	BEAULIEU, FLORENCE	G0051-17	80033323	**167.50**
800003884	KNIGHTS OF PYTHIES	L0001-28	80033325	**206.00**
300214189	ENTERPRISE ACCEPTANCE CO LLC	L0005-21	80033327	**245.00**
000043551	CYNTHIA S SCHALK 2011	W0305-05	80033329	**206.00**
300240475	LACINA, WILLIAM T	C0062-40	80033331	**343.75**
300208325	HUNTSBERGER, WILLIAM	H0014-29	80033353	**108.75**
300167449	STONE, MICHAEL	S2923B13	80033357	**506.94**
000062293	SHIRLEY EDMONDS	G0020-24	80033361	**108.75**

300255565	OLD CAPITOL BREWING CO	L0016A07	80033363	**108.75**
000026214	DAVIS, GLEN O	F0044-04	80033365	**206.00**
120207186	PARKS, SCOTT	F0044-17	80033367	**226.25**
300151851	YATES, ROBERT	O2109B34	80033369	**258.75**
000080927	EJH PROPERTIES LLC	O1619D18	80033373	**108.75**
000089244	GRACIA, RITA	E0021-44	80033375	**167.50**
000089245	EDWARD KANNEH JR	E0017-09	80033379	**183.75**
300229459	LINENBERGER, RUTH	W0318-10	80033381	**167.50**
300144480	TON, BAO T	O1651C05	80033405	**108.75**
300144480	TON, BAO T	O1651C04	80033407	**108.75**
300144480	TON, BAO T	O1651C03	80033409	**108.75**
300144480	TON, BAO T	O1651C06	80033411	**108.75**
000084213	END OF THE ROAD LLC	S2923-02A	80033428	**275.00**
300184556	DEPAUW, ANGELIA	H0013-36	80033430	**108.75**
300110415	COONEY, LISA E	G0017-15	80033434	**200.00**
000084213	END OF THE ROAD LLC	H0048-24	80033436	**183.75**
000082049	BLUE SUN REAL ESTATE LLC	K0019-27	80033438	**285.00**
300239485	4020 BRADY PF LLC	P1308-09B	80033444	**437.75**
120139036	MEYER, RICHARD A	H0024-46	80033446	**191.00**
300242996	JONES, FELICIA	H0023-14	80033448	**206.00**
000009477	DARSHAN'S IOWA PROPERTIES FOUI	K0012-42	80033450	**167.50**
300265262	BAKER, PATRICK D	M1053B20	80033452	**202.75**
000062271	VANESSA TATUM	G0035-23	80033454	**245.22**
300075545	PHILLIPS, MIRIAM	G0035-39	80033456	**285.00**
300075545	PHILLIPS, MIRIAM	G0035-38	80033458	**285.00**
000053276	JOHNSON, JEREMIAH	F0044-23	80033495	**206.00**
300251549	VAZQUEZ, JAIME	H0024-15	80033497	**167.50**
120188485	CYCLONE DEVELOPMENT	H0052-68	80033499	**167.50**
300013566	BROWN, LEGOURRI S	J0022-42	80033501	**285.00**
000085853	BURKE, EMILY	J0051-31	80033503	**285.00**
400001613	LUDTKE, WILLIAM	J0007-02	80033505	**242.50**
000069907	MUNN, BUGE	J0010-27	80033507	**206.00**
120174455	CHAPIN, ALAN	L0002-40	80033509	**285.00**
000078282	FLIPPING CAPITAL LLC	G0047-19	80033511	**317.30**
000036225	TAYLOR, SANDY	G0046-42	80033513	**226.25**
300111234	BALLARD, LUCINDA	G0045-07	80033515	**226.25**
000056721	CAHILL, JAMES T	G0036-18	80033517	**167.50**
000084599	MCADEN, HENRY	G0038-27	80033519	**167.50**
400003029	UNITED NEIGHBORS	G0043-34	80033521	**167.50**
400003029	UNITED NEIGHBORS	G0043-30	80033523	**167.50**
400003029	UNITED NEIGHBORS	G0043-29	80033525	**167.50**

000151725	STEVERSON, MARVELL	G0043-28	80033527	**167.50**
300235332	KINNAIRD, DANIEL	G0036-15	80033529	**376.00**
400003029	UNITED NEIGHBORS	G0043-32	80033533	**167.50**
400003029	UNITED NEIGHBORS	G0043-33	80033535	**167.50**
000089278	NDAYIRAGUE, JONAPELTE	G0027-38	80033559	**206.00**
000056113	CINDAR, MICHAEL	E0003-13	80033561	**245.00**
000083842	MM DEVELOPMENT LLC	P1210-01F	80033563	**330.00**
400004156	PRICE, HELEN	F0028-20	80033573	**285.00**
000062901	JBB ENTERPRISES	F0044-13	80033575	**285.00**
300220025	DEMOLITION DAVENPORT INC	L0015A09	80033577	**108.75**
300235347	LYNN GEERTS	F0050-14	80033581	**285.00**
120165410	THOMAS, STACEY L	E0017-28	80033583	**242.50**
300059193	SMITH, JEREMIAH	E0017-16	80033585	**258.75**
000012667	HALLMAN, HAZIE M	F0031-38	80033587	**285.00**
300255488	BAKER, KARLY	C0047-01	80033589	**813.00**
000063434	MAGDALENA SALAS	F0022-15	80033593	**175.00**
000079960	ENTERPRISES, 2.0	D0064-29A	80033595	**183.75**
000072192	MICHAEL DETERMAN	R0417-44	80033599	**108.75**
300261508	SCOTT, MARJORY J	R0417-34	80033601	**167.50**
000052609	DAMON PETERSON	J0018-03	80033605	**226.25**
300123539	OEHRLEIN, PAUL G	B0010-22	80033607	**167.50**
120247594	PEACOCK, GREGORY A	F0032-31	80033609	**226.25**
000060742	JOHNSON, TAMARA R	F0017-05	80033611	**167.50**
000075605	CALVIN CLEVENGER	F0033-25	80033613	**167.50**
300260086	MOCHA MAYA LLC	C0064-34	80033615	**108.75**
000070593	QUIET CAPITAL	F0001-22	80033617	**167.50**
000084213	END OF THE ROAD LLC	G0027-21	80033619	**285.00**
000086268	ZIA ULLAH	G0023-39	80033621	**206.00**
000066780	RESIDENTIAL EQUITY PARTNERS LL	G0030-30	80033623	**180.00**
300212662	SHREVE, DAVID	W0315-41	80033625	**206.00**
000076184	LAKEVIEW LOAN SERVICING	A0005C38	80033627	**108.75**
810001434	GREENE BRENDA N	F0031-29	80033629	**167.50**
000072892	SPEAK, SHANNON	F0022-36	80033631	**125.00**
000078247	JOSE GONZALES	F0022-35	80033633	**200.00**
000076188	PATRICK REARS	F0024-48	80033637	**200.00**
000076198	DAN LAGUATAN	F0010-05	80033639	**200.00**
000057833	AP PROPERTIES LLC	F0003-03	80033641	**125.00**
300203019	ONEILL, CAROL A	C0029-31	80033643	**108.75**
300214210	KELCHA INC	G0054-37	80033647	**167.50**
300187703	SICKLER, ANITA L	F0036-03	80033649	**167.50**
000151057	HICKMAN, ALBERTA	F0037-07	80033651	**272.00**

300260086	MOCHA MAYA LLC	C0064-33	80033655	**108.75**
810002416	KATHLEEN LONGSHORE	F0017-04	80033657	**167.50**
810002416	KATHLEEN LONGSHORE	F0017-03	80033659	**167.50**
300190876	RILEY, ELIZABETH A	R0402-30	80033661	**291.50**
000088914	JOHNSON, TAMARA	F0017-09	80033663	**108.75**
000076188	PATRICK REARS	B0006-12	80033737	**226.25**
120223710	WALKER, MARY L	F0023-23	80033739	**226.25**
120202197	MORELAND, KENNETH C	H0064-02	80033741	**167.50**
000043771	YORK, GARY II	H0051-11	80033743	**167.50**
300248612	HINKLE, DAVID R	A0036-16	80033745	**167.50**
000072892	SPEAK, SHANNON	F0022-36	80033747	**125.00**
300002172	POWERS, JULIE S	A0036-27	80033749	**167.50**
000073652	DE LA PENA, SUSANA SAINZ	H0053-37	80033751	**167.50**
300236115	TURNER, CHRYSTAL	K0032-39	80033753	**285.00**
000069742	MIDWEST CRAFT DISTRIBUTORS INC	F0037-21	80033755	**308.50**
000089068	ANTHONY KAZENSKE	H0020-02	80033759	**167.50**
000086688	PINNACLE ESTATES LLC	C0049-45	80033761	**255.62**
300256900	ACKERMAN, REVAMYRNE J	R0413-06	80033763	**167.50**
300108473	STAGGS, DEANNA M	J0024-01	80033781	**167.50**
000069513	JOSEPH HOLCOMB	F0009-46	80033789	**275.00**
300148789	CRIBBS, BETTY	G0037-13	80033795	**200.00**
300260086	MOCHA MAYA LLC	C0064-33	80033797	**108.75**
000077102	GIOVANNI RIOS	F0005-31	80033799	**108.75**
300135400	LACY, LINDA L	F0047-34	80033801	**393.87**
000025832	RALEY, DANNY E	G0021-06	80033803	**308.50**
000024585	RALEY, DAN O	G0021-32	80033805	**285.00**
300021999	MORINING, GUNNIE JR	G0043-15	80033807	**213.12**
300262000	LIVIN OUR DREAMS LLC	O1651B01	80033809	**425.00**
000050899	DAVID BRUMMETT	W0319D12	80033811	**167.50**
300059186	SIMATOVICH, GENE	U0953-15	80033813	**676.25**
000054452	WARICK, KRIS	F0035-05	80033815	**196.87**
000043351	ZYLSTRA, SHARON E	F0021-21	80033817	**785.00**
000084218	SGA CAPITAL HOLDINGS LLC	F0047-05A	80033819	**346.87**
000082057	SCHNELL, CATHERINE	G0046-24	80033821	**167.50**
300213863	MCCRACKEN, GREGORY S	G0046-25	80033823	**167.50**
000043551	CYNTHIA S SCHALK 2011	W0305-06	80033825	**167.50**
000043551	CYNTHIA S SCHALK 2011	W0305-05	80033827	**167.50**
000089228	BIG REMODELING	F0050-28	80033829	**138.12**
000079746	LUND, MISTY	G0052-39C	80033831	**340.00**
000063658	MARTY LAWSON	A0063-08	80033833	**138.12**
300087908	SPENCER, PEGGY L	K0032-11	80033837	**343.75**

000002441	BROWN, MARK	F0003-42	80033839	**226.25**
300240475	LACINA, WILLIAM T	C0062-40	80033841	**167.50**
000078580	JENSMA, KEN	H0054-36	80033843	**385.00**
000072898	STONE, ROLLAND	H0026-26	80033847	**108.75**
300258874	GRANADO, EMETERIO	F0029-18	80033849	**271.87**
000072892	SPEAK, SHANNON	F0022-36	80033853	**167.50**
000078968	SAMUEL, MICHAEL	G0046-27	80033855	**167.50**
000043229	COBERLY, ELIJAH J	G0046-28	80033857	**167.50**

Number of Accounts to Levy **411** **Total Balance Outstanding:** **$95,883.76**

City of Davenport

Department: Finance
Contact Info: Mallory Merritt | 563-326-7792

Action / Date
2/10/2021

Subject:
First Consideration: Ordinance providing for the sale and issuance of not-to-exceed $10,500,000 General Obligation Refunding Bonds, Series 2021A, and for the levy of taxes to pay the same. [All Wards]

STAFF RECOMMENDS SUSPENSION OF THE RULES AND PASSAGE OF SECOND AND THIRD CONSIDERATIONS.

Recommendation:
Adopt the Ordinance.

Background:
Public Financial Management, Inc (PFM), the City's financial advisor, continually reviews prior City of Davenport bond issuances and the current market for potential refunding opportunities. An analysis of the Series 2013A General Obligation Bonds indicates an opportunity exists. Based on the current market, issuance of refunding bonds could provide a total savings of $931,821 and present value savings of $675,771. The required Public Hearing was held on April 15, 2020.

ATTACHMENTS:

	Type	Description
🗋	Ordinance	Ordinance

REVIEWERS:

Department	Reviewer	Action	Date
Finance	Merritt, Mallory	Approved	1/27/2021 - 1:53 PM
Finance Committee	Merritt, Mallory	Approved	1/27/2021 - 1:53 PM
City Clerk	Admin, Default	Approved	1/27/2021 - 2:06 PM

SALE AND ISSUANCE OF GENERAL OBLIGATION REFUNDING BONDS, SERIES 2021A

629872-90

Davenport, Iowa

February 10, 2021

The City Council of the City of Davenport, Iowa met pursuant to law and the rules of the City Council on February 10, 2021, at 5:30 p.m., at the Council Chambers, City Hall, Davenport, Iowa. The meeting was called to order and upon the roll being called there were present Mayor, presiding, and the following named Aldermen:

Present: _____

_____

Absent: _____.

This being the time and place fixed for the consideration of proposals for the purchase of the City's $9,325,000 General Obligation Refunding Bonds, Series 2021A, it was announced that sealed bids had been received and canvassed on behalf of the City, and such bids were then placed on file and the substance of such sealed bids was noted in the minutes, as follows:

Name and Address of Bidder	Final Bid (interest cost)

(ATTACH BID TABULATION)

Alderman _____, on behalf of the Ordinance Committee, introduced a proposed ordinance entitled, "An Ordinance providing for the sale and issuance of $_____ General Obligation Refunding Bonds, Series 2021A, and for the levy of taxes to pay the same," and moved its adoption, seconded by Alderman _____.

The Mayor put the question on the motion and the roll being called, the following named Aldermen voted:

Ayes: _____

_____

Nays: _____.

The Mayor declared the motion duly carried and the ordinance initially adopted.

It was then moved by Alderman _____ to suspend the requirement that certain ordinances be considered and voted on for passage at two Council meetings prior to the meeting at which they are finally passed and that this ordinance be now placed on its final consideration. The motion was seconded by Alderman _____. The Mayor put the question upon the motion and, the roll being called, the following named Aldermen voted:

Ayes: _____

_____

Nays: _____.

The Mayor declared the motion duly carried and said ordinance was placed on its final consideration. Alderman _____ moved that the said ordinance be adopted; seconded by Alderman _____. After due consideration the Mayor put the question on the adoption of the ordinance and, the roll being called, the following named Aldermen voted:

Ayes: _____

Nays: _____.

The Mayor declared the ordinance finally adopted and signed approval thereto.

• • • •

At the conclusion of the meeting, and upon motion and vote, the City Council adjourned.

_____
Mayor

Attest:

_____
Deputy City Clerk

ORDINANCE NO. _____

An Ordinance providing for the sale and issuance of $_____ General Obligation Refunding Bonds, Series 2021A, and for the levy of taxes to pay the same

WHEREAS, in the performance of its corporate functions as prescribed by the laws of the State of Iowa and the Charter of the City of Davenport, Iowa (the "City"), notice duly published and a hearing held thereon, the City Council of the City has determined it to be in the best interests of the City to issue General Obligation Refunding Bonds, Series 2021A (the "Series 2021A Bonds") for the purpose of refunding the outstanding balance of the City's General Obligation Corporate and Refunding Bonds, Series 2013A (the "Series 2013A Bonds"); and

WHEREAS, in the ordinance pursuant to which the Series 2013A Bonds were authorized to be issued, the City reserved the right to call the maturities of the Series 2013A Bonds that are scheduled to mature after June 1, 2021 for redemption prior to maturity as of June 1, 2021 (the "Callable Series 2013A Bonds"); and

WHEREAS, sealed bids for the purchase of the Series 2021A Bonds were received and canvassed on behalf of the City; and

WHEREAS, PFM Financial Advisors, LLC, municipal advisor for the City, has reported that, upon review of all bids received for the purchase of the Series 2021A Bonds, the bid of _____ (the "Purchaser") proposes the lowest interest cost to the City and the City should issue the Series 2021A Bonds in the principal amount of $_____; and

WHEREAS, it is necessary at this time to award the Series 2021A Bonds to the Purchaser and to adopt an ordinance to provide for the principal amount, interest rates and other terms of issuance of the Series 2021A Bonds and the levy of taxes to pay the same and to authorize the early redemption of the Callable Series 2013A Bonds;

NOW, THEREFORE, Be It Ordained by the City Council of the City of Davenport, Iowa, as follows:

Section 1. The bid referred to in the preamble hereof is hereby accepted, and the Series 2021A Bonds are hereby awarded to the Purchaser at the price specified in such bid, together with accrued interest.

Section 2. The form of agreement of sale of the Series 2021A Bonds is hereby approved, and the Mayor and Deputy City Clerk are hereby authorized to execute the same for and on behalf of the City.

Section 3. The Series 2021A Bonds, dated March 17, 2021, in the denomination of $5,000 each or any integral multiple thereof, are hereby authorized to be issued in the aggregate principal amount of $_____, and shall mature on June 1 in each of the years, in the respective principal amounts and bear interest at the respective rates, as follows:

Year	Principal Amount	Interest Rate Per Annum	Year	Principal Amount	Interest Rate Per Annum
2022	$950,000	____%	2028	$1,045,000	____%
2023	$975,000	____%	2029	$565,000	____%
2024	$990,000	____%	2030	$580,000	____%
2025	$990,000	____%	2031	$595,000	____%
2026	$1,010,000	____%	2032	$605,000	____%
2027	$1,020,000	____%			

Section 4. The CFO/Assistant City Administrator is hereby designated as the Bond Registrar and Paying Agent for the Series 2021A Bonds and may be hereinafter referred to as the "Bond Registrar" or the "Paying Agent".

All of the interest on the Series 2021A Bonds is payable semiannually on the first day of June and December in each year, commencing December 1, 2021. Payment of interest on the Series 2021A Bonds shall be made in lawful money of the United States of America to the registered owners appearing on the bond registration books of the City at the close of business on the fifteenth day of the month next preceding the interest payment date and shall be paid to the registered owners at the addresses shown on such registration books. Principal of the Series 2021A Bonds shall be payable in lawful money of the United States of America to the registered owners or their legal representatives upon presentation and surrender of the Series 2021A Bond or Bonds at the office of the Paying Agent.

The City reserves the right to call for redemption prior to maturity the Series 2021A Bonds maturing in the years 2030 to 2032, inclusive, in whole or from time to time in part, in one or more units of $5,000, on June 1, 2029, or on any date thereafter prior to and in any order of maturity (and within a maturity by lot), upon terms of par and accrued interest. If less than all of the Series 2021A Bonds of any like maturity are to be redeemed, the particular part of those Series 2021A Bonds to be redeemed shall be selected by the Registrar by lot. The Series 2021A Bonds may be called in part in one or more units of $5,000.

If less than the entire principal amount of any Series 2021A Bond in a denomination of more than $5,000 is to be redeemed, the Registrar will issue and deliver to the registered owner thereof, upon surrender of such original Series 2021A Bond, a new bond or bonds, in any authorized denomination, in a total aggregate principal amount equal to the unredeemed balance of the original Series 2021A Bond. Notice of such redemption as aforesaid identifying the bond or bonds (or portion thereof) to be redeemed shall be sent by electronic means or mailed by certified mail to the registered owners thereof at the addresses shown on the City's registration books not less than 30 days prior to such redemption date. Any notice of redemption may contain a statement that the redemption is conditioned upon the receipt by the Paying Agent of funds on or before the date fixed for redemption sufficient to pay the redemption price of the

Series 2021A Bonds so called for redemption, and that if funds are not available, such redemption shall be cancelled by written notice to the owners of the Series 2021A Bonds called for redemption in the same manner as the original redemption notice was sent. All of such Series 2021A Bonds as to which the City reserves and exercises the right of redemption and as to which notice as aforesaid shall have been given and for the redemption of which funds are duly provided, shall cease to bear interest on the redemption date.

The Series 2021A Bonds shall be executed on behalf of the City with the official manual or facsimile signature of the Mayor and attested with the official manual or facsimile signature of the Deputy City Clerk, and shall be fully registered bonds without interest coupons. In case any officer whose signature or the facsimile of whose signature appears on the Series 2021A Bonds shall cease to be such officer before the delivery of the Series 2021A Bonds, such signature or such facsimile signature shall nevertheless be valid and sufficient for all purposes, the same as if he or she had remained in office until delivery.

The Series 2021A Bonds shall be fully registered as to principal and interest in the names of the owners on the registration books of the City kept by the Bond Registrar. Each Series 2021A Bond shall be transferable only upon the registration books of the City upon presentation to the Bond Registrar, together with either a written instrument of transfer satisfactory to the Bond Registrar or the assignment form thereon completed and duly executed by the registered owner or the duly authorized attorney for such registered owner.

The record and identity of the owners of the Series 2021A Bonds shall be kept confidential as provided by Section 22.7 of the Code of Iowa.

The Series 2021A Bonds shall not be valid or become obligatory for any purpose until the Certificate of Authentication thereon shall have been signed by the Bond Registrar.

Section 5. Notwithstanding anything above to the contrary, the Series 2021A Bonds shall be issued initially as Depository Bonds, with one fully registered Series 2021A Bond for each maturity date, in aggregate principal amounts equal to the amount of principal maturing on each such date, and registered in the name of Cede & Co., as nominee for The Depository Trust Company, New York, New York ("DTC"). On original issue, the Series 2021A Bonds shall be deposited with DTC for the purpose of maintaining a book-entry system for recording the ownership interests of its participants and the transfer of those interests among its participants (the "Participants"). In the event that DTC determines not to continue to act as securities depository for the Series 2021A Bonds or the City determines not to continue the book-entry system for recording ownership interests in the Series 2021A Bonds with DTC, the City will discontinue the book-entry system with DTC. If the City does not select another qualified securities depository to replace DTC (or a successor depository) in order to continue a book-entry system, the City will register and deliver replacement bonds in the form of fully registered certificates, in authorized denominations of $5,000 or integral multiples of $5,000, in accordance with instructions from Cede & Co., as nominee for DTC. In the event that the City identifies a qualified securities depository to replace DTC, the City will register and deliver replacement bonds, fully registered in the name of such depository, or its nominee, in the denominations as set forth above, as reduced from time to time prior to maturity in connection with redemptions or

retirements by call or payment, and in such event, such depository will then maintain the book-entry system for recording ownership interests in the Series 2021A Bonds.

Ownership interest in the Series 2021A Bonds may be purchased by or through Participants. Such Participants and the persons for whom they acquire interests in the Series 2021A Bonds as nominees will not receive certificated Series 2021A Bonds, but each such Participant will receive a credit balance in the records of DTC in the amount of such Participant's interest in the Series 2021A Bonds, which will be confirmed in accordance with DTC's standard procedures. Each such person for which a Participant has an interest in the Series 2021A Bonds, as nominee, may desire to make arrangements with such Participant to have all notices of redemption or other communications of the City to DTC, which may affect such person, forwarded in writing by such Participant and to have notification made of all interest payments.

The City will have no responsibility or obligation to such Participants or the persons for whom they act as nominees with respect to payment to or providing of notice for such Participants or the persons for which they act as nominees.

As used herein, the term "Beneficial Owner" shall hereinafter be deemed to include the person for which the Participant acquires an interest in the Series 2021A Bonds.

DTC will receive payments from the City, to be remitted by DTC to the Participants for subsequent disbursement to the Beneficial Owners. The ownership interest of each Beneficial Owner in the Series 2021A Bonds will be recorded on the records of the Participants whose ownership interest will be recorded on a computerized book-entry system kept by DTC.

When reference is made to any action which is required or permitted to be taken by the Beneficial Owners, such reference shall only relate to those permitted to act (by statute, regulation or otherwise) on behalf of such Beneficial Owners for such purposes. When notices are given, they shall be sent by the City to DTC, and DTC shall forward (or cause to be forwarded) the notices to the Participants so that the Participants can forward the same to the Beneficial Owners.

Beneficial Owners will receive written confirmations of their purchases from the Participants acting on behalf of the Beneficial Owners detailing the terms of the Series 2021A Bonds acquired. Transfers of ownership interest in the Series 2021A Bonds will be accomplished by book entries made by DTC and the Participants who act on behalf of the Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interest in the Series 2021A Bonds, except as specifically provided herein. Interest and principal will be paid when due by the City to DTC, then paid by DTC to the Participants and thereafter paid by the Participants to the Beneficial Owners.

Section 6. The form of the Series 2021A Bonds shall be substantially as follows:

(Form of Series 2021A Bond)

UNITED STATES OF AMERICA
STATE OF IOWA

COUNTY OF SCOTT CITY OF DAVENPORT

GENERAL OBLIGATION REFUNDING BOND, SERIES 2021A

No. ____ $_____

RATE	MATURITY DATE	BOND DATE	CUSIP
_____	_____	March 17, 2021	_____

The City of Davenport (the "City"), in Scott County, State of Iowa, for value received, promises to pay on the maturity date of this Bond to

Cede & Co.
New York, New York

or registered assigns, the principal sum of

DOLLARS

in lawful money of the United States of America upon presentation and surrender of this Bond at the office of the CFO/Assistant City Administrator, Davenport, Iowa (hereinafter referred to as the "Bond Registrar" or the "Paying Agent"), with interest on said sum, until paid, at the rate per annum specified above from the date of this Bond, or from the most recent interest payment date on which interest has been paid, on June 1 and December 1 of each year, commencing December 1, 2021. Interest on this Bond is payable to the registered owner appearing on the bond registration books of the City at the close of business on the fifteenth day of the month next preceding the interest payment date and shall be paid to the registered owner at the address shown on such registration books.

This Bond shall not be valid or become obligatory for any purpose until the Certificate of Authentication hereon shall have been signed by the Bond Registrar.

This Bond is one of a duly authorized series of General Obligation Refunding Bonds, Series 2021A (the "Series 2021A Bonds"), issued by the City in the aggregate principal amount of $_____, pursuant to and in strict compliance with the laws of the State of Iowa and the special Charter of the City, and all laws amendatory thereof and supplementary thereto, and in conformity with an ordinance (the "Ordinance") adopted by the City Council of the City

providing for the issuance of the Series 2021A Bonds and for the levy of taxes to pay the same for the purpose of paying the cost of refunding the outstanding balance of the City's General Obligation Corporate and Refunding Bonds, Series 2013A.

The City reserves the right to prepay part or all of the principal of the Series 2021A Bonds maturing in each of the years 2030 to 2032, inclusive, prior to and in any order of maturity on June 1, 2029, or on any date thereafter upon terms of par and accrued interest. If less than all of the Series 2021A Bonds of any like maturity are to be redeemed, the particular part of those Series 2021A Bonds to be redeemed shall be selected by the Registrar by lot. The Series 2021A Bonds may be called in part in one or more units of $5,000. If less than the entire principal amount of any Series 2021A Bond in a denomination of more than $5,000 is to be redeemed, the Registrar will issue and deliver to the registered owner thereof, upon surrender of such original Series 2021A Bond, a new bond or bonds, in any authorized denomination, in a total aggregate principal amount equal to the unredeemed balance of the original Series 2021A Bond. Notice of such redemption as aforesaid identifying the bond or bonds (or portion thereof) to be redeemed shall be sent by electronic means or by certified mail to the registered owners thereof at the addresses shown on the City's registration books not less than 30 days prior to such redemption date. All of such Series 2021A Bonds as to which the City reserves and exercises the right of redemption and as to which notice as aforesaid shall have been given and for the redemption of which funds are duly provided, shall cease to bear interest on the redemption date.

This Bond is fully negotiable but shall be fully registered as to both principal and interest in the name of the owner on the books of the City in the office of the Bond Registrar, after which no transfer shall be valid unless made on said books and then only upon presentation of this Bond to the Bond Registrar, together with either a written instrument of transfer satisfactory to the Bond Registrar or the assignment form hereon completed and duly executed by the registered owner or the duly authorized attorney for such registered owner.

The City, the Bond Registrar and the Paying Agent may deem and treat the registered owner hereof as the absolute owner for the purposes of receiving payment of or on account of principal hereof, premium, if any, and interest due hereon and for all other purposes, and the City, the Bond Registrar and the Paying Agent shall not be affected by any notice to the contrary.

And It Is Hereby Certified and Recited that all acts, conditions and things required by the laws and Constitution of the State of Iowa to exist, to be had, to be done or to be performed precedent to and in the issue of this Bond were and have been properly existent, had, done and performed in regular and due form and time; that provision has been made for the levy of a sufficient continuing annual tax on all the taxable property within the City for the payment of the principal of and interest on this Bond as the same will respectively become due; and that the total indebtedness of the City, including this Bond, does not exceed any constitutional, statutory or Charter limitations or provisions.

IN TESTIMONY WHEREOF, the City of Davenport, Iowa, by its City Council, has caused this Bond to be executed with the duly authorized facsimile signature of its Mayor and attested with the duly authorized facsimile signature of its Deputy City Clerk, all as of March 17, 2021.

CITY OF DAVENPORT, IOWA

By (DO NOT SIGN)
Mayor

Attest:

(DO NOT SIGN)
Deputy City Clerk

Registration Date: (Registration Date)

BOND REGISTRAR'S CERTIFICATE OF AUTHENTICATION

This Bond is one of the Series 2021A Bonds described in the within-mentioned Ordinance.

By (DO NOT SIGN)
CFO/Assistant City Administrator

ABBREVIATIONS

TEN COM	-	as tenants in common	UTMA_____
TEN ENT	-	as tenants by the entireties	_____
			(Custodian)
JT TEN	-	as joint tenants with right of survivorship and not as tenants in common	As Custodian for_____ (Minor) under Uniform Transfers to Minors Act
			_____ (State)

Additional abbreviations may also be used though not in the list above.

ASSIGNMENT

For valuable consideration, receipt of which is hereby acknowledged, the undersigned assigns this Bond to

_____

(Please print or type name and address of Assignee)

_____

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

and does hereby irrevocably appoint _____, Attorney, to transfer this Bond on the books kept for registration thereof with full power of substitution.

Dated: _____

Signature guaranteed:

_____

_____

_____

(Signature guarantee must be provided in accordance with the prevailing standards and procedures of the Registrar and Transfer Agent. Such standards and procedures may require signatures to be guaranteed by certain eligible guarantor institutions that participate in a recognized signature guarantee program.)

_____

NOTICE: The signature to this Assignment must correspond with the name of the registered owner as it appears on this Bond in every particular, without alteration or enlargement or any change whatever.

Section 7. The Series 2021A Bonds shall be executed as herein provided as soon after the adoption of this ordinance as may be possible, and thereupon they shall be delivered to the Bond Registrar for registration, authentication and delivery to or upon the order of the Purchaser, upon confirmation of receipt by the Bond Registrar of the purchase price thereof, with accrued interest thereon, and all action heretofore taken in connection with the sale and award of the Series 2021A Bonds is hereby ratified and confirmed in all respects.

Section 8. The Callable Series 2013A Bonds are hereby called for redemption as of June 1, 2021 (the "Redemption Date") and the CFO/Assistant City Administrator, as Bond Registrar for the City, is hereby authorized to take all action necessary to call the Callable Series 2013A Bonds for redemption as of the Redemption Date, including giving notice of such redemption to each of the registered owners of any of the Callable Series 2013A Bonds to be redeemed, at the addresses shown in the City's registration records, not less than 30 days prior to the Redemption Date.

Section 9. As required by Chapter 76 of the Code of Iowa, and for the purpose of providing for the levy and collection of a direct annual tax sufficient to pay the interest on the Series 2021A Bonds as it falls due on December 1, 2021, and on each interest payment date thereafter to maturity, and also to pay and discharge the principal thereof at maturity, there is hereby ordered levied on all the taxable property in the City in each of the years while the Series 2021A Bonds or any of them are outstanding, a tax sufficient for that purpose, and in furtherance of this provision, but not in limitation thereof, there is hereby levied on all the taxable property in the City the following direct annual tax for collection in each of the following fiscal years:

For collection in the fiscal year beginning July 1, 2021,
sufficient to produce the net annual sum of $_____;

For collection in the fiscal year beginning July 1, 2022,
sufficient to produce the net annual sum of $_____;

For collection in the fiscal year beginning July 1, 2023,
sufficient to produce the net annual sum of $_____;

For collection in the fiscal year beginning July 1, 2024,
sufficient to produce the net annual sum of $_____;

For collection in the fiscal year beginning July 1, 2025,
sufficient to produce the net annual sum of $_____;

For collection in the fiscal year beginning July 1, 2026,
sufficient to produce the net annual sum of $_____;

For collection in the fiscal year beginning July 1, 2027,
sufficient to produce the net annual sum of $_____;

For collection in the fiscal year beginning July 1, 2028,
sufficient to produce the net annual sum of $_____;

For collection in the fiscal year beginning July 1, 2029,
sufficient to produce the net annual sum of $_____;

For collection in the fiscal year beginning July 1, 2030,
sufficient to produce the net annual sum of $_____;

For collection in the fiscal year beginning July 1, 2031,
sufficient to produce the net annual sum of $_____.

Section 10. A certified copy of this ordinance shall be filed with the County Auditor of Scott County, and the County Auditor is hereby instructed to enter for collection and assess the tax hereby authorized. When annually entering such taxes for collection, the County Auditor shall include the same as a part of the tax levy for Debt Service Fund purposes of the City and when collected, the proceeds of the taxes shall be converted into the Debt Service Fund of the City and set aside therein as a special account to be used solely and only for the payment of the principal of and interest on the Series 2021A Bonds hereby authorized and for no other purposes whatsoever. The amounts received by the City as accrued interest shall be deposited into such special account and used to pay interest due on the Series 2021A Bonds on the first interest payment date.

Section 11. The interest or principal and both of them falling due in any year or years shall, if necessary, be paid promptly from current funds on hand in advance of taxes levied and when the taxes shall have been collected, reimbursement shall be made to such current funds in the sum thus advanced.

Section 12. The City has heretofore determined that certain revenues from special funds shall be available for retirement of that portion of the Series 2021A Bonds utilized to defray the costs of certain projects related to such funds. Therefore, such funds may be employed and used to the extent available from year to year for the payment of that portion of the principal of and interest on the Series 2021A Bonds which is applicable to that portion of the total Series 2021A Bond issue applicable to such fund. Each year while any of said Series 2021A Bonds remain outstanding and unpaid, such of said available funds in amounts sufficient to meet the interest on that portion of the Series 2021A Bonds applicable to such fund and to pay the principal becoming due on such portion of the Series 2021A Bonds during each year may be used for that purpose, in accordance with the Series 2021A Bond Financing Plan on file with the CFO/Assistant City Administrator, and in that event, the tax hereinbefore provided for the payment of such interest and principal may be reduced by the amount so used. The Deputy City Clerk is hereby authorized and directed to certify to the County Auditor of Scott County as to the remission or reduction of said ad valorem tax so that said tax, to the extent such fund is actually available and set aside for such purpose, shall not be extended or entered upon the tax rolls for collection.

It is hereby declared to be the purpose and intent of the City to issue the Series 2021A Bonds hereby authorized as general municipal obligations, but at the same time permitting the use of such funds for the payment of the principal and interest of that portion of the Series 2021A Bonds issued with respect to such funds.

Section 13. All funds held in any fund or account created or required to be maintained under the terms of this ordinance shall be deposited in lawful depositories of the City or invested in accordance with Chapters 12B and 12C of the Code of Iowa and continuously held and secured as provided by the laws of the State of Iowa relating to the depositing, securing, holding and investing of public funds, or as may be otherwise required to comply with the rebate provisions of the Internal Revenue Code.

All interest received by the City as a result of investments under this section in excess of the amount, if any, required to be paid to the United States Government in order to comply with the rebate provisions of the Internal Revenue Code, shall be deposited into or transferred to the Debt Service Fund subaccount referred to herein and used solely and only for the purpose of paying principal of and/or interest on the Series 2021A Bonds. The City hereby covenants and agrees that no such investment shall ever be made so as to cause the interest on the Series 2021A Bonds to become taxable as "arbitrage bonds" pursuant to the provisions of Section 148 of the Internal Revenue Code.

Section 14. The Securities and Exchange Commission (the "SEC") has promulgated certain amendments to Rule 15c2-12 under the Securities Exchange Act of 1934 (17 C.F.R. § 240.15c2-12) (the "Rule") that make it unlawful for an underwriter to participate in the primary offering of municipal securities in a principal amount of $1,000,000 or more unless, before submitting a bid or entering into a purchase contract for such securities, it has reasonably determined that the issuer or an obligated person has undertaken in writing for the benefit of the holders of such securities to provide certain disclosure information to prescribed information repositories on a continuing basis so long as such securities are outstanding.

On the date of issuance and delivery of the Series 2021A Bonds, the City will execute and deliver a Continuing Disclosure Certificate pursuant to which the City will undertake to comply with the Rule. The City covenants and agrees that it will comply with and carry out the provisions of the Continuing Disclosure Certificate. Any and all of the officers of the City are hereby authorized and directed to take any and all actions as may be necessary to comply with the Rule and the Continuing Disclosure Certificate.

Section 15. It is the intention of the City that interest on the Series 2021A Bonds be and remain excluded from gross income for federal income tax purposes pursuant to the appropriate provisions of the Internal Revenue Code of 1986, as amended, and the Treasury Regulations in effect with respect thereto (all of the foregoing herein referred to as the "Internal Revenue Code"). In furtherance thereof the City covenants to comply with the provisions of the Internal Revenue Code as they may from time to time be in effect or amended and further covenants to comply with applicable future laws, regulations, published rulings and court decisions as may be necessary to insure that the interest on the Series 2021A Bonds will remain excluded from gross income for federal income tax purposes. Any and all of the officers of the City are hereby authorized and directed to take any and all actions as may be necessary to comply with the covenants herein contained.

Section 16. All ordinances or parts thereof in conflict herewith are hereby repealed to the extent of such conflict.

Passed and approved February 10, 2021.

_____
Mayor

Attest:

_____
Deputy City Clerk

Published on the _____ day of _____, 2021.

_____
Deputy City Clerk

STATE OF IOWA
COUNTY OF SCOTT SS:
CITY OF DAVENPORT

I, the undersigned, Deputy City Clerk of the City of Davenport, Iowa, do hereby certify that attached hereto is a true, correct and complete transcript of the minutes of the meeting of the City Council related to the adoption of an ordinance providing for the sale and issuance of the City's General Obligation Refunding Bonds, Series 2021A, and for the levy of taxes to pay the same, including a true and correct copy of such ordinance.

WITNESS MY HAND this _____ day of _____, 2021.

_____
Deputy City Clerk

STATE OF IOWA

SS:

COUNTY OF SCOTT

I, the undersigned, County Auditor of Scott County, do hereby certify that the Deputy City Clerk of the City of Davenport, Iowa, certified and delivered to me a complete copy of an ordinance of that municipality adopted by the City Council thereof on February 10, 2021, providing for the sale and issuance of General Obligation Refunding Bonds, Series 2021A, and for the levy of taxes to pay the same, and that I have duly placed said copy of the ordinance on file in my records.

I further certify that the taxes provided for in the ordinance will, in due time, manner and season, be entered on the State and County tax lists of the County for collection in each fiscal year as provided in the said ordinance.

WITNESS MY HAND this _____ day of _____, 2021.

_____

County Auditor

STATE OF IOWA
COUNTY OF SCOTT SS:
CITY OF DAVENPORT

I, the undersigned, Deputy City Clerk of the City of Davenport, Iowa, do hereby certify that an ordinance providing for the sale and issuance of General Obligation Refunding Bonds, Series 2021A, and for the levy of taxes to pay the same, of which the printed slip attached to the publisher's affidavit hereto attached is a true and complete copy, was published on the date and in the newspaper specified in such affidavit, which newspaper has a general circulation in the City.

WITNESS MY HAND this _____ day of _____, 2021.

_____
Deputy City Clerk

(Attach hereto publisher's affidavit of publication with a clipping of the ordinance as published.

City of Davenport

Department: Finance
Contact Info: Mallory Merritt | 563-326-7792

Action / Date
2/10/2021

Subject:
Resolution approving the FY 2022 Maximum Property Tax Dollars. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
The City has developed a proposed maximum levy for affected property tax levies of $14.46001 per $1,000 of taxable value for FY 2022. This total maximum levy rate for the affected property tax levies is the same rate as FY 2021.

Under the law of the State of Iowa, the City is required to adopt the maximum property tax levy prior to the adoption of the annual budget.

ATTACHMENTS:

Type	Description
Resolution Letter	Resolution
Backup Material	Backup Material

REVIEWERS:

Department	Reviewer	Action	Date
Finance	Merritt, Mallory	Approved	1/26/2021 - 12:07 PM
Finance Committee	Merritt, Mallory	Approved	1/26/2021 - 12:07 PM
City Clerk	Admin, Default	Approved	1/26/2021 - 1:43 PM

Resolution No._____

Resolution offered by Alderman Condon.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION approving the FY 2022 maximum property tax dollars.

WHEREAS, the City Council of the City of Davenport has considered the proposed FY 2022 City maximum property tax dollars for the affected levy total; and

WHEREAS, a notice concerning the proposed City maximum property tax dollars was published as required and posted on the City website and social media accounts on January 22, 2021; and

WHEREAS, a Public Hearing concerning the proposed City maximum property tax dollars was held on Wednesday, February 3, 2021.

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Davenport that the maximum property tax dollars for the affected tax levies for FY 2022 shall not exceed the following total:

> Total maximum levy for affected property tax levies - $14.46001 per $1,000 of taxable value

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

CITY NAME	NOTICE OF PUBLIC HEARING -PROPOSED PROPERTY TAX LEVY	CITY CODE
DAVENPORT	Fiscal Year July 1, 2021 - June 30, 2022	82-773

The City Council will conduct a public hearing on the proposed Fiscal Year City property tax levy as follows:

Meeting Date:	Meeting Time:	Meeting Location:
2/3/2021	5:30PM	226 W 4th St. Davenport, IA 52801

At the public hearing any resident or taxpayer may present objections to, or arguments in favor of the proposed tax levy.
After adoption of the proposed tax levy, the Council will publish notice and hold a hearing on the proposed city budget.

City Web Site (if available):	City Telephone Number:
cityofdavenportiowa.com	563-326-7711

Iowa Department of Management		Current Year Certified Property Tax 2020/2021	Budget Year Effective Property Tax 2021/2022**	Budget Year Proposed Maximum Property Tax 2021/2022	Annual % CHG
Regular Taxable Valuation	1	4,769,677,623	4,824,709,657	4,824,709,657	
Tax Levies:					
Regular General	2	$38,634,389	$38,634,389	$39,080,148	
Contract for Use of Bridge	3	$0	$0	$0	
Opr & Maint Publicly Owned Transit	4	$4,340,407	$4,340,407	$4,390,500	
Rent, Ins. Maint. Of Non-Owned Civ. Ctr.	5	$0	$0	$0	
Opr & Maint of City-Owned Civic Center	6	$0	$0	$0	
Planning a Sanitary Disposal Project	7	$0	$0	$0	
Liability, Property & Self-Insurance Costs	8	$1,192,419	$1,192,419	$1,206,200	
Support of Local Emer. Mgmt. Commission	9	$0	$0	$0	
Emergency	10	$1,287,813	$1,287,813	$1,302,672	
Police & Fire Retirement	11	$6,163,986	$6,163,986	$6,235,100	
FICA & IPERS	12	$6,234,253	$6,234,253	$6,306,200	
Other Employee Benefits	13	$11,116,318	$11,116,318	$11,244,550	
***Total 384.15A Maximum Tax Levy**	14	$68,969,585	$68,969,585	$69,765,370	**1.15%**
Calculated 384.15A MaximumTax Rate	15	$14.46001	$14.29507	$14.46001	

Explanation of significant increases in the budget:

FY 2022 increases include salary, penison, health insurance adjustments, and contract cost escalations.

If applicable, the above notice also available online at:

cityofdavenportiowa.com

*Total city tax rate will also include voted general fund levy, debt service levy, and capital improvement reserve levy

**Budget year effective property tax rate is the rate that would be assessed for these levies if the dollars requested is not changed in the coming budget year

City of Davenport

Department: Finance
Contact Info: Paul Sikorski | 563-888-6133

Action / Date
2/10/2021

Subject:
Resolution approving the purchase of a mobile precinct unit from LDV, Inc of Burlington, Wisconsin in the amount of $258,545, CIP #24025. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
This purchase will replace the existing trailer-based vehicle used by the Police Department. The new unit is a one purpose built drivable vehicle that will serve various functions for the community including, but not limited to:

- Placement into neighborhoods for public safety and community events
- Use during large events and festivals
- Operate as a crime deterrent in neighborhoods throughout the community
- Utilize as a command post, in preparation or response to disasters or recovery from major disasters, incidents, and crime scenes.

Funding for this project is from the FY 2021 budget, CIP #24025.

The City of Davenport is a member of the U.S. General Services Administration (GSA), a cooperative group that bids items to be used by government agencies. Because of the volume created by purchases from several communities, the advantage is lower contracted prices. LDV, Inc was awarded one of the contracts for the Law Enforcement and Fire Fighting Vehicles and Attachments, contract number 47QMCA21D000F.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Finance	Merritt, Mallory	Approved	1/28/2021 - 2:14 PM
Finance Committee	Merritt, Mallory	Approved	1/28/2021 - 2:14 PM
City Clerk	Admin, Default	Approved	1/28/2021 - 4:47 PM

Resolution No. _____

Resolution offered by Alderman Condon.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION approving the purchase of a mobile precinct unit from LDV, Inc of Burlington, Wisconsin in the amount of $258,545.00.

WHEREAS, the Police Department needs to replace the current mobile precinct unit which is twenty years old; and

WHEREAS, LDV, Inc of Burlington, Wisconsin was awarded a contract by the U.S. General Services Administration (GSA) for the purchase of Law Enforcement and Fire Fighting Vehicles and Attachments, contract number 47QMCA21D000F.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Davenport for the purchase of a mobile precinct unit from LDV, Inc of Burlington, Wisconsin in the amount of $258,545.00.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk

City of Davenport

Department: Administration
Contact Info: Sarah Ott | 563-326-6167

Action / Date
2/10/2021

Subject:
Resolution opposing Senate File 159 (SF159), the proposed omnibus education bill, which includes the creation of a private school voucher program and elimination of voluntary diversity plans in Iowa. [All Wards]

Recommendation:
Adopt the Resolution.

Background:
During the 2021 Legislative session, Governor Kim Reynolds introduced SF159, an omnibus education bill, which includes the elimination of a voluntary diversity plan and the creation of a private school voucher program in Iowa.

The Davenport Community School District has a voluntary diversity plan currently in place to balance the diversity of high poverty students within and throughout the district. The City of Davenport recognizes that elimination of the voluntary diversity plan by the state legislature would do irreparable harm, seriously changing the balance between low to high socioeconomic status students, by allowing high socioeconomic status students to open enroll out of the district.

The City of Davenport is committed to open and transparent use of tax payer dollars for public purposes. The creation of a private school voucher program in Iowa will not only lead to less funding for public schools, but will also decrease the open and transparent use of tax payer dollars as private schools do not have the required disclosures required of public schools.

The Davenport City Council is opposed to SF 159 and believes it will have severe negative consequences to the Davenport Community School District.

ATTACHMENTS:

	Type	Description
🗋	Resolution Letter	Resolution

REVIEWERS:

Department	Reviewer	Action	Date
Administration	Admin, Default	Approved	2/2/2021 - 3:47 PM

Resolution No. _____

Resolution offered by Alderman Condon.

RESOLVED by the City Council of the City of Davenport.

RESOLUTION opposing Senate File 159 (SF159), the proposed omnibus education bill, which includes the creation of a private school voucher program and elimination of voluntary diversity plans in Iowa.

WHEREAS, strong public schools are essential to the health and well-being of our country and to the development of informed and engaged citizens; and

WHEREAS, public schools are open to all students regardless of race, religion, gender, socio-economic status, and disability; and

WHEREAS, public schools are accountable, transparent, and overseen by public-elected citizen governing boards to oversee the use of taxpayer funding; and

WHEREAS, SF159 would create a private school voucher program that does not require public accountability of taxpayer funding.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Davenport that the City of Davenport opposes the passing of SF159 by the Iowa Legislature.

Passed and approved this 10th day of February, 2021.

Approved:

_____
Mike Matson
Mayor

Attest:

_____
Brian Krup
Deputy City Clerk