

## ADDENDUM No. 2

ITB No. 4706

### WWTP HEADWORKS IMPROVEMENT PROJECT

**Bids Due: January 26, 2022 at 2:00 P.M. (Local Time)**

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. **This Addendum includes 110 pages.**

**Bidder is to acknowledge receipt of this Addendum No. 1, including all attachments (if any) in its Bid by so indicating on page ITB-1 of the Invitation to Bid Form. Bids submitted without acknowledgment of receipt of this addendum may be considered nonconforming.**

The following forms provided within the ITB document should be included in submitted bids:

- City of Ann Arbor Prevailing Wage Declaration of Compliance
- City of Ann Arbor Living Wage Ordinance Declaration of Compliance
- Vendor Conflict of Interest Disclosure Form
- City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance

**Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.**

### I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the Bid document which are outlined below are referenced to a page or Section in which they appear conspicuously. The Bidder is to take note in its review of the documents and include these changes as they may affect work or details in other areas not specifically referenced here.

#### **Section/Page(s)**

#### **Change**

ITB / BF-1

As provided in ITB No. 4706 Bid Document:

Process Cost (P-1) Grit Removal & Washer Equipment Cost listed as \$710,000.

As updated herein:

Process Cost (P-1) Grit Removal & Washer Equipment Cost listed as \$812,000.

*Comment:*

*The intent is to provide the most recent cost estimate from HUBER accounting for all design and material cost changes since the initial bid.*

**Section 11413**

As updated herein:

Service contract to be provided by manufacturer for the first five (5) years after installation of the GritWolf(s) as stated in 3.3.B.

*Comment:* Specification Section 11413 specifies the grit removal system and washer.

**M-03** As provided in ITB No. 4706 Bid Document:  
Supply and exhaust air for the electrical room in the South Garage on opposite sides of new door.

As updated herein:  
Exhaust and supply air locations updated to match sheet M-05.

*Comment:* The intent of this change is to coordinate with Architectural. er questions 16, 17, 19 and 20 from Addendum No. 1, this sheet has been updated for clarification.

**M-05** As provided in ITB No. 4706 Bid Document:  
Supply and exhaust air provided for new Electrical Room in Garage.

As updated herein:  
Location of supply and exhaust air ducts and fans updated.

*Comment:* The intent of this change is to coordinate with Architectural. er questions 16, 17, 19 and 20 from Addendum No. 1, this sheet has been updated for clarification.

**M-07** As provided in ITB No. 4706 Bid Document:  
Gas unit heater provided in Odor Control Room.

As updated herein:  
Gas unit heater and flue relocated over exterior door.

*Comment:* The intent of this change is to coordinate with Architectural. Per questions 16, 17, 19 and 20 from Addendum No. 1, this sheet has been updated for clarification.

**E-01** As provided in ITB No. 4706 Bid Document:  
DP-E one-line fed from C-17 branch circuit in DP-C.

As updated herein:  
Branch circuit callout changed to C-16.

*Comment:* The intent of this change is to coordinate with DP-C one-line.

**E-02** As updated herein:  
"SEE NAMEPLATE DETAIL..." note added below DP-E schedule.

*Comment:* The intent of this change is to add clarity for nameplate installation.

**E-04A** As updated herein:  
Explosionproof equipment note added below plan title.

*Comment:* The intent of this change is to add clarity for equipment installation.

**E-04B** As updated herein:  
Explosionproof equipment note added below plan title.

*Comment: The intent of this change is to add clarity for equipment installation.*

**E-05** As updated herein:  
Explosionproof equipment note added below plan title.

*Comment: The intent of this change is to add clarity for equipment installation.*

**E-07** As provided in ITB No. 4706 Bid Document:  
Distribution panel DP-E conduit homerun calls out Unit Substation No. 1 as power source.

As updated herein:  
Power source callout changed to DP-C.

*Comment: The intent of this change is to coordinate with DP-C one-line.*

**E-08** As provided in ITB No. 4706 Bid Document:  
“OA” fixtures on east side of Odor Control Building mounted at 14'-0" A.F.G.

As updated herein:  
“OA” fixtures on east side of Odor Control Building shifted away from doors and mounted at 10'-6" A.F.F.

*Comment: The intent of this change is to coordinate with Architectural.*

**E-10** As provided in ITB No. 4706 Bid Document:  
“OA” and “EX-XP” fixtures on southeast side of South Garage is mounted 6" above the window top elevation.

As updated herein:  
“OA” fixture is shifted directly over door and mounted 16" above the window top elevation.

“EX-XP” fixture is mounted 6" above man-door top elevation.

*Comment: The intent of this change is to coordinate with Architectural.*

## II. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the ITB. Bidders are directed to take note in their review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

Question 1: Please can you clarify the demo note on Drawing DS-2 regarding the north channel floor slab demo. Is the intent of this note to have the new concrete work below this area to supply lateral bracing for the channel? If the slab above cannot be removed to allow construction of the lower area this will make this area very difficult/costly to construct. Can temporary channel bracing be used?

Answer 1: Yes, the lower part of the channel must be cast and cured prior to demolition of the top slab. There are existing grating openings available for ingress and egress of materials and there ample lighting to complete construction. However, temporary channel bracing is also an alternative option. Information to complete this construction alternative will be provided with the construction conformed set drawings.

Bidders are responsible for any conclusions that they may draw from the information contained in the Addendum.

CITY OF ANN ARBOR  
INVITATION TO BID



WWTP HEADWORKS IMPROVEMENT PROJECT

ITB No. 4706

Due Date: January 26, 2022, 2:00PM (Local Time)


WASTEWATER TREATMENT SERVICES UNIT

Issued By:

City of Ann Arbor  
Procurement Unit  
301 E. Huron Street  
Ann Arbor, MI 48104

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- 1 *City of Ann Arbor Prevailing Wage Declaration Form*
- City of Ann Arbor Living Wage Forms*
- City of Ann Arbor Vendor Conflict of Interest Disclosure Form*
- City of Ann Arbor Non-Discrimination Ordinance Declaration Form and Notice*

**ATTACHMENTS**

- A *Waterman O&M Manual excerpts*
- B *G2 Geotechnical Report*

## NOTICE OF PRE-BID CONFERENCE AND KEY BID DATES

A pre-bid conference for this project will be held on January 4, 2022 at 10:00 am (local time) at the Ann Arbor WWTP, 49 Old Dixboro Rd, Ann Arbor, MI 48105 with site tour will follow. Bidders shall note that PPE is required for the Tour.

Attendance at this conference is highly recommended. Administrative and technical questions regarding this project will be answered at this time. The pre-bid conference is for information only. Any answers furnished will not be official until verified in writing by the Financial Service Area, Procurement Unit. Answers that change or substantially clarify the bid will be affirmed in an addendum.

### KEY BID DATES:

ITB Issued.....	Tuesday, December 14, 2021
Pre-Bid Conference.....	10:00 am Tuesday, January 4, 2022
Optional Site Visit.....	Wednesday, January 5, 2022
Optional Site Visit.....	Thursday, January 6, 2022
Optional Site Visit.....	Tuesday, January 11, 2022
Last date for questions .....	5:00 pm, Monday, January 17, 2022
Addendum No. 1 .....	Thursday, January 19, 2022
Addendum No. 2 (if required) .....	Friday, January 21, 2022
Bid Opening .....	2:00 pm, Wednesday, January 26, 2022

Optional Site Visits are encouraged for all bidders, but participants are required to contact Chris Englert prior to each visit. Visits are confined to 9:00 am to 12:00 pm. PPE is required. Addendum dates are planned and are subject to change.

# INSTRUCTIONS TO BIDDERS

## General

Work to be done under this Contract is generally described through the detailed specifications and must be completed fully in accordance with the contract documents. All work to be done under this Contract is located in or near the City of Ann Arbor.

Any Bid which does not conform fully to these instructions may be rejected.

## Preparation of Bids

Bids should be prepared providing a straight-forward, concise description of the Bidder's ability to meet the requirements of the ITB. Bids shall be written in ink or typewritten. No erasures are permitted. Mistakes may be crossed out and corrected and must be initialed and dated in ink by the person signing the Bid.

Bids must be submitted on the "Bid Forms" provided with each blank properly filled in. If forms are not fully completed it may disqualify the bid. No alternative bid will be considered unless alternative bids are specifically requested. If alternatives are requested, any deviation from the specification must be fully described, in detail on the "Alternate" section of Bid form.

Each person signing the Bid certifies that he/she is the person in the Bidder's firm/organization responsible for the decision as to the fees being offered in the Bid and has not and will not participated in any action contrary to the terms of this provision.

## Questions or Clarifications / Designated City Contacts

All questions regarding this ITB shall be submitted via email. Emailed questions and inquires will be accepted from any and all prospective Bidders in accordance with the terms and conditions of the ITB.

All questions shall be due on or before **January 17, 2022, 5:00 pm** and should be addressed as follows:

Specification/Scope of Work questions emailed to **cenglert@a2gov.org**  
Bid Process and Compliance questions emailed to **cspencer@a2gov.org**

Any error, omissions or discrepancies in the specification discovered by a prospective contractor and/or service provider shall be brought to the attention of Chris Englert, WWT Services Engineer at **cenglert@a2gov.org** after discovery as possible. Further, the contractor and/or service provide shall not be allowed to take advantage of errors, omissions or discrepancies in the specifications.

## Addenda

If it becomes necessary to revise any part of the ITB, notice of the Addendum will be posted to Michigan Inter-governmental Trade Network (MITN) [www.mitn.info](http://www.mitn.info) and/or City of Ann Arbor web site [www.A2gov.org](http://www.A2gov.org) for all parties to download.

Each Bidder must in its Bid, to avoid any miscommunications, acknowledge all addenda which it has received; but the failure of a Bidder to receive, or acknowledge receipt of; any addenda shall

not relieve the Bidder of the responsibility for complying with the terms thereof.

The City will not be bound by oral responses to inquiries or written responses other than written addenda.

## Bid Submission

All Bids are due and must be delivered to the City of Ann Arbor Procurement Unit on or before **[Insert Day, Date and Time] (local time)**. Bids submitted late or via oral, telephonic, telegraphic, electronic mail or facsimile **will not** be considered or accepted.

Each Bidder must submit one (1) original Bid and two (2) Bid copies in a sealed envelope clearly marked: **ITB No. 4706 – WWTP Headworks Improvement Project**.

### **Bids must be addressed and delivered to:**

City of Ann Arbor  
Procurement Unit,  
c/o Customer Services, 1<sup>st</sup> Floor  
301 East Huron Street  
Ann Arbor, MI 48104

All Bids received on or before the Due Date will be publicly opened and recorded immediately. No immediate decisions are rendered.

**The following forms provided within this ITB Document should be included in submitted bids.**

- **City of Ann Arbor Prevailing Wage Declaration of Compliance**
- **City of Ann Arbor Living Wage Ordinance Declaration of Compliance**
- **Vendor Conflict of Interest Disclosure Form**
- **City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance**

**Bids that fail to provide these forms listed above upon bid opening may be rejected as non-responsive and may not be considered for award.**

Hand delivered bids may be dropped off in the Purchasing drop box located in the Ann Street (north) vestibule/entrance of City Hall which is accessible to the public at all hours. The City will not be liable to any Bidder for any unforeseen circumstances, delivery or postal delays. Postmarking to the Due Date will not substitute for receipt of the Bid. Each Bidder is responsible for submission of their Bid.

Additional time for submission of bids past the stated due date and time will not be granted to a single Bidder; however, additional time may be granted to all Bidders when the City determines in its sole discretion that circumstances warrant it.

## Award

The City intends to award a Contract(s) to the lowest responsible Bidder(s). On multi-divisional contracts, separate divisions may be awarded to separate Bidders. The City may also utilize alternatives offered in the Bid Forms, if any, to determine the lowest responsible Bidder on each division, and award multiple divisions to a single Bidder, so that the lowest total cost is achieved for the City. For unit price bids, the Contract will be awarded based upon the unit prices and the

lump sum prices stated by the bidder for the work items specified in the bid documents, with consideration given to any alternates selected by the City. If the City determines that the unit price for any item is materially different for the work item bid than either other bidders or the general market, the City, in its sole discretion, in addition to any other right it may have, may reject the bid as not responsible or non-conforming.

The acceptability of major subcontractors will be considered in determining if a Bidder is responsible. In comparing Bids, the City will give consideration to alternate Bids for items listed in the bid forms. All key staff and subcontractors are subject to the approval by the City.

## Official Documents

The City of Ann Arbor officially distributes bid documents from the Procurement Unit or through the Michigan Intergovernmental Trade Network (MITN). Copies of the bid documents obtained from any other source are not Official copies. Addenda and other bid information will only be posted to these official distribution sites. If you obtained City of Ann Arbor Bid documents from other sources, it is recommended that you register on [www.MITN.info](http://www.MITN.info) and obtain an official Bid. Bidders do not need to be shown on the plan holders list provided by MITN to be considered an official plan holder.

## Bid Security

Each bid must be accompanied by a certified check, or Bid Bond by a surety licensed and authorized to do business within the State of Michigan, in the amount of 5% of the total of the bid price.

## Withdrawal of Bids

After the time of opening, no Bid may be withdrawn for the period of 90 days.

## Contract Time

Time is of the essence in the performance of the work under this Contract. The available time for work under this Contract is indicated on page C-2, Article III of the Contract. If these time requirements can not be met, the Bidder must stipulate on Bid Form Section 3 - Time Alternate its schedule for performance of the work. Consideration will be given to time in evaluating bids.

## Liquidated Damages

A liquidated damages clause, as given on page C-2, Article III of the Contract, provides that the Contractor shall pay the City as liquidated damages, and not as a penalty, a sum certain per day for each and every day that the Contractor may be in default of completion of the specified work, within the time(s) stated in the Contract, or written extensions.

Liquidated damages clauses, as given in the General Conditions, provide further that the City shall be entitled to impose and recover liquidated damages for breach of the obligations under Chapter 112 of the City Code.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

## Human Rights Information

All contractors proposing to do business with the City shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the Section 9:158 of the Ann Arbor City Code. Breach of the obligation not to discriminate as outlined in Section 5, beginning at page GC-2 shall be a material breach of the contract. Contractors are required to post a copy of Ann Arbor's Non-Discrimination Ordinance attached at all work locations where its employees provide services under a contract with the City.

## Wage Requirements

Section 4, beginning at page GC-1, outlines the requirements for payment of prevailing wages and for payment of a "living wage" to employees providing service to the City under this contract. The successful bidder and its subcontractors must comply with all applicable requirements and provide proof of compliance.

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. Use of the Sample Certified Payroll form provided in the Appendix section or a City-approved equivalent will be required along with wage rate interviews.

For laborers whose wage level are subject to federal, state and/or local prevailing wage law the appropriate Davis-Bacon wage rate classification is identified based upon the work including within this contract. **The wage determination(s) current on the date 10 days before bids are due shall apply to this contract.** The U.S. Department of Labor (DOL) has provided explanations to assist with classification in the following resource link: [beta.SAM.gov](http://beta.SAM.gov).

For the purposes of this ITB the Construction Type of Heavy will apply.

## Conflict Of Interest Disclosure

The City of Ann Arbor Purchasing Policy requires that prospective Vendors complete a Conflict of Interest Disclosure form. A contract may not be awarded to the selected Vendor unless and until the Procurement Unit and the City Administrator have reviewed the Disclosure form and determined that no conflict exists under applicable federal, state, or local law or administrative regulation. Not every relationship or situation disclosed on the Disclosure Form may be a disqualifying conflict. Depending on applicable law and regulations, some contracts may awarded on the recommendation of the City Administrator after full disclosure, where such action is allowed by law, if demonstrated competitive pricing exists and/or it is determined the award is in the best interest of the City. A copy of the Vendor Conflict of Interest Disclosure Form is attached.

## Major Subcontractors

The Bidder shall identify on Bid Form Section 4 each major subcontractor it expects to engage for this Contract if the work to be subcontracted is 15% or more of the bid sum or over \$50,000, whichever is less. The Bidder also shall identify the work to be subcontracted to each major subcontractor. The Bidder shall not change or replace a subcontractor without approval by the City.

## Debarment

Submission of a Bid in response to this ITB is certification that the Bidder is not currently debarred,

suspended, proposed for debarment, and declared ineligible or voluntarily excluded from participation in this transaction by any State or Federal departments or agency. Submission is also agreement that the City will be notified of any changes in this status.

## Disclosures

After bids are opened, all information in a submitter's bid is subjected to disclosure under the provisions of Michigan Public Act No. 442 of 1976, as amended (MCL 15.231 et seq.) known as the "Freedom of Information Act." The Freedom of Information Act also provides for the complete disclosure of contracts and attachments thereto except where specifically exempted.

## Bid Protest

All Bid protests must be in writing and filed with the Purchasing Agent within five (5) business days of the award action. The bidder must clearly state the reasons for the protest. If a bidder contacts a City Service Area/Unit and indicates a desire to protest an award, the Service Area/Unit shall refer the bidder to the Purchasing Agent. The Purchasing Agent will provide the bidder with the appropriate instructions for filing the protest. The protest shall be reviewed by the City Administrator or designee whose decision shall be final.

*Any inquiries or requests regarding this procurement should be only submitted in writing to the Designated City Contacts provided herein. Attempts by any prospective bidder to initiate contact with anyone other than the Designated City Contacts provided herein that the bidder believes can influence the procurement decision, e.g., Elected Officials, City Administrator, Selection Committee Members, Appointed Committee Members, etc., may lead to immediate elimination from further consideration.*

## Cost Liability

The City of Ann Arbor assumes no responsibility or liability for costs incurred by the Bidder prior to the execution of a contract with the City. By submitting a bid, a bidder agrees to bear all costs incurred or related to the preparation, submission and selection process for the bid.

## Reservation of Rights

The City of Ann Arbor reserves the right to accept any bid or alternative bid proposed in whole or in part, to reject any or all bids or alternatives bids in whole or in part and to waive irregularity and/or informalities in any bid and to make the award in any manner deemed in the best interest of the City.

## Idlefree Ordinance

The City of Ann Arbor adopted an idling reduction Ordinance that went into effect July 1, 2017. The full text of the ordinance (including exemptions) can be found at: [www.a2gov.org/idlefree](http://www.a2gov.org/idlefree).

Under the ordinance, No Operator of a Commercial Vehicle shall cause or permit the Commercial Vehicle to Idle:

- (a) For any period of time while the Commercial Vehicle is unoccupied; or
- (b) For more than 5 minutes in any 60-minute period while the Commercial Vehicle is occupied.

In addition, generators and other internal combustion engines are covered

- (1) Excluding Motor Vehicle engines, no internal combustion engine shall be operated except

when it is providing power or electrical energy to equipment or a tool that is actively in use.

## **Environmental Commitment**

The City of Ann Arbor recognizes its responsibility to minimize negative impacts on human health and the environment while supporting a vibrant community and economy. The City further recognizes that the products and services the City buys have inherent environmental and economic impacts and that the City should make procurement decisions that embody, promote, and encourage the City's commitment to the environment.

The City encourages potential vendors to bring forward emerging and progressive products and services that are best suited to the City's environmental principles.



# INVITATION TO BID

City of Ann Arbor  
Guy C. Larcom Municipal Building  
Ann Arbor, Michigan 48107

Ladies and Gentlemen:

The undersigned, as Bidder, declares that this Bid is made in good faith, without fraud or collusion with any person or persons bidding on the same Contract; that this Bidder has carefully read and examined the bid documents, including City Nondiscrimination requirements and Declaration of Compliance Form, Living Wage requirements and Declaration of Compliance Form, Prevailing Wage requirements and Declaration of Compliance Form, Vendor Conflict of Interest Form, Notice of Pre-Bid Conference, Instructions to Bidders, Bid, Bid Forms, Contract, Bond Forms, General Conditions, Standard Specifications, Detailed Specifications, all Addenda, and the Plans (if applicable) and understands them. The Bidder declares that it conducted a full investigation at the site and of the work proposed and is fully informed as to the nature of the work and the conditions relating to the work's performance. The Bidder also declares that it and the major subcontractors have extensive experience in successfully completing projects similar to this one.

The Bidder acknowledges that it has not received or relied upon any representations or warrants of any nature whatsoever from the City of Ann Arbor, its agents or employees, and that this Bid is based solely upon the Bidder's own independent business judgment.

The undersigned proposes to perform all work shown on the plans or described in the bid documents, including any addenda issued, and to furnish all necessary machinery, tools, apparatus, and other means of construction to do all the work, furnish all the materials, and complete the work in strict accordance with all terms of the Contract of which this Bid is one part.

In accordance with these bid documents, and Addenda numbered \_\_\_\_\_, the undersigned, as Bidder, proposes to perform at the sites in and/or around Ann Arbor, Michigan, all the work included herein for the amounts set forth in the Bid Forms.

The Bidder declares that it has become fully familiar with the liquidated damage clauses for completion times and for compliance with City Code Chapter 112, understands and agrees that the liquidated damages are for the non-quantifiable aspects of non-compliance and do not cover actual damages that may be shown and agrees that if awarded the Contract, all liquidated damage clauses form part of the Contract.

The Bidder declares that it has become fully familiar with the provisions of Chapter 14, Section 1:320 (Prevailing wages) and Chapter 23 (Living Wage) of the Code of the City of Ann Arbor and that it understands and agrees to comply, to the extent applicable to employees providing services to the City under this Contract, with the wage and reporting requirements stated in the City Code provisions cited. Bidder certifies that the statements contained in the City Prevailing Wage and Living Wage Declaration of Compliance Forms are true and correct. Bidder further agrees that the cited provisions of Chapter 14 and Chapter 23 form a part of this Contract.

The Bidder declares that it has become familiar with the City Conflict of Interest Disclosure Form and certifies that the statement contained therein is true and correct.

The Bidder encloses a certified check or Bid Bond in the amount of 5% of the total of the Bid Price. The Bidder agrees both to contract for the work and to furnish the necessary Bonds and insurance documentation within 10 days after being notified of the acceptance of the Bid.

If this Bid is accepted by the City and the Bidder fails to contract and furnish the required Bonds and insurance documentation within 10 days after being notified of the acceptance of this Bid, then the Bidder shall be considered to have abandoned the Contract and the certified check or Bid Bond accompanying this Bid shall become due and payable to the City.

If the Bidder enters into the Contract in accordance with this Bid, or if this Bid is rejected, then the accompanying check or Bid Bond shall be returned to the Bidder.

In submitting this Bid, it is understood that the right is reserved by the City to accept any Bid, to reject any or all Bids, to waive irregularities and/or informalities in any Bid, and to make the award in any manner the City believes to be in its best interest.

SIGNED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 202\_.

\_\_\_\_\_  
Bidder's Name

\_\_\_\_\_  
Authorized Signature of Bidder

\_\_\_\_\_  
Official Address

\_\_\_\_\_  
(Print Name of Signer Above)

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Email Address for Award Notice

**LEGAL STATUS OF BIDDER**

(The Bidder shall fill out the appropriate form and strike out the other three.)

Bidder declares that it is:

\* A corporation organized and doing business under the laws of the State of \_\_\_\_\_, for whom \_\_\_\_\_, bearing the office title of \_\_\_\_\_, whose signature is affixed to this Bid, is authorized to execute contracts.

**NOTE: If not incorporated in Michigan, please attach the corporation's Certificate of Authority**

• A limited liability company doing business under the laws of the State of \_\_\_\_\_, whom \_\_\_\_\_ bearing the title of \_\_\_\_\_ whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.

\* A partnership, organized under the laws of the state of \_\_\_\_\_ and filed in the county of \_\_\_\_\_, whose members are (list all members and the street and mailing address of each) (attach separate sheet if necessary):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\* An individual, whose signature with address, is affixed to this Bid: \_\_\_\_\_  
(initial here)

**Authorized Official**

\_\_\_\_\_ **Date** \_\_\_\_\_, 202\_

(Print) Name \_\_\_\_\_ Title \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Phone ( ) \_\_\_\_\_ Fax ( ) \_\_\_\_\_

Email \_\_\_\_\_

**LEGAL STATUS OF BIDDER**

(The Bidder shall fill out the appropriate form and strike out the other three.)

Bidder declares that it is:

\* A corporation organized and doing business under the laws of the State of \_\_\_\_\_, for whom \_\_\_\_\_, bearing the office title of \_\_\_\_\_, whose signature is affixed to this Bid, is authorized to execute contracts.

**NOTE: If not incorporated in Michigan, please attach the corporation's Certificate of Authority**

• A limited liability company doing business under the laws of the State of \_\_\_\_\_, whom \_\_\_\_\_ bearing the title of \_\_\_\_\_ whose signature is affixed to this proposal, is authorized to execute contract on behalf of the LLC.

\* A partnership, organized under the laws of the state of \_\_\_\_\_ and filed in the county of \_\_\_\_\_, whose members are (list all members and the street and mailing address of each) (attach separate sheet if necessary):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\* An individual, whose signature with address, is affixed to this Bid: \_\_\_\_\_  
(initial here)

**Authorized Official**

\_\_\_\_\_ **Date** \_\_\_\_\_, 202\_\_

(Print) Name \_\_\_\_\_ Title \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Phone ( ) \_\_\_\_\_ Fax ( ) \_\_\_\_\_

Email \_\_\_\_\_

# BID FORM

## Section 1 – Schedule of Prices

Company: \_\_\_\_\_

Project: **WWTP Headworks Improvements Project**

**Unit Price Bid –**

<u>Item Description</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
<b>00 Division 00</b>	1	LS	_____
<b>01 Division 01</b>	1	LS	_____
<b>D-1 Demolition</b>	1	LS	_____

**Civil**

C-1 Permitting Allowance	1	LS	\$20,000
C-2 All Remaining Civil Work	1	LS	_____

**Structural**

S-1 Pressure Injection of Non-weeping Cracks Repair Type 2A (1)	300	LF	_____	_____
S-2 Pressure Injection of Weeping Cracks Repair Type 2B (2)	500	LF	_____	_____
S-3 Concrete Surface Repair Type 3A (3)	600	SF	_____	_____
S-4 Concrete Surface Repair Type 3B (4)	250	SF	_____	_____
S-5 Concrete Surface Repair Type 3C (5)	1	SF	_____	_____
S-6 Removal of Embedment's Repair Type 4 (6)	1	LS	_____	_____
S-7 Aluminum Panel Replacement Type 5 (7)	1,200	SF	_____	_____
S-8 All Remaining Structural Work (8)	1	LS	_____	_____

1

1

**Architectural**

A-1	Brick Repointing	200	LF	_____	_____
A-2	Brick replacement	10	EA	_____	_____
A-3	All Remaining Architectural Work	1	LS	_____	_____

**Process**

2

P-1	Grit Removal & Washer				
	Equipment (9)	1	LS		\$812,000

P-2	All Remaining Process Work (10)	1	LS		
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1

P-3	Grit / Screen Performance Testing	1	LS		\$25,000
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<b>Mechanical</b>		1	LS		_____
-------------------	--	---	----	--	-------

<b>Electrical</b>		1	LS		_____
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<b>I&amp;C / SCADA</b>		1	LS		_____
------------------------	--	---	----	--	-------

<b>Project Subtotal</b>					\$ _____
-------------------------	--	--	--	--	----------

**Duperon Screen System:**

Duperon Fine Screen System (11)					\$ _____
---------------------------------	--	--	--	--	----------

Adjustments to above pricing to accommodate the Duperon Screen System (12)					\$ _____
--	--	--	--	--	----------

<b>Total Project Cost with Duperon Fine Screen System</b>					\$ _____
---	--	--	--	--	----------

**Hydro-Dyne Screen System:**

Hydro-Dyne Screen System (13)					\$ _____
-------------------------------	--	--	--	--	----------

Adjustments to above pricing to accommodate the Hydro-Dyne Screen System (12)					\$ _____
---	--	--	--	--	----------

<b>Total Project Cost with Hydro-Dyne Fine Screen System</b>					\$ _____
--	--	--	--	--	----------

The Owner will select the screen system and the Total Project Cost following the bid opening.

**Notes:**

1. S-1 Includes the work shown on Pressure Injection of Non-weeping Cracks Repair Type 2A Detail, Sheet S-2.
2. S-2 Includes the work shown on Pressure Injection of Weeping Cracks Repair Type 2B Detail, Sheet S-2.
3. S-3 Includes the work shown on Concrete Surface Repair Type 3A Detail, Sheet S-2.
4. S-4 Includes the work shown on Concrete Surface Repair Type 3B Detail, Sheet S-2.
5. S-5 Includes the work shown on Concrete Surface Repair Type 3C Detail, Sheet S-2.
6. S-6 Includes the work shown on Removal of Embedment's Repair Type 4 Detail, Sheet S-2.

1

**Architectural**

A-1	Brick Repointing	200	LF	_____	_____
A-2	Brick replacement	10	EA	_____	_____
A-3	All Remaining Architectural Work	1	LS	_____	_____

**Process**

P-1	Grit Removal & Washer				
	Equipment (9)	1	LS		<u>\$710,000</u>

P-2	All Remaining Process Work (10)	1	LS		
-----	---------------------------------	---	----	--	--

1	P-3	Grit / Screen Performance Testing	1	LS	<u>\$25,000</u>
---	-----	-----------------------------------	---	----	-----------------

<b>Mechanical</b>		1	LS		_____
-------------------	--	---	----	--	-------

<b>Electrical</b>		1	LS		_____
-------------------	--	---	----	--	-------

<b>I&amp;C / SCADA</b>		1	LS		_____
------------------------	--	---	----	--	-------

<b><u>Project Subtotal</u></b>					<b>\$ _____</b>
--------------------------------	--	--	--	--	-----------------

**Duperon Screen System:**

Duperon Fine Screen System (11)					\$ _____
---------------------------------	--	--	--	--	----------

Adjustments to above pricing to accommodate the Duperon Screen System (12)					\$ _____
--	--	--	--	--	----------

<b><u>Total Project Cost with Duperon Fine Screen System</u></b>					<b>\$ _____</b>
--	--	--	--	--	-----------------

**Hydro-Dyne Screen System:**

Hydro-Dyne Screen System (13)					\$ _____
-------------------------------	--	--	--	--	----------

Adjustments to above pricing to accommodate the Hydro-Dyne Screen System (12)					\$ _____
---	--	--	--	--	----------

<b><u>Total Project Cost with Hydro-Dyne Fine Screen System</u></b>					<b>\$ _____</b>
---	--	--	--	--	-----------------

The Owner will select the screen system and the Total Project Cost following the bid opening.

Notes:

1. S-1 Includes the work shown on Pressure Injection of Non-weeping Cracks Repair Type 2A Detail, Sheet S-2.
2. S-2 Includes the work shown on Pressure Injection of Weeping Cracks Repair Type 2B Detail, Sheet S-2.
3. S-3 Includes the work shown on Concrete Surface Repair Type 3A Detail, Sheet S-2.
4. S-4 Includes the work shown on Concrete Surface Repair Type 3B Detail, Sheet S-2.
5. S-5 Includes the work shown on Concrete Surface Repair Type 3C Detail, Sheet S-2.
6. S-6 Includes the work shown on Removal of Embedment's Repair Type 4 Detail, Sheet S-2.

7. S-7 Includes the work shown on Aluminum Panel Replacement Type 5 Detail, Sheet S-2.
8. S-8 Includes all structural work not included in any of the above structural items
9. The grit removal and washer equipment is sole-sourced, and a pre-negotiated price is included in this line item. Price includes shop drawing preparation, equipment supply, start-up services, warranty spare parts, etc. It does not include installation. It is incumbent upon each Bidder to fully understand the scope of the work provided by Huber prior to the Bid. Contractor shall include all other costs for the grit removal and washer equipment in line item P-2.
10. Line item cost does not include any costs associated with the fine screens itemize below the Project Subtotal line item.
11. Costs include all costs associated with the Duperon Screen System, including shop drawings, screen, washer, sluice equipment, instruments and controls, shipping, installation, start-up, spare parts, warranty and any other associated costs.
12. Cost adjustments (negative or positive) to demolition, concrete, can be identified on these line items to accommodate cost specific each screen system installation.
13. Costs include all costs associated with the HydroDyne Screen System, including shop drawings, screen, washer, sluice equipment, instruments and controls, shipping, installation, start-up, spare parts, warranty, and any other associated costs.



# BID FORM

## Section 2 – Material, Products, Equipment and Environmental Alternates

The Base Bid proposal price shall include materials, products and equipment selected from the designated items and manufacturers listed in the bidding documents. This is done to establish uniformity in bidding and to establish standards of quality for the items named.

If the Contractor wishes to quote alternate items for consideration by the City, it may do so under this Section. A complete description of the item and the proposed price differential must be provided. Unless approved at the time of award, substitutions where items are specifically named will be considered only as a negotiated change in Contract Sum.

If an environmental alternative is bid the City strongly encourages bidders to provide recent examples of product testing and previous successful use for the City to properly evaluate the environmental alternative. Testing data from independent accredited organizations are strongly preferred.

<u>Item Number</u>	<u>Description</u>	<u>Add/Deduct Amount</u>
--------------------	--------------------	--------------------------

If the Bidder does not suggest any material or equipment alternate, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT propose any material, products or equipment alternate under the Contract.

Signature of Authorized Representative of Bidder \_\_\_\_\_ Date \_\_\_\_\_

# BID FORM

## Section 3 - Time Alternate

If the Bidder takes exception to the time stipulated in Article III of the Contract, Time of Completion, page C-2, it is requested to stipulate below its proposed time for performance of the work. Consideration will be given to time in evaluating bids.

If the Bidder does not suggest any time alternate, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT propose any time alternate under the Contract.

Signature of Authorized Representative of Bidder \_\_\_\_\_ Date \_\_\_\_\_

# BID FORM

## Section 4 - Major Subcontractors

For purposes of this Contract, a Subcontractor is anyone (other than the Contractor) who performs work (other than or in addition to the furnishing of materials, plans or equipment) at or about the construction site, directly or indirectly for or on behalf of the Contractor (and whether or not in privity of Contract with the Contractor), but shall not include any individual who furnishes merely the individual's own personal labor or services. A Major Subcontractor is a Subcontractor who's total contracted price exceeds 10% of the Total Project Cost

Contractor agrees that all subcontracts entered into by the Contractor shall contain similar wage provision to Section 4 of the General Conditions covering subcontractor's employees who perform work on this contract.

For the work outlined in these documents the Bidder expects to engage the following major subcontractors to perform the work identified:

<u>Major Subcontractor (Name and Address)</u>	<u>Work</u>	<u>Amount</u>
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If the Bidder does not expect to engage any major subcontractor, the Bidder **MUST** complete the following statement:

For the work outlined in this request for bid, the bidder does NOT expect to engage any major subcontractor to perform work under the Contract.

Signature of Authorized Representative of Bidder \_\_\_\_\_ Date \_\_\_\_\_





# BID FORM

## Section 6 – Contractor Information and Responsible Contractor Criteria

*Backup documentation may be requested at the sole discretion of the City to validate all of the responses provided herein by bidders. False statements by bidders to any of the criteria provided herein will result in the bid being considered non-responsive and will not be considered for award.*

*Failure to provide responses to all questions may result in being deemed non-responsive.*

*Attach additional pages as needed if space below is insufficient.*

Pursuant to Sec 1:312(20) of the City Code which sets forth requirements of a responsible bidder, Bidder is required to submit the following:

1. Organization Name: \_\_\_\_\_

Social Security or Federal Employer I.D. #: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Type of Organization (circle one below):

Individual          Partnership          Corporation          Joint Venture          Other

If "Other" please provide details on the organization:

\_\_\_\_\_

Year organization established: \_\_\_\_\_

2. Current owners/principals/members/managing members/partners of the organization:

\_\_\_\_\_

3. Assumed Names, "doing business as" d/b/a, and/or former organization names(s), if applicable: \_\_\_\_\_

Explanation of any business name changes:

\_\_\_\_\_

4. If applicable, please provide a list of all bidder's litigation and arbitrations currently pending and within the past five years, including an explanation of each (parties, court/forum, legal claims, damages sought, and resolution).

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5. Qualifications of management and supervisory personnel to be assigned by the bidder:

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6. List the state and local licenses and license numbers held by the bidder:

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7. Will all subcontractors, employees and other individuals working on the construction project maintain current applicable licenses required by law for all licensed occupations and professions?

Yes

No

8. Will contractors, subcontractors, employees, and other individuals working on the construction project be misclassified by bidder as independent contractors in violation of state or federal law?

Yes

No

9. Submit a statement as to what percentage of your work force resides within the City of Ann Arbor, and what percentage resides in Washtenaw County, Michigan, and the same information for any major subcontractors.

---

10. Submit documentation as to bidder's employee pay rates (e.g., certified payroll without SSN or personal identifying information, or chart of job titles and pay rates, or other evidence).

11. State whether bidder provides health insurance, pension or other retirement benefits, paid leave (vacation, personal time, sick leave, etc.), or other benefits to its employees, and if so, state whether each benefit is provided directly to employees, by payments or contributions to a third-party administered plan, in cash (e.g., fringe benefit portion of prevailing wages), or other manner.

---

12. State whether bidder is an equal opportunity employer and does not discriminate in its hiring on the basis of race, sex, pregnancy, age, religion, national origin, marital status, sexual orientation or gender identity, height, weight, or disability.

Yes

No

13. State whether bidder has Equal Employment Opportunity Programs for minorities, women, veterans, returning citizens, and small businesses, and if so, submit supporting documentation or other evidence of such program(s).

---

14. Has bidder had any violations of state, federal, or local laws or regulations, including OSHA or MIOSHA violations, state or federal prevailing wage laws, wage and hour laws, worker's compensation or unemployment compensation laws, rules or regulations, issued to or against the bidder within the past five years?

Yes

No

If you answered "yes" to the question above, for each violation provide an explanation of the nature of the violation, the agency involved, a violation or reference number, any other individual(s) or party(ies) involved, and the status or outcome and resolution.

15. Does bidder have an existing Fitness for Duty Program (drugs and alcohol testing) of each employee working on the proposed jobsite?

Yes

No

If you answered "Yes", please submit documentation of the Fitness for Duty Program and what it entails.

16. Submit documents or evidence of any debarment by any federal, state or local governmental unit and/or findings of non-responsibility or non-compliance with respect to any public or private construction project performed by the bidder.

17. Proof of insurance, including certificates of insurance, confirming existence and amount of coverage for liability, property damage, workers compensation, and any other insurances required by the proposed contract documents.



18. Does bidder have an on-going MIOSHA-approved safety-training program for employees to be used on the proposed job site?

Yes No

If bidder answered "yes" to the question above, submit documentation of your safety-training program.

19. Does bidder have evidence of worker's compensation Experience Modification Rating ("EMR")?

Yes No

EMR = \_\_\_\_\_

20. Will bidder use masters, journeypersons and apprentices on the project?

Yes No

If bidder answered "yes" to the question above, provide the ratio of masters and journeypersons to apprentices for this project.

Ratio:\_\_\_\_\_

If bidder answered "no" to the question above, submit documentation regarding the qualifications of each worker who may or will be assigned on the project.

If, yes, Ratio = \_\_\_\_\_

21. Can bidder provide documentation that it participates in a Registered Apprenticeship Program (RAP) that is registered with the United States Department of Labor Office of Apprenticeship or by a State Apprenticeship Agency recognized by the Office of Apprenticeship?

Yes No

If bidder answered "yes" to the question above, please submit a copy of the program document(s) and evidence of its registration.

If bidder answered "no" to the question above, please provide details on how you assess the skills and qualifications of any employees who do not have master or journeyperson certification or status, or are not participants in a Registered Apprenticeship Program.

22. Will bidder comply with all applicable state and federal laws and visa requirements regarding the hiring of non-US citizens, and disclosure of any work visas sought or obtained by the bidder, any of the bidder's subcontractors, or any of the bidder's employees or independent contractors, in order to perform any portion of the project?

Yes

No

23. Submit evidence that bidder has financial resources to start up and follow through on the project and to respond to damages in case of default as shown by written verification of bonding capacity equal to or exceeding the amount of the bidders scope of work on the project. The written verification must be submitted by a licensed surety company rated B+ or better in the current A.M. Best Guide and qualified to do business within the State of Michigan, and the same audited financial information for any subcontractor estimated to be paid more than \$100,000 related to any portion of the project.

24. Submit evidence of a quality assurance program used by the bidder and the results of same on the bidder's previous projects.

# SAMPLE STANDARD CONTRACT

*If a contract is awarded, the selected contractor will be required to adhere to a set of general contract provisions which will become a part of any formal agreement. These provisions are general principles which apply to all contractors of service to the City of Ann Arbor such as the following:*

**Administrative Use Only**  
Contract Date: \_\_\_\_\_

## CONTRACT

THIS CONTRACT is between the CITY OF ANN ARBOR, a Michigan Municipal Corporation, 301 East Huron Street, Ann Arbor, Michigan 48104 ("City") and \_\_\_\_\_ ("Contractor")

\_\_\_\_\_  
(An individual/partnership/corporation, include state of incorporation) (Address)

Based upon the mutual promises below, the Contractor and the City agree as follows:

### ARTICLE I - Scope of Work

The Contractor agrees to furnish all of the materials, equipment and labor necessary; and to abide by all the duties and responsibilities applicable to it for the project titled **Headworks Improvements Project, ITB NO 4706**. in accordance with the requirements and provisions of the following documents, including all written modifications incorporated into any of the documents, all of which are incorporated as part of this Contract:

Non-discrimination and Living Wage Declaration of Compliance Forms (if applicable)	General Conditions
Vendor Conflict of Interest Form	Standard Specifications
Prevailing Wage Declaration of Compliance Form (if applicable)	Detailed Specifications
Bid Forms	Plans
Contract and Exhibits	Addenda
Bonds	

### ARTICLE II - Definitions

**Administering Service Area/Unit** means **Wastewater Treatment Services**

**Project** means **WWTP Headworks Improvements Project and Bid Number**

**Supervising Professional** means the person acting under the authorization of the manager of the Administering Service Area/Unit. At the time this Contract is executed, the Supervising Professional is: Chris Englert whose job title is WTS Engineer. If there is any question concerning who the Supervising Professional is, Contractor shall confirm with the manager of the Administering Service Area/Unit.

**Contractor's Representative** means \_\_\_\_\_ [Insert name] whose job title is \_\_\_\_\_ [Insert job title].

**ARTICLE III - Time of Completion**

- (A) The work to be completed under this Contract shall begin immediately on the date specified in the Notice to Proceed (NTP) issued by the City.
- (B) The work shall be Substantially Complete within 600 consecutive calendar days from the NTP. The entire work for this Contract – Final Completion – shall be completed within 60 consecutive calendar days of Substantial Completion
- © Failure to complete all the work within the time specified above, including any extension granted in writing by the Supervising Professional, shall obligate the Contractor to pay the City, as liquidated damages and not as a penalty, an amount equal to \$1,500 for each calendar day of delay in Substantial Completion, and \$1,000 for each calendar day of delay in Final Completion.. If any liquidated damages are unpaid by the Contractor, the City shall be entitled to deduct these unpaid liquidated damages from the monies due the Contractor.

The liquidated damages are for the non-quantifiable aspects of any of the previously identified events and do not cover actual damages that can be shown or quantified nor are they intended to preclude recovery of actual damages in addition to the recovery of liquidated damages.

**ARTICLE IV - The Contract Sum**

- (A) The City shall pay to the Contractor for the performance of the Contract, the unit prices as given in the Bid Form for the estimated bid total of:

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

**ARTICLE V - Assignment**

This Contract may not be assigned or subcontracted any portion of any right or obligation under this contract without the written consent of the City. Notwithstanding any consent by the City to any assignment, Contractor shall at all times remain bound to all warranties, certifications, indemnifications, promises and performances, however described, as are required of it under this contract unless specifically released from the requirement, in writing, by the City.

**ARTICLE VI - Choice of Law**

This Contract shall be construed, governed, and enforced in accordance with the laws of the State of Michigan. By executing this Contract, the Contractor and the City agree to venue in a court of appropriate jurisdiction sitting within Washtenaw County for purposes of any action arising under this Contract. The parties stipulate that the venue referenced in this Contract is for convenience

and waive any claim of non-convenience.

Whenever possible, each provision of the Contract will be interpreted in a manner as to be effective and valid under applicable law. The prohibition or invalidity, under applicable law, of any provision will not invalidate the remainder of the Contract.

#### **ARTICLE VII - Relationship of the Parties**

The parties of the Contract agree that it is not a Contract of employment but is a Contract to accomplish a specific result. Contractor is an independent Contractor performing services for the City. Nothing contained in this Contract shall be deemed to constitute any other relationship between the City and the Contractor.

Contractor certifies that it has no personal or financial interest in the project other than the compensation it is to receive under the Contract. Contractor certifies that it is not, and shall not become, overdue or in default to the City for any Contract, debt, or any other obligation to the City including real or personal property taxes. City shall have the right to set off any such debt against compensation awarded for services under this Contract.

#### **ARTICLE VIII - Notice**

All notices given under this Contract shall be in writing, and shall be by personal delivery or by certified mail with return receipt requested to the parties at their respective addresses as specified in the Contract Documents or other address the Contractor may specify in writing. Notice will be deemed given on the date when one of the following first occur: (1) the date of actual receipt; or (2) three days after mailing certified U.S. mail.

#### **ARTICLE IX - Indemnification**

To the fullest extent permitted by law, Contractor shall indemnify, defend and hold the City, its officers, employees and agents harmless from all suits, claims, judgments and expenses including attorney's fees resulting or alleged to result, in whole or in part, from any act or omission, which is in any way connected or associated with this Contract, by the Contractor or anyone acting on the Contractor's behalf under this Contract. Contractor shall not be responsible to indemnify the City for losses or damages caused by or resulting from the City's sole negligence. The provisions of this Article shall survive the expiration or earlier termination of this contract for any reason.

#### **ARTICLE X - Entire Agreement**

This Contract represents the entire understanding between the City and the Contractor and it supersedes all prior representations, negotiations, agreements, or understandings whether written or oral. Neither party has relied on any prior representations in entering into this Contract. No terms or conditions of either party's invoice, purchase order or other administrative document shall modify the terms and conditions of this Contract, regardless of the other party's failure to object to such form. This Contract shall be binding on and shall inure to the benefit of the parties to this Contract and their permitted successors and permitted assigns and nothing in this Contract, express or implied, is intended to or shall confer on any other person or entity any legal or equitable right, benefit, or remedy of any nature whatsoever under or by reason of this Contract. This Contract may be altered, amended or modified only by written amendment signed by the City and the Contractor.

**ARTICLE XI – Electronic Transactions**

The City and Contractor agree that signatures on this Contract may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this Contract. This Contract may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

**FOR CONTRACTOR**

By \_\_\_\_\_

Its: \_\_\_\_\_

**FOR THE CITY OF ANN ARBOR**

By \_\_\_\_\_  
Christopher Taylor, Mayor

By \_\_\_\_\_  
Jacqueline Beaudry, City Clerk

**Approved as to substance**

By \_\_\_\_\_  
Milton Dohoney Jr., Interim City  
Administrator

By \_\_\_\_\_  
Craig Hupy, Public Services Area  
Administrator

**Approved as to form and content**

\_\_\_\_\_  
Stephen K. Postema, City Attorney

## PERFORMANCE BOND

- (1) \_\_\_\_\_ (referred to as "Principal"),  
and \_\_\_\_\_, a corporation duly authorized  
to do business in the State of Michigan (referred to as "Surety"), are bound to the City of Ann Arbor,  
Michigan (referred to as "City"), for \$ \_\_\_\_\_, the payment of which Principal and Surety bind  
themselves, their heirs, executors, administrators, successors and assigns, jointly and severally,  
by this bond.
- (2) The Principal has entered a written Contract with the City entitled WWTP Headworks Improvement  
Project, for ITB No. 4706 and this bond is given for that Contract in compliance with Act No. 213  
of the Michigan Public Acts of 1963, as amended, being MCL 129.201 *et seq.*
- (3) Whenever the Principal is declared by the City to be in default under the Contract, the Surety may  
promptly remedy the default or shall promptly:
- (a) complete the Contract in accordance with its terms and conditions; or
- (b) obtain a bid or bids for submission to the City for completing the Contract in accordance with  
its terms and conditions, and upon determination by Surety of the lowest responsible bidder,  
arrange for a Contract between such bidder and the City, and make available, as work progresses,  
sufficient funds to pay the cost of completion less the balance of the Contract price; but not  
exceeding, including other costs and damages for which Surety may be liable hereunder, the  
amount set forth in paragraph 1.
- (4) Surety shall have no obligation to the City if the Principal fully and promptly performs under the  
Contract.
- (5) Surety agrees that no change, extension of time, alteration or addition to the terms of the Contract  
or to the work to be performed thereunder, or the specifications accompanying it shall in any way  
affect its obligations on this bond, and waives notice of any such change, extension of time,  
alteration or addition to the terms of the Contract or to the work, or to the specifications.
- (6) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically  
in lieu of an original signature and agree to treat electronic signatures as original signatures that  
bind them to this bond. This bond may be executed and delivered by facsimile and upon such  
delivery, the facsimile signature will be deemed to have the same effect as if the original signature  
had been delivered to the other party.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, 202\_.

\_\_\_\_\_  
(Name of Surety Company)  
By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Approved as to form:

\_\_\_\_\_  
Stephen K. Postema, City Attorney

\_\_\_\_\_  
(Name of Principal)  
By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Name and address of agent:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## LABOR AND MATERIAL BOND

- (1) \_\_\_\_\_  
of \_\_\_\_\_ (referred to as "Principal"), and \_\_\_\_\_, a corporation duly authorized to do business in the State of Michigan, (referred to as "Surety"), are bound to the City of Ann Arbor, Michigan (referred to as "City"), for the use and benefit of claimants as defined in Act 213 of Michigan Public Acts of 1963, as amended, being MCL 129.201 et seq., in the amount of \$ \_\_\_\_\_, for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by this bond.
- (2) The Principal has entered a written Contract with the City entitled WWTP Headworks Improvements Project, for ITB No. 4706; and this bond is given for that Contract in compliance with Act No. 213 of the Michigan Public Acts of 1963 as amended;
- (3) If the Principal fails to promptly and fully repay claimants for labor and material reasonably required under the Contract, the Surety shall pay those claimants.
- (4) Surety's obligations shall not exceed the amount stated in paragraph 1, and Surety shall have no obligation if the Principal promptly and fully pays the claimants.
- (5) Principal, Surety, and the City agree that signatures on this bond may be delivered electronically in lieu of an original signature and agree to treat electronic signatures as original signatures that bind them to this bond. This bond may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

**SIGNED AND SEALED** this \_\_\_\_\_ day of \_\_\_\_\_, 202\_

\_\_\_\_\_  
(Name of Surety Company)

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Approved as to form:

\_\_\_\_\_  
Stephen K. Postema, City Attorney

\_\_\_\_\_  
(Name of Principal)

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Name and address of agent:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# **GENERAL CONDITIONS**

## **Section 1 - Execution, Correlation and Intent of Documents**

The contract documents shall be signed in 2 copies by the City and the Contractor.

The contract documents are complementary and what is called for by any one shall be binding. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. Materials or work described in words which so applied have a well-known technical or trade meaning have the meaning of those recognized standards.

In case of a conflict among the contract documents listed below in any requirement(s), the requirement(s) of the document listed first shall prevail over any conflicting requirement(s) of a document listed later.

(1) Addenda in reverse chronological order; (2) Detailed Specifications; (3) Standard Specifications; (4) Plans; (5) General Conditions; (6) Contract; (7) Bid Forms; (8) Bond Forms; (9) Bid.

## **Section 2 - Order of Completion**

The Contractor shall submit with each invoice, and at other times reasonably requested by the Supervising Professional, schedules showing the order in which the Contractor proposes to carry on the work. They shall include the dates at which the Contractor will start the several parts of the work, the estimated dates of completion of the several parts, and important milestones within the several parts.

## **Section 3 - Familiarity with Work**

The Bidder or its representative shall make personal investigations of the site of the work and of existing structures and shall determine to its own satisfaction the conditions to be encountered, the nature of the ground, the difficulties involved, and all other factors affecting the work proposed under this Contract. The Bidder to whom this Contract is awarded will not be entitled to any additional compensation unless conditions are clearly different from those which could reasonably have been anticipated by a person making diligent and thorough investigation of the site.

The Bidder shall immediately notify the City upon discovery, and in every case prior to submitting its Bid, of every error or omission in the bidding documents that would be identified by a reasonably competent, diligent Bidder. In no case will a Bidder be allowed the benefit of extra compensation or time to complete the work under this Contract for extra expenses or time spent as a result of the error or omission.

## **Section 4 - Wage Requirements**

Under this Contract, the Contractor shall conform to Chapter 14 of Title I of the Code of the City of Ann Arbor as amended; which in part states "...that all craftsmen, mechanics and laborers employed directly on the site in connection with said improvements, including said employees of

subcontractors, shall receive the prevailing wage for the corresponding classes of craftsmen, mechanics and laborers, as determined by statistics for the Ann Arbor area compiled by the United States Department of Labor. At the request of the City, any contractor or subcontractor shall provide satisfactory proof of compliance with the contract provisions required by the Section.

Pursuant to Resolution R-16-469 all public improvement contractors are subject to prevailing wage and will be required to provide to the City payroll records sufficient to demonstrate compliance with the prevailing wage requirements. A sample Prevailing Wage Form is provided in the Appendix herein for reference as to what will be expected from contractors. Use of the Prevailing Wage Form provided in the Appendix section or a City-approved equivalent will be required along with wage rate interviews.

Where the Contract and the Ann Arbor City Ordinance are silent as to definitions of terms required in determining contract compliance with regard to prevailing wages, the definitions provided in the Davis-Bacon Act as amended (40 U.S.C. 278-a to 276-a-7) for the terms shall be used.

If the Contractor is a "covered employer" as defined in Chapter 23 of the Ann Arbor City Code, the Contractor agrees to comply with the living wage provisions of Chapter 23 of the Ann Arbor City Code. The Contractor agrees to pay those employees providing Services to the City under this Contract a "living wage," as defined in Section 1:815 of the Ann Arbor City Code, as adjusted in accordance with Section 1:815(3); to post a notice approved by the City of the applicability of Chapter 23 in every location in which regular or contract employees providing services under this Contract are working; to maintain records of compliance; if requested by the City, to provide documentation to verify compliance; to take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee or person contracted for employment in order to pay the living wage required by Section 1:815; and otherwise to comply with the requirements of Chapter 23.

Contractor agrees that all subcontracts entered into by the Contractor shall contain similar wage provision covering subcontractor's employees who perform work on this contract.

## **Section 5 - Non-Discrimination**

The Contractor agrees to comply, and to require its subcontractor(s) to comply, with the nondiscrimination provisions of MCL 37.2209. The Contractor further agrees to comply with the provisions of Section 9:158 of Chapter 112 of Title IX of the Ann Arbor City Code, and to assure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity.

## **Section 6 - Materials, Appliances, Employees**

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities necessary or used for the execution and completion of the work. Unless otherwise specified, all materials incorporated in the permanent work shall be new, and both workmanship and materials shall be of the highest quality. The Contractor shall furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times enforce strict discipline and good order among its employees, and shall seek to avoid employing on the work any unfit person or anyone not skilled in the work assigned.

Adequate sanitary facilities shall be provided by the Contractor.

## **Section 7 - Qualifications for Employment**

The Contractor shall employ competent laborers and mechanics for the work under this Contract. For work performed under this Contract, employment preference shall be given to qualified local residents.

## **Section 8 - Royalties and Patents**

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringements of any patent rights and shall hold the City harmless from loss on account of infringement except that the City shall be responsible for all infringement loss when a particular process or the product of a particular manufacturer or manufacturers is specified, unless the City has notified the Contractor prior to the signing of the Contract that the particular process or product is patented or is believed to be patented.

## **Section 9 - Permits and Regulations**

The Contractor must secure and pay for all permits, permit or plan review fees and licenses necessary for the prosecution of the work. These include but are not limited to City building permits, right-of-way permits, lane closure permits, right-of-way occupancy permits, and the like. The City shall secure and pay for easements shown on the plans unless otherwise specified.

The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the contract documents are at variance with those requirements, it shall promptly notify the Supervising Professional in writing, and any necessary changes shall be adjusted as provided in the Contract for changes in the work.

## **Section 10 - Protection of the Public and of Work and Property**

The Contractor is responsible for the means, methods, sequences, techniques and procedures of construction and safety programs associated with the work contemplated by this contract. The Contractor, its agents or sub-contractors, shall comply with the "General Rules and Regulations for the Construction Industry" as published by the Construction Safety Commission of the State of Michigan and to all other local, State and National laws, ordinances, rules and regulations pertaining to safety of persons and property.

The Contractor shall take all necessary and reasonable precautions to protect the safety of the public. It shall continuously maintain adequate protection of all work from damage, and shall take all necessary and reasonable precautions to adequately protect all public and private property from injury or loss arising in connection with this Contract. It shall make good any damage, injury or loss to its work and to public and private property resulting from lack of reasonable protective precautions, except as may be due to errors in the contract documents, or caused by agents or employees of the City. The Contractor shall obtain and maintain sufficient insurance to cover damage to any City property at the site by any cause.

In an emergency affecting the safety of life, or the work, or of adjoining property, the Contractor

is, without special instructions or authorization from the Supervising Professional, permitted to act at its discretion to prevent the threatened loss or injury. It shall also so act, without appeal, if authorized or instructed by the Supervising Professional.

Any compensation claimed by the Contractor for emergency work shall be determined by agreement or in accordance with the terms of Claims for Extra Cost - Section 15.

## **Section 11 - Inspection of Work**

The City shall provide sufficient competent personnel for the inspection of the work.

The Supervising Professional shall at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper facilities for access and for inspection.

If the specifications, the Supervising Professional's instructions, laws, ordinances, or any public authority require any work to be specially tested or approved, the Contractor shall give the Supervising Professional timely notice of its readiness for inspection, and if the inspection is by an authority other than the Supervising Professional, of the date fixed for the inspection. Inspections by the Supervising Professional shall be made promptly, and where practicable at the source of supply. If any work should be covered up without approval or consent of the Supervising Professional, it must, if required by the Supervising Professional, be uncovered for examination and properly restored at the Contractor's expense.

Re-examination of any work may be ordered by the Supervising Professional, and, if so ordered, the work must be uncovered by the Contractor. If the work is found to be in accordance with the contract documents, the City shall pay the cost of re-examination and replacement. If the work is not in accordance with the contract documents, the Contractor shall pay the cost.

## **Section 12 - Superintendence**

The Contractor shall keep on the work site, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Supervising Professional. The superintendent will be responsible to perform all on-site project management for the Contractor. The superintendent shall be experienced in the work required for this Contract. The superintendent shall represent the Contractor and all direction given to the superintendent shall be binding as if given to the Contractor. Important directions shall immediately be confirmed in writing to the Contractor. Other directions will be confirmed on written request. The Contractor shall give efficient superintendence to the work, using its best skill and attention.

## **Section 13 - Changes in the Work**

The City may make changes to the quantities of work within the general scope of the Contract at any time by a written order and without notice to the sureties. If the changes add to or deduct from the extent of the work, the Contract Sum shall be adjusted accordingly. All the changes shall be executed under the conditions of the original Contract except that any claim for extension of time caused by the change shall be adjusted at the time of ordering the change.

In giving instructions, the Supervising Professional shall have authority to make minor changes in the work not involving extra cost and not inconsistent with the purposes of the work, but otherwise,

except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Supervising Professional, and no claim for an addition to the Contract Sum shall be valid unless the additional work was ordered in writing.

The Contractor shall proceed with the work as changed and the value of the work shall be determined as provided in Claims for Extra Cost - Section 15.

## **Section 14 - Extension of Time**

Extension of time stipulated in the Contract for completion of the work will be made if and as the Supervising Professional may deem proper under any of the following circumstances:

- (1) When work under an extra work order is added to the work under this Contract;
- (2) When the work is suspended as provided in Section 20;
- (3) When the work of the Contractor is delayed on account of conditions which could not have been foreseen, or which were beyond the control of the Contractor, and which were not the result of its fault or negligence;
- (4) Delays in the progress of the work caused by any act or neglect of the City or of its employees or by other Contractors employed by the City;
- (5) Delay due to an act of Government;
- (6) Delay by the Supervising Professional in the furnishing of plans and necessary information;
- (7) Other cause which in the opinion of the Supervising Professional entitles the Contractor to an extension of time.

The Contractor shall notify the Supervising Professional within 7 days of an occurrence or conditions which, in the Contractor's opinion, entitle it to an extension of time. The notice shall be in writing and submitted in ample time to permit full investigation and evaluation of the Contractor's claim. The Supervising Professional shall acknowledge receipt of the Contractor's notice within 7 days of its receipt. Failure to timely provide the written notice shall constitute a waiver by the Contractor of any claim.

In situations where an extension of time in contract completion is appropriate under this or any other section of the contract, the Contractor understands and agrees that the only available adjustment for events that cause any delays in contract completion shall be extension of the required time for contract completion and that there shall be no adjustments in the money due the Contractor on account of the delay.

## **Section 15 - Claims for Extra Cost**

If the Contractor claims that any instructions by drawings or other media issued after the date of the Contract involved extra cost under this Contract, it shall give the Supervising Professional written notice within 7 days after the receipt of the instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property. The procedure shall then be as provided for Changes in the Work-Section 13. No claim shall be valid unless so made.

If the Supervising Professional orders, in writing, the performance of any work not covered by the contract documents, and for which no item of work is provided in the Contract, and for which no unit price or lump sum basis can be agreed upon, then the extra work shall be done on a Cost-Plus-Percentage basis of payment as follows:

- (1) The Contractor shall be reimbursed for all reasonable costs incurred in doing the work, and shall receive an additional payment of 15% of all the reasonable costs to cover both its indirect overhead costs and profit;
- (2) The term "Cost" shall cover all payroll charges for employees and supervision required under the specific order, together with all worker's compensation, Social Security, pension and retirement allowances and social insurance, or other regular payroll charges on same; the cost of all material and supplies required of either temporary or permanent character; rental of all power-driven equipment at agreed upon rates, together with cost of fuel and supply charges for the equipment; and any costs incurred by the Contractor as a direct result of executing the order, if approved by the Supervising Professional;
- (3) If the extra is performed under subcontract, the subcontractor shall be allowed to compute its charges as described above. The Contractor shall be permitted to add an additional charge of 5% percent to that of the subcontractor for the Contractor's supervision and contractual responsibility, to which there is a maximum additional charge of 20%;
- (4) The quantities and items of work done each day shall be submitted to the Supervising Professional in a satisfactory form on the succeeding day, and shall be approved by the Supervising Professional and the Contractor or adjusted at once;
- (5) Payments of all charges for work under this Section in any one month shall be made along with normal progress payments. Retainage shall be in accordance with Progress Payments-Section 16.

No additional compensation will be provided for additional equipment, materials, personnel, overtime or special charges required to perform the work within the time requirements of the Contract.

When extra work is required and no suitable price for machinery and equipment can be determined in accordance with this Section, the hourly rate paid shall be 1/40 of the basic weekly rate listed in the Rental Rate Blue Book published by Dataquest Incorporated and applicable to the time period the equipment was first used for the extra work. The hourly rate will be deemed to include all costs of operation such as bucket or blade, fuel, maintenance, "regional factors", insurance, taxes, and the like, but not the costs of the operator.

## **Section 16 - Progress Payments**

The Contractor shall submit each month, or at longer intervals, if it so desires, an invoice covering work performed for which it believes payment, under the Contract terms, is due. The submission shall be to the City's Finance Department - Accounting Division. The Supervising Professional will, within 10 days following submission of the invoice, prepare a certificate for payment for the work in an amount to be determined by the Supervising Professional as fairly representing the acceptable work performed during the period covered by the Contractor's invoice. To insure the proper performance of this Contract, the City will retain a percentage of the estimate in accordance with Act 524, Public Acts of 1980. The City will then, following the receipt of the Supervising Professional's Certificate, make payment to the Contractor as soon as feasible, which is anticipated will be within 15 days.

An allowance may be made in progress payments if substantial quantities of permanent material have been delivered to the site but not incorporated in the completed work if the Contractor, in the opinion of the Supervising Professional, is diligently pursuing the work under this Contract. Such materials shall be properly stored and adequately protected. Allowance in the estimate shall be at the invoice price value of the items. Notwithstanding any payment of any allowance, all risk of loss due to vandalism or any damages to the stored materials remains with the Contractor.

In the case of Contracts which include only the Furnishing and Delivering of Equipment, the payments shall be; 60% of the Contract Sum upon the delivery of all equipment to be furnished, or in the case of delivery of a usable portion of the equipment in advance of the total equipment delivery, 60% of the estimated value of the portion of the equipment may be paid upon its delivery in advance of the time of the remainder of the equipment to be furnished; 30% of the Contract Sum upon completion of erection of all equipment furnished, but not later than 60 days after the date of delivery of all of the equipment to be furnished; and payment of the final 10% on final completion of erection, testing and acceptance of all the equipment to be furnished; but not later than 180 days after the date of delivery of all of the equipment to be furnished, unless testing has been completed and shows the equipment to be unacceptable.

With each invoice for periodic payment, the Contractor shall enclose a Contractor's Declaration - Section 43, and an updated project schedule per Order of Completion - Section 2.

## **Section 17 - Deductions for Uncorrected Work**

If the Supervising Professional decides it is inexpedient to correct work that has been damaged or that was not done in accordance with the Contract, an equitable deduction from the Contract price shall be made.

## **Section 18 - Correction of Work Before Final Payment**

The Contractor shall promptly remove from the premises all materials condemned by the Supervising Professional as failing to meet Contract requirements, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute the work in accordance with the Contract and without expense to the City and shall bear the expense of making good all work of other contractors destroyed or damaged by the removal or replacement.

If the Contractor does not remove the condemned work and materials within 10 days after written notice, the City may remove them and, if the removed material has value, may store the material

at the expense of the Contractor. If the Contractor does not pay the expense of the removal within 10 days thereafter, the City may, upon 10 days written notice, sell the removed materials at auction or private sale and shall pay to the Contractor the net proceeds, after deducting all costs and expenses that should have been borne by the Contractor. If the removed material has no value, the Contractor must pay the City the expenses for disposal within 10 days of invoice for the disposal costs.

The inspection or lack of inspection of any material or work pertaining to this Contract shall not relieve the Contractor of its obligation to fulfill this Contract and defective work shall be made good. Unsuitable materials may be rejected by the Supervising Professional notwithstanding that the work and materials have been previously overlooked by the Supervising Professional and accepted or estimated for payment or paid for. If the work or any part shall be found defective at any time before the final acceptance of the whole work, the Contractor shall forthwith make good the defect in a manner satisfactory to the Supervising Professional. The judgment and the decision of the Supervising Professional as to whether the materials supplied and the work done under this Contract comply with the requirements of the Contract shall be conclusive and final.

## **Section 19 - Acceptance and Final Payment**

Upon receipt of written notice that the work is ready for final inspection and acceptance, the Supervising Professional will promptly make the inspection. When the Supervising Professional finds the work acceptable under the Contract and the Contract fully performed, the Supervising Professional will promptly sign and issue a final certificate stating that the work required by this Contract has been completed and is accepted by the City under the terms and conditions of the Contract. The entire balance found to be due the Contractor, including the retained percentage, shall be paid to the Contractor by the City within 30 days after the date of the final certificate.

Before issuance of final certificates, the Contractor shall file with the City:

- (1) The consent of the surety to payment of the final estimate;
- (2) The Contractor's Affidavit in the form required by Section 44.

In case the Affidavit or consent is not furnished, the City may retain out of any amount due the Contractor, sums sufficient to cover all lienable claims.

The making and acceptance of the final payment shall constitute a waiver of all claims by the City except those arising from:

- (1) unsettled liens;
- (2) faulty work appearing within the warranty period;
- (3) hidden defects in meeting the requirements of the plans and specifications;
- (4) manufacturer's guarantees.

It shall also constitute a waiver of all claims by the Contractor, except those previously made and still unsettled.

## **Section 20 - Suspension of Work**

The City may at any time suspend the work, or any part by giving 5 days notice to the Contractor in writing. The work shall be resumed by the Contractor within 10 days after the date fixed in the



written notice from the City to the Contractor to do so. The City shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this Contract as a result of the suspension.

If the work, or any part, shall be stopped by the notice in writing, and if the City does not give notice in writing to the Contractor to resume work at a date within 90 days of the date fixed in the written notice to suspend, then the Contractor may abandon that portion of the work suspended and will be entitled to the estimates and payments for all work done on the portions abandoned, if any, plus 10% of the value of the work abandoned, to compensate for loss of overhead, plant expense, and anticipated profit.

## **Section 21 - Delays and the City's Right to Terminate Contract**

If the Contractor refuses or fails to prosecute the work, or any separate part of it, with the diligence required to insure completion, ready for operation, within the allowable number of consecutive calendar days specified plus extensions, or fails to complete the work within the required time, the City may, by written notice to the Contractor, terminate its right to proceed with the work or any part of the work as to which there has been delay. After providing the notice the City may take over the work and prosecute it to completion, by contract or otherwise, and the Contractor and its sureties shall be liable to the City for any excess cost to the City. If the Contractor's right to proceed is terminated, the City may take possession of and utilize in completing the work, any materials, appliances and plant as may be on the site of the work and useful for completing the work. The right of the Contractor to proceed shall not be terminated or the Contractor charged with liquidated damages where an extension of time is granted under Extension of Time - Section 14.

If the Contractor is adjudged a bankrupt, or if it makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of its insolvency, or if it persistently or repeatedly refuses or fails except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or if it fails to make prompt payments to subcontractors or for material or labor, or persistently disregards laws, ordinances or the instructions of the Supervising Professional, or otherwise is guilty of a substantial violation of any provision of the Contract, then the City, upon the certificate of the Supervising Professional that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor 3 days written notice, terminate this Contract. The City may then take possession of the premises and of all materials, tools and appliances thereon and without prejudice to any other remedy it may have, make good the deficiencies or finish the work by whatever method it may deem expedient, and deduct the cost from the payment due the Contractor. The Contractor shall not be entitled to receive any further payment until the work is finished. If the expense of finishing the work, including compensation for additional managerial and administrative services exceeds the unpaid balance of the Contract Sum, the Contractor and its surety are liable to the City for any excess cost incurred. The expense incurred by the City, and the damage incurred through the Contractor's default, shall be certified by the Supervising Professional.

## **Section 22 - Contractor's Right to Terminate Contract**

If the work should be stopped under an order of any court, or other public authority, for a period of 3 months, through no act or fault of the Contractor or of anyone employed by it, then the Contractor may, upon 7 days written notice to the City, terminate this Contract and recover from the City payment for all acceptable work executed plus reasonable profit.

## **Section 23 - City's Right To Do Work**

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the City, 3 days after giving written notice to the Contractor and its surety may, without prejudice to any other remedy the City may have, make good the deficiencies and may deduct the cost from the payment due to the Contractor.

## **Section 24 - Removal of Equipment and Supplies**

In case of termination of this Contract before completion, from any or no cause, the Contractor, if notified to do so by the City, shall promptly remove any part or all of its equipment and supplies from the property of the City, failing which the City shall have the right to remove the equipment and supplies at the expense of the Contractor.

The removed equipment and supplies may be stored by the City and, if all costs of removal and storage are not paid by the Contractor within 10 days of invoicing, the City upon 10 days written notice may sell the equipment and supplies at auction or private sale, and shall pay the Contractor the net proceeds after deducting all costs and expenses that should have been borne by the Contractor and after deducting all amounts claimed due by any lien holder of the equipment or supplies.

## **Section 25 - Responsibility for Work and Warranties**

The Contractor assumes full responsibility for any and all materials and equipment used in the construction of the work and may not make claims against the City for damages to materials and equipment from any cause except negligence or willful act of the City. Until its final acceptance, the Contractor shall be responsible for damage to or destruction of the project (except for any part covered by Partial Completion and Acceptance - Section 26). The Contractor shall make good all work damaged or destroyed before acceptance. All risk of loss remains with the Contractor until final acceptance of the work (Section 19) or partial acceptance (Section 26). The Contractor is advised to investigate obtaining its own builders risk insurance.

The Contractor shall guarantee the quality of the work for a period of two years from Substantial Completion. The Contractor shall also unconditionally guarantee the quality of all equipment and materials that are furnished and installed under the contract for a period of two years. At the end of two years after the Contractor's receipt of final payment, the complete work, including equipment and materials furnished and installed under the contract, shall be inspected by the Contractor and the Supervising Professional. Any defects shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days. Any defects that are identified prior to the end of one year shall also be inspected by the Contractor and the Supervising Professional and shall be corrected by the Contractor at its expense as soon as practicable but in all cases within 60 days.

The Contractor shall assign all manufacturer or material supplier extended warranties to the City prior to final payment. The assignment shall not relieve the Contractor of its obligations under this paragraph to correct defects.

## **Section 26 - Partial Completion and Acceptance**

If at any time prior to the issuance of the final certificate referred to in Acceptance and Final Payment - Section 19, any portion of the permanent construction has been satisfactorily completed, and if the Supervising Professional determines that portion of the permanent construction is not required for the operations of the Contractor but is needed by the City, the Supervising Professional shall issue to the Contractor a certificate of partial completion, and immediately the City may take over and use the portion of the permanent construction described in the certificate, and exclude the Contractor from that portion.

The issuance of a certificate of partial completion shall not constitute an extension of the Contractor's 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. The issuance of the certificate shall not release the Contractor or its sureties from any obligations under this Contract including bonds.

If prior use increases the cost of, or delays the work, the Contractor shall be entitled to extra compensation, or extension of time, or both, as the Supervising Professional may determine.

## **Section 27 - Payments Withheld Prior to Final Acceptance of Work**

The City may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to the extent reasonably appropriate to protect the City from loss on account of:

- (1) Defective work not remedied;
- (2) Claims filed or reasonable evidence indicating probable filing of claims by other parties against the Contractor;
- (3) Failure of the Contractor to make payments properly to subcontractors or for material or labor;
- (4) Damage to another Contractor.

When the above grounds are removed or the Contractor provides a Surety Bond satisfactory to the City which will protect the City in the amount withheld, payment shall be made for amounts withheld under this section.

## **Section 28 - Contractor's Insurance**

- (1) The Contractor shall procure and maintain during the life of this Contract, including the guarantee period and during any warranty work, such insurance policies, including those set forth below, as will protect itself and the City from all claims for bodily injuries, death or property damage that may arise under this Contract; whether the act(s) or omission(s) giving rise to the claim were made by the Contractor, any subcontractor, or anyone employed by them directly or indirectly. Prior to commencement of any work under this contract, Contractor shall provide to the City documentation satisfactory to the City, through City-approved means (currently myCOI), demonstrating it has obtained the required policies and endorsements. The certificates of insurance endorsements and/or copies of

policy language shall document that the Contractor satisfies the following minimum requirements. Contractor shall add registration@mycoitracking.com to its safe sender's list so that it will receive necessary communication from myCOI. When requested, Contractor shall provide the same documentation for its subcontractor(s) (if any).

Required insurance policies include:

- (a) Worker's Compensation Insurance in accordance with all applicable state and federal statutes. Further, Employers Liability Coverage shall be obtained in the following minimum amounts:

- Bodily Injury by Accident - \$500,000 each accident
- Bodily Injury by Disease - \$500,000 each employee
- Bodily Injury by Disease - \$500,000 each policy limit

- (b) Commercial General Liability Insurance equivalent to, as a minimum, Insurance Services Office form CG 00 01 04 13 or current equivalent. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements specifically for the following coverages: Products and Completed Operations, Explosion, Collapse and Underground coverage or Pollution. Further there shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. The following minimum limits of liability are required:

- \$1,000,000 Each occurrence as respect Bodily Injury Liability or Property Damage Liability, or both combined.
- \$2,000,000 Per Project General Aggregate
- \$1,000,000 Personal and Advertising Injury
- \$2,000,000 Products and Completed Operations Aggregate, which, notwithstanding anything to the contrary herein, shall be maintained for three years from the date the Project is completed.

Is there a reason why this is highlighted green?

- (c) Motor Vehicle Liability Insurance, including Michigan No-Fault Coverages, equivalent to, as a minimum, Insurance Services Office form CA 00 01 10 13 or current equivalent. Coverage shall include all owned vehicles, all non-owned vehicles and all hired vehicles. The City of Ann Arbor shall be named as an additional insured. There shall be no added exclusions or limiting endorsements that diminish the City's protections as an additional insured under the policy. Further, the limits of liability shall be \$1,000,000 for each occurrence as respects Bodily Injury Liability or Property Damage Liability, or both combined.

- (d) Umbrella/Excess Liability Insurance shall be provided to apply excess of the Commercial General Liability, Employers Liability and the Motor Vehicle coverage enumerated above, for each occurrence and for aggregate in the amount of \$1,000,000.

- (2) Insurance required under subsection (1)(b) and (1)(c) above shall be considered primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute

with this insurance. Further, the Contractor agrees to waive any right of recovery by its insurer against the City for any insurance listed herein.

- (3) Insurance companies and policy forms are subject to approval of the City Attorney, which approval shall not be unreasonably withheld. Documentation must provide and demonstrate an unconditional and un-qualified 30-day written notice of cancellation in favor of the City of Ann Arbor. Further, the documentation must explicitly state the following: (a) the policy number(s); name of insurance company(s); name and address of the agent(s) or authorized representative(s); name(s), email address(es), and address of insured; project name; policy expiration date; and specific coverage amounts; (b) any deductibles or self-insured retentions which may be approved by the City, in its sole discretion; (c) that the policy conforms to the requirements specified Contractor shall furnish the City with satisfactory certificates of insurance and endorsements prior to commencement of any work. Upon request, the Contractor shall provide within 30 days a copy of the policy(ies) and all required endorsements to the City. If any of the above coverages expire by their terms during the term of this Contract, the Contractor shall deliver proof of renewal and/or new policies and endorsements to the Administering Service Area/Unit at least ten days prior to the expiration date.
- (4) Any Insurance provider of Contractor shall be authorized to do business in the State of Michigan and shall carry and maintain a minimum rating assigned by A.M. Best & Company's Key Rating Guide of "A-" Overall and a minimum Financial Size Category of "V". Insurance policies and certificates issued by non-authorized insurance companies are not acceptable unless approved in writing by the City.
- (5) City reserves the right to require additional coverage and/or coverage amounts as may be included from time to time in the Detailed Specifications for the Project.
- (6) The provisions of General Condition 28 shall survive the expiration or earlier termination of this contract for any reason.

## **Section 29 - Surety Bonds**

Bonds will be required from the successful bidder as follows:

- (1) A Performance Bond to the City of Ann Arbor for the amount of the bid(s) accepted;
- (2) A Labor and Material Bond to the City of Ann Arbor for the amount of the bid(s) accepted.

Bonds shall be executed on forms supplied by the City in a manner and by a Surety Company authorized to transact business in Michigan and satisfactory to the City Attorney.

## **Section 30 - Damage Claims**

The Contractor shall be held responsible for all damages to property of the City or others, caused by or resulting from the negligence of the Contractor, its employees, or agents during the progress of or connected with the prosecution of the work, whether within the limits of the work or elsewhere. The Contractor must restore all property injured including sidewalks, curbing, sodding, pipes, conduit, sewers or other public or private property to not less than its original condition with new work.

## **Section 31 - Refusal to Obey Instructions**

If the Contractor refuses to obey the instructions of the Supervising Professional, the Supervising Professional shall withdraw inspection from the work, and no payments will be made for work performed thereafter nor may work be performed thereafter until the Supervising Professional shall have again authorized the work to proceed.

## **Section 32 - Assignment**

Neither party to the Contract shall assign the Contract without the written consent of the other. The Contractor may assign any monies due to it to a third party acceptable to the City.

## **Section 33 - Rights of Various Interests**

Whenever work being done by the City's forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the Supervising Professional, to secure the completion of the various portions of the work in general harmony.

The Contractor is responsible to coordinate all aspects of the work, including coordination of, and with, utility companies and other contractors whose work impacts this project.

## **Section 34 - Subcontracts**

The Contractor shall not award any work to any subcontractor without prior written approval of the City. The approval will not be given until the Contractor submits to the City a written statement concerning the proposed award to the subcontractor. The statement shall contain all information the City may require.

The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the General Conditions and all other contract documents applicable to the work of the subcontractors and to give the Contractor the same power to terminate any subcontract that the City may exercise over the Contractor under any provision of the contract documents.

Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the City.

## **Section 35 - Supervising Professional's Status**

The Supervising Professional has the right to inspect any or all work. The Supervising Professional has authority to stop the work whenever stoppage may be appropriate to insure the proper execution of the Contract. The Supervising Professional has the authority to reject all work and materials which do not conform to the Contract and to decide questions which arise in the execution of the work.

The Supervising Professional shall make all measurements and determinations of quantities. Those measurements and determinations are final and conclusive between the parties.

## **Section 36 - Supervising Professional's Decisions**

The Supervising Professional shall, within a reasonable time after their presentation to the Supervising Professional, make decisions in writing on all claims of the City or the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the contract documents.

## **Section 37 - Storing Materials and Supplies**

Materials and supplies may be stored at the site of the work at locations agreeable to the City unless specific exception is listed elsewhere in these documents. Ample way for foot traffic and drainage must be provided, and gutters must, at all times, be kept free from obstruction. Traffic on streets shall be interfered with as little as possible. The Contractor may not enter or occupy with agents, employees, tools, or material any private property without first obtaining written permission from its owner. A copy of the permission shall be furnished to the Supervising Professional.

## **Section 38 - Lands for Work**

The Contractor shall provide, at its own expense and without liability to the City, any additional land and access that may be required for temporary construction facilities or for storage of materials.

## **Section 39 - Cleaning Up**

The Contractor shall, as directed by the Supervising Professional, remove at its own expense from the City's property and from all public and private property all temporary structures, rubbish and waste materials resulting from its operations unless otherwise specifically approved, in writing, by the Supervising Professional.

## **Section 40 - Salvage**

The Supervising Professional may designate for salvage any materials from existing structures or underground services. Materials so designated remain City property and shall be transported or stored at a location as the Supervising Professional may direct.

## **Section 41 - Night, Saturday or Sunday Work**

No night or Sunday work (without prior written City approval) will be permitted except in the case of an emergency and then only to the extent absolutely necessary. The City may allow night work which, in the opinion of the Supervising Professional, can be satisfactorily performed at night. Night work is any work between 8:00 p.m. and 7:00 a.m. No Saturday work will be permitted unless the Contractor gives the Supervising Professional at least 48 hours but not more than 5 days notice of the Contractor's intention to work the upcoming Saturday.

## **Section 42 - Sales Taxes**

Under State law the City is exempt from the assessment of State Sales Tax on its direct purchases. Contractors who acquire materials, equipment, supplies, etc. for incorporation in City projects are not likewise exempt. State Law shall prevail. The Bidder shall familiarize itself with the State Law and prepare its Bid accordingly. No extra payment will be allowed under this Contract for failure of the Contractor to make proper allowance in this bid for taxes it must pay.



**Section 43**

**CONTRACTOR'S DECLARATION**

I hereby declare that I have not, during the period \_\_\_\_\_, 20\_\_\_\_, to \_\_\_\_\_, 20\_\_\_\_, performed any work, furnished any materials, sustained any loss, damage or delay, or otherwise done anything in addition to the regular items (or executed change orders) set forth in the Contract titled \_\_\_\_\_, for which I shall ask, demand, sue for, or claim compensation or extension of time from the City, except as I hereby make claim for additional compensation or extension of time as set forth on the attached itemized statement. I further declare that I have paid all payroll obligations related to this Contract that have become due during the above period and that all invoices related to this Contract received more than 30 days prior to this declaration have been paid in full except as listed below.

There is/is not (Contractor please circle one and strike one as appropriate) an itemized statement attached regarding a request for additional compensation or extension of time.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Date

By \_\_\_\_\_  
(Signature)

Its \_\_\_\_\_  
(Title of Office)

Past due invoices, if any, are listed below.



## **STANDARD SPECIFICATIONS**

All work under this contract shall be performed in accordance with the Public Services Department Standard Specifications in effect at the date of availability of the contract documents stipulated in the Bid. All work under this Contract which is not included in these Detailed Specifications, or which is performed using modifications to these Standard Specifications, shall be performed in accordance with the Standard Specifications included in these contract documents.

Chris – I prefer that the Detailed Specs take precedence over the AA Standard Specs. Standard Specifications are available online:

<http://www.a2gov.org/departments/engineering/Pages/Engineering-and-Contractor-Resources.aspx>

# DETAILED SPECIFICATIONS

# APPENDIX



**CITY OF ANN ARBOR**  
**LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE**

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than \$10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than \$10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than \$10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

*Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here  No. of employees\_\_*

The Contractor or Grantee agrees:

- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$14.05/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than \$15.66/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance with Section 1:815(3).

**Check the applicable box below which applies to your workforce**

Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits

Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits

- (b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.
- (e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

\_\_\_\_\_  
 Company Name

\_\_\_\_\_  
 Street Address

\_\_\_\_\_  
 Signature of Authorized Representative

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 City, State, Zip

\_\_\_\_\_  
 Print Name and Title

\_\_\_\_\_  
 Phone/Email address

# CITY OF ANN ARBOR LIVING WAGE ORDINANCE

**RATE EFFECTIVE APRIL 30, 2021 - ENDING APRIL 29, 2022**

**\$14.05** per hour

If the employer provides health care benefits\*

**\$15.66** per hour

If the employer does **NOT** provide health care benefits\*

Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than \$10,000 in a twelve-month period of time must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.

## **ENFORCEMENT**

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than \$500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

\* Health Care benefits include those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed \$.50 an hour for an average work week; and the employer cost or contribution must equal no less than \$1/hr. for the average work week.

**The Law Requires Employers to Display This Poster Where Employees Can Readily See It.**

**For Additional Information or to File a Complaint contact  
Colin Spencer at 734/794-6500 or [cspencer@a2gov.org](mailto:cspencer@a2gov.org)**





"General Decision Number: MI20220158 01/07/2022

Superseded General Decision Number: MI20210158

State: Michigan

Construction Type: Heavy  
HAZARDOUS WASTE REMOVAL

Counties: Michigan Statewide.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022, Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022, Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/07/2022

ENGI0325-011 10/01/2011

AREA 1: GENESEE, LAPEER, LIVINGSTON, MACOMB, MONROE, OAKLAND, ST. CLAIR, WASHTENAW AND WAYNE COUNTIES

AREA 2: ALCONA, ALGER, ALLEGAN, ALPENA, ANTRIM, ARENAC, BARAGA, BARRY, BAY, BENZIE, BERRIEN, BRANCH, CALHOUN, CASS, CHARLEVOIX, CHEBOYGAN, CHIPPEWA, CLARE, CLINTON, CRAWFORD, DELTA, DICKINSON, EATON, EMMET, GLADWIN, GOGEBIC, GRAND TRAVERSE, GRATIOT, HILLSDALE, HOUGHTON, HURON, INGHAM, IONIA, IOSCO, IRON, ISABELLA, JACKSON, KALAMAZOO, KALKASKA, KENT, KEWEENAW,

LAKE, LEELANAU, LENAWEE, LUCE, MACKINAC, MANISTEE, MARQUETTE,  
 MASON, MECOSTA, MENOMINEE, MIDLAND, MISSAUKEE, MONTCALM,  
 MONTMORENCY, MUSKEGON, NEWAYGO, OCEANA, OGEMAW, ONTONAGON,  
 OSCEOLA, OSCODA, OTSEGO, OTTAWA, PRESQUE ISLE, ROSCOMMON,  
 SAGINAW, ST. JOSEPH, SANILAC, SCHOOLCRAFT, SHIAWASSEE,  
 TUSCOLA, VAN BUREN AND WEXFORD COUNTIES

	Rates	Fringes
Power equipment operators - hazardous waste removal: (AREA 1)		
AREA 1: LEVEL A		
Engineer when operating crane with boom and jib or leads 140' or longer....	\$ 34.68	19.70
Engineer when operating crane with boom and jib or leads 220' or longer....	\$ 34.98	19.70
GROUP 1.....	\$ 32.03	19.70
GROUP 2.....	\$ 27.80	19.70
Regular crane operator, mechanic, dragline operator, boom truck operator and concrete pump with boom operator, power shovel operator.....	\$ 33.00	19.70
AREA 1: LEVEL B AND C		
Engineer when operating crane with boom and jib or leads 140' or longer....	\$ 33.73	19.70
Engineer when operating crane with boom and jib or leads 220' or longer....	\$ 34.03	19.70
GROUP 1.....	\$ 31.08	19.70
GROUP 2.....	\$ 26.85	19.70
Regular crane operator, mechanic, dragline operator, boom truck operator and concrete pump with boom operator, power shovel operator.....	\$ 32.05	19.70
AREA 1: LEVEL D WHEN CAPPING LANDFILL		
Engineer when operating crane with boom and jib or leads 140' or longer....	\$ 32.18	19.70
Engineer when operating crane with boom and jib or leads 220' or longer....	\$ 32.48	19.70
GROUP 1.....	\$ 29.53	19.70
GROUP 2.....	\$ 25.30	19.70
Regular crane operator, mechanic, dragline operator, boom truck operator and concrete pump with boom operator, power shovel operator.....	\$ 29.88	19.70
AREA 1: LEVEL D		
Engineer when operating crane with boom and jib or leads 140' or longer....	\$ 32.43	19.70
Engineer when operating crane with boom and jib		

or leads 220' or longer....\$	32.73	19.70
GROUP 1.....\$	29.78	19.70
GROUP 2.....\$	25.55	19.70
Regular crane operator, mechanic, dragline operator, boom truck operator and concrete pump with boom operator, power shovel operator.....\$	30.75	19.70
Power equipment operators - hazardous waste removal: (AREA 2)		
AREA 2: LEVEL A		
Engineer when operating crane with boom and jib or leads 140' or longer....\$	32.97	19.70
Engineer when operating crane with boom and jib or leads 220' or longer....\$	33.27	19.70
GROUP 1.....\$	30.32	19.70
GROUP 2.....\$	25.92	19.70
Regular crane operator, mechanic, dragline operator, boom truck operator and concrete pump with boom operator, power shovel operator.....\$	31.29	19.70
AREA 2: LEVEL B AND C		
Engineer when operating crane with boom and jib or leads 140' or longer....\$	31.91	19.70
Engineer when operating crane with boom and jib or leads 220' or longer....\$	32.23	19.70
GROUP 1.....\$	29.37	19.70
GROUP 2.....\$	24.98	19.70
Regular crane operator, mechanic, dragline operator, boom truck operator and concrete pump with boom operator, power shovel operator.....\$	30.34	19.70
AREA 2: LEVEL D WHEN CAPPING LANDFILL		
Engineer when operating crane with boom and jib or leads 140' or longer....\$	30.47	19.70
Engineer when operating crane with boom and jib or leads 220' or longer....\$	30.77	19.70
GROUP 1.....\$	27.82	19.70
GROUP 2.....\$	23.43	19.70
Regular crane operator, mechanic, dragline operator, boom truck operator and concrete pump with boom operator, power shovel operator.....\$	28.79	19.70
AREA 2: LEVEL D		
Engineer when operating crane with boom and jib or leads 140' or longer....\$	30.72	19.70
Engineer when operating crane with boom and jib or leads 220' or longer....\$	31.02	19.70

GROUP 1.....	\$ 28.07	19.70
GROUP 2.....	\$ 23.68	19.70
Regular crane operator, mechanic, dragline operator, boom truck operator and concrete pump with boom operator, power shovel operator.....	\$ 29.04	19.70

HAZARDOUS WASTE REMOVAL CLASSIFICATIONS

Group 1: Backhoe, batch plant operator, clamshell, concrete breaker when attached to hoe, concrete cleaning decontamination machine operator, concrete pump, concrete paver, crusher, dozer, elevating grader, endloader, farm tractor (90 h.p. and higher), gradall, grader, heavy equipment robotics operator, loader, pug mill, pumpcrete machines, pump trucks, roller, scraper (self-propelled or tractor drawn), side boom tractor, slip form paver, slope paver, trencher, ultra high pressure waterjet cutting tool system, vactors, vacuum blasting machine operator, vertical lifting hoist, vibrating compaction equipment (self-propelled), well drilling rig and hydro excavator

GROUP 2: Air compressor, concrete breaker when not attached to hoe, elevator, end dumps, equipment decontamination operator, farm tractor (less than 90 h.p.), forklift, generator, heater, mulcher, pigs (portable reagent storage tanks), power screens, pumps (water), stationary compressed air plant, sweeper, welding machine and water wagon

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\* LAB00005-006 10/01/2020

	Rates	Fringes
Laborers - hazardous waste abatement: (ALCONA, ALPENA, ANTRIM, BENZIE, CHARLEVOIX, CHEBOYGAN, CRAWFORD, EMMET, GRAND TRAVERSE, IOSCO, KALKASKA, LEELANAU, MISSAUKEE, MONTMORENCY, OSCODA, OTSEGO, PRESQUE ISLE AND WEXFORD COUNTIES - Zone 10)		
Levels A, B or C.....	\$ 17.45	12.75
class b.....	\$ 18.64	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;		
Also, Level D.....	\$ 16.45	12.75
class a.....	\$ 17.64	12.90
Zone 10		
Laborers - hazardous waste abatement: (ALGER, BARAGA, CHIPPEWA, DELTA, DICKINSON, GOGEBIC, HOUGHTON, IRON, KEWEENAW, LUCE, MACKINAC, MARQUETTE, MENOMINEE, ONTONAGON AND SCHOOLCRAFT COUNTIES - Zone 11)		
Levels A, B or C.....	\$ 23.58	12.90
Work performed in		

conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 22.58	12.90
Laborers - hazardous waste abatement: (ALLEGAN, BARRY, BERRIEN, BRANCH, CALHOUN, CASS, IONIA COUNTY (except the city of Portland); KALAMAZOO, KENT, LAKE, MANISTEE, MASON, MECOSTA, MONTCALM, MUSKEGON, NEWAYGO, OCEANA, OSCEOLA, OTTAWA, ST. JOSEPH AND VAN BUREN COUNTIES - Zone 9)	
Levels A, B or C.....\$ 21.80	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 20.80	12.90
Laborers - hazardous waste abatement: (ARENAC, BAY, CLARE, GLADWIN, GRATIOT, HURON, ISABELLA, MIDLAND, OGEMAW, ROSCOMMON, SAGINAW AND TUSCOLA COUNTIES - Zone 8)	
Levels A, B or C.....\$ 21.39	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 20.80	12.90
Laborers - hazardous waste abatement: (CLINTON, EATON AND INGHAM COUNTIES; IONIA COUNTY (City of Portland); LIVINGSTON COUNTY (west of Oak Grove Rd., including the City of Howell) - Zone 6)	
Levels A, B or C.....\$ 25.64	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 24.64	12.90
Laborers - hazardous waste abatement: (GENESEE, LAPEER AND SHIAWASSEE COUNTIES - Zone 7)	
Levels A, B or C.....\$ 24.20	13.80
Work performed in conjunction with site preparation not requiring the use of personal protective equipment; Also, Level D.....\$ 23.20	13.80
Laborers - hazardous waste abatement: (HILLSDALE, JACKSON AND LENAWEЕ COUNTIES - Zone 4)	

Levels A, B or C.....\$ 25.17	12.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 24.17	12.90
Laborers - hazardous waste abatement: (LIVINGSTON COUNTY (east of Oak Grove Rd. and south of M-59, excluding the city of Howell); AND WASHTENAW COUNTY - Zone 3)	
Levels A, B or C.....\$ 29.93	14.20
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 28.93	14.20
Laborers - hazardous waste abatement: (MACOMB AND WAYNE COUNTIES - Zone 1)	
Levels A, B or C.....\$ 29.93	16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 28.93	16.90
Laborers - hazardous waste abatement: (MONROE COUNTY - Zone 4)	
Levels A, B or C.....\$ 31.75	14.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 31.75	14.90
Laborers - hazardous waste abatement: (OAKLAND COUNTY and the Northeast portion of LIVINGSTON COUNTY bordered by Oak Grove Road on the West and M-59 on the South - Zone 2)	
Level A, B, C.....\$ 29.93	16.90
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 28.93	16.90
Laborers - hazardous waste abatement: (SANILAC AND ST. CLAIR COUNTIES - Zone 5)	
Levels A, B or C.....\$ 25.75	16.35
Work performed in conjunction with site preparation not requiring the use of personal protective equipment;	
Also, Level D.....\$ 24.75	16.35

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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](http://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)).

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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.

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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 Division National Office Branch of Wage Surveys. 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"

"General Decision Number: MI20220157 01/07/2022

Superseded General Decision Number: MI20210157

State: Michigan

Construction Type: Heavy  
PIPELINE

Counties: Michigan Statewide.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022, Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022, Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number      Publication Date  
0                              01/07/2022

ENGI0325-012 05/01/2021

Rates                      Fringes

Power equipment operators -  
gas distribution and duct  
installation work:

GROUP 1.....	\$ 33.48	24.85
GROUP 2.....	\$ 31.45	24.85
GROUP 3.....	\$ 30.35	24.85

SCOPE OF WORK: The construction, installation, treating and reconditioning of pipelines transporting gas vapors within

cities, towns, subdivisions, suburban areas, or within private property boundaries, up to and including private meter settings of private industrial, governmental or other premises, more commonly referred to as "distribution work," starting from the first metering station, connection, similar or related facility, of the main or cross country pipeline and including duct installation.

Group 1: Backhoe, crane, grader, mechanic, dozer (D-6 equivalent or larger), side boom (D-4 equivalent or larger), trencher(except service), endloader (2 yd. capacity or greater).

GROUP 2: Dozer (less than D-6 equivalent), endloader (under 2 yd. capacity), side boom (under D-4 capacity), backfiller, pumps (1 or 2 of 6-inch discharge or greater), boom truck (with powered boom), tractor (wheel type other than backhoe or front endloader). Tamper (self-propelled), boom truck (with non-powered boom), concrete saw (20 hp or larger), pumps (2 to 4 under 6-inch discharge), compressor (2 or more or when one is used continuously into the second day) and trencher(service).

GROUP 3: Oiler, hydraulic pipe pushing machine, grease person and hydrostatic testing operator.

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LAB01076-005 04/01/2021

MICHIGAN STATEWIDE

	Rates	Fringes
LABORER (DISTRIBUTION WORK)		
Zone 1.....	\$ 23.92	12.95
Zone 2.....	\$ 22.22	12.95
Zone 3.....	\$ 20.35	12.95
Zone 4.....	\$ 19.77	12.95
Zone 5.....	\$ 19.75	12.95

DISTRIBUTION WORK - The construction, installation, treating and reconditioning of distribution pipelines transporting coal, oil, gas or other similar materials, vapors or liquids, including pipelines within private property boundaries, up to and including the meter settings on residential, commercial, industrial, institutional, private and public structures. All work covering pumping stations and tank farms not covered by the Building Trades Agreement. Other distribution lines with the exception of sewer, water and cable television are included.

Underground Duct Layer Pay: \$.40 per hour above the base pay rate.

- Zone 1 - Macomb, Oakland and Wayne
- Zone 2 - Monroe and Washtenaw
- Zone 3 - Bay, Genesee, Lapeer, Midland, Saginaw, Sanilac, Shiawassee and St. Clair
- Zone 4 - Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon and Schoolcraft
- Zone 5 - Remaining Counties in Michigan

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

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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:

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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"



# Vendor Conflict of Interest Disclosure Form

All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor's conflict of interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

1. No City official or employee or City employee's immediate family member has an ownership interest in vendor's company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor's Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

Conflict of Interest Disclosure*	
Name of City of Ann Arbor employees, elected officials or immediate family members with whom there may be a potential conflict of interest.	<input type="checkbox"/> Relationship to employee <hr/> <input type="checkbox"/> Interest in vendor's company <input type="checkbox"/> Other (please describe in box below)

\*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

I certify that this Conflict of Interest Disclosure has been examined by me and that its contents are true and correct to my knowledge and belief and I have the authority to so certify on behalf of the Vendor by my signature below:		
Vendor Name	Vendor Phone Number	
Signature of Vendor Authorized Representative	Date	Printed Name of Vendor Authorized Representative





## CITY OF ANN ARBOR NON-DISCRIMINATION ORDINANCE

Relevant provisions of Chapter 112, Nondiscrimination, of the Ann Arbor City Code are included below.  
You can review the entire ordinance at [www.a2gov.org/humanrights](http://www.a2gov.org/humanrights).

**Intent:** It is the intent of the city that no individual be denied equal protection of the laws; nor shall any individual be denied the enjoyment of his or her civil or political rights or be discriminated against because of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight.

**Discriminatory Employment Practices:** No person shall discriminate in the hire, employment, compensation, work classifications, conditions or terms, promotion or demotion, or termination of employment of any individual. No person shall discriminate in limiting membership, conditions of membership or termination of membership in any labor union or apprenticeship program.

**Discriminatory Effects:** No person shall adopt, enforce or employ any policy or requirement which has the effect of creating unequal opportunities according to actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight for an individual to obtain housing, employment or public accommodation, except for a bona fide business necessity. Such a necessity does not arise due to a mere inconvenience or because of suspected objection to such a person by neighbors, customers or other persons.

**Nondiscrimination by City Contractors:** All contractors proposing to do business with the City of Ann Arbor shall satisfy the contract compliance administrative policy adopted by the City Administrator in accordance with the guidelines of this section. All city contractors shall ensure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate inequality based upon any classification protected by this chapter. All contractors shall agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of any applicable protected classification. All contractors shall be required to post a copy of Ann Arbor's Non-Discrimination Ordinance at all work locations where its employees provide services under a contract with the city.

**Complaint Procedure:** If any individual believes there has been a violation of this chapter, he/she may file a complaint with the City's Human Rights Commission. The complaint must be filed within 180 calendar days from the date of the individual's knowledge of the allegedly discriminatory action or 180 calendar days from the date when the individual should have known of the allegedly discriminatory action. A complaint that is not filed within this timeframe cannot be considered by the Human Rights Commission. To file a complaint, first complete the complaint form, which is available at [www.a2gov.org/humanrights](http://www.a2gov.org/humanrights). Then submit it to the Human Rights Commission by e-mail ([hrc@a2gov.org](mailto:hrc@a2gov.org)), by mail (Ann Arbor Human Rights Commission, PO Box 8647, Ann Arbor, MI 48107), or in person (City Clerk's Office). For further information, please call the commission at 734-794-6141 or e-mail the commission at [hrc@a2gov.org](mailto:hrc@a2gov.org).

**Private Actions For Damages or Injunctive Relief:** To the extent allowed by law, an individual who is the victim of discriminatory action in violation of this chapter may bring a civil action for appropriate injunctive relief or damages or both against the person(s) who acted in violation of this chapter.

THIS IS AN OFFICIAL GOVERNMENT NOTICE AND  
MUST BE DISPLAYED WHERE EMPLOYEES CAN READILY SEE IT.

## MICHIGAN DEPARTMENT OF TRANSPORTATION CERTIFIED PAYROLL

**COMPLETION OF CERTIFIED PAYROLL FORM FULFILLS THE MINIMUM MDOT PREVAILING WAGE REQUIREMENTS**

(1) NAME OF CONTRACTOR / SUBCONTRACTOR (CIRCLE ONE) (2) ADDRESS

(3) PAYROLL NO. (4) FOR WEEK ENDING (5) PROJECT AND LOCATION (6) CONTRACT ID

(a)	(b)	(c)	(d) DAY AND DATE							(e)	(f)	(g)	(h)		(i)	(j) DEDUCTIONS					(k)			
			Hour Type											TOTAL HOURS ON PROJECT		PROJECT RATE OF PAY	PROJECT RATE OF FRINGE PAY	GROSS PROJECT EARNED	GROSS WEEKLY EARNED	TOTAL WEEKLY HOURS WORKED ALL JOBS		FICA	FEDERAL	STATE
EMPLOYEE INFORMATION NAME:	WORK CLASSIFICATION									0					\$0.00								\$0.00	\$0.00
ETH#GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00
ETH#GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00
ETH#GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00
ETH#GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00
ETH#GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00
ETH#GEN: ID #: GROUP/CLASS #:		S								0					\$0.00								\$0.00	\$0.00
NAME:										0					\$0.00								\$0.00	\$0.00

Date \_\_\_\_\_

I, \_\_\_\_\_ (Name of Signatory Party) \_\_\_\_\_ (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

\_\_\_\_\_ on the  
 \_\_\_\_\_ (Contractor or Subcontractor)  
 \_\_\_\_\_; that during the payroll period commencing on the  
 \_\_\_\_\_ (Building or Work)  
 \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, and ending the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_,  
 all persons employed on said project have been paid the full weekly wages earned, that no rebates have  
 been or will be made either directly or indirectly to or on behalf of said

\_\_\_\_\_ from the full  
 \_\_\_\_\_ (Contractor or Subcontractor)  
 weekly wages earned by any person and that no deductions have been made either directly or indirectly  
 from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part  
 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948,  
 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

(2) That any payrolls otherwise under this contract required to be submitted for the above period are  
 correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the  
 applicable wage rates contained in any wage determination incorporated into the contract; that the  
 classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide  
 apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of  
 Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a  
 State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

— in addition to the basic hourly wage rates paid to each laborer or mechanic listed in  
 the above referenced payroll, payments of fringe benefits as listed in the contract  
 have been or will be made to appropriate programs for the benefit of such  
 employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

— Each laborer or mechanic listed in the above referenced payroll has been paid,  
 as indicated on the payroll, an amount not less than the sum of the applicable  
 basic hourly wage rate plus the amount of the required fringe benefits as listed  
 in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR  
 SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE  
 31 OF THE UNITED STATES CODE.

# ATTACHMENTS

SECTION 11413

GRIT REMOVAL SYSTEM & WASHER

PART 1 GENERAL

1.1 SUMMARY OF WORK

- A. Furnish all labor, materials, tools, equipment, and supervision required to complete Grit Removal System (including Grit Collector and Grit Washer equipment) installation, as indicated on the drawings and specified herein, and all other work incidental thereto, except as otherwise noted.
- B. Contractor shall furnish, install, and place into satisfactory operating condition two (2) Grit Collectors for collecting and condensing grit particles and two (2) Grit Washer units for removing, washing, and conveying grit particles before discharging the material into a dumpster and as shown on the drawings and described in this specification section.
- C. It is the intent of these specifications that all equipment called for under this section shall be supplied by a single supplier.

1.2 ITEMS SPECIFIED ELSEWHERE

- A. Section 01300 – Submittals including Shop Drawings
- B. Section 01730 – Operation and Maintenance Manuals.
- C. Section 05500 – Metal Fabrications.
- D. Section 11112 – Horizontal Recessed Impeller Pumps
- E. Section 11414 – Grit Removal Performance Testing
- F. Section 15000 – Equipment, General.
- G. Section 15060 - Pipe & Pipe Fittings.
- H. Section 15170 - Motors

1.3 SYSTEM DESCRIPTION

- A. The grit collector shall include the following components:
  - 1. Lamella trays and support frame within existing North and South Grit Chambers
  - 2. Lower horizontal shafted grit auger with trough liner, drive motor and gearbox assembly
  - 3. Controls and appurtenances. Control panel shall include necessary starters and breakers for equipment for each grit removal system.

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- B. The grit washer shall include the following components:
1. Grit washer tank installed within Dumpster Room
  2. Central inlet vortex chamber
  3. Coanda tulip for directing inflowing grit slurry in radial direction to a circumferential overflow weir
  4. Conical stratification tank with cover
  5. Stirring device with gear motor
  6. Fluidized grit bed at the bottom of the stratification tank for intensive grit washing and separation of particles dependent on their specific gravity difference
  7. Grit conveying and dewatering auger
  8. Controls and appurtenances

#### 1.4 SUBMITTALS

- A. Shop drawings: Include the following:
1. Provide a copy of this specification section, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check-marks (✓) shall denote full compliance with a paragraph as a whole. Deviations 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. Include a detailed, written justification for each deviation. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.
  2. A copy of the Contract Document control diagrams and process and instrumentation diagrams relating to the submitted equipment, with addendum updates that apply to the equipment in this Section, marked to show specific changes necessary for the equipment proposed in the submittal. If no changes are required, the drawing or drawings shall be marked "no changes required". Failure to include copies of the relevant drawings with the submittal shall be cause for rejection of the entire submittal with no further review.
  3. Detailed mechanical and electrical drawings showing the equipment dimensions, locations of connections, weights of associated equipment and wiring diagrams. Mechanical drawing shall provide exploded view detail of pump components.
  4. Make, model, weight, and horsepower of each equipment assembly.
  5. Manufacturer's data, descriptive literature, bulletins, and catalogs indicating the general description, specifications, and limitations for collective system and individual components.
  6. Bill of Materials for equipment showing materials of construction and part numbers.
  7. Motor nameplate data, as defined by NEMA MG 1, motor manufacturer, and including any motor modifications.
  8. Factory finish system.
- B. Informational Submittals:
1. Operation and Maintenance (O&M) Manuals
  2. Warranty Certificate.
  3. Bearing L-10 life calculations.
  4. Installation Inspection Report

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5. Certification of satisfactory field testing of each unit as specified.
6. Field and Performance testing procedures and reports on results

## 1.5 REFERENCES

- A. Manufacturer shall provide equipment adhering to all references listed below including all related sections within the publications listed. Contractor shall follow all applicable publication sections when installing and erecting equipment as listed below and specified by manufacturer.
  1. American Society for Testing and Materials (ASTM) Publications:
    - a. Section A322: Carbon and Alloy Steel Bar Specifications.
    - b. Section A507-10: Standard Specification for Drawing Alloy Steel, Sheet and Strip, Hot-Rolled and Cold Rolled
  2. Anti-Friction Bearing Manufacturers Association (AFBMA) Publications:
    - a. Standard 9-90 Load Ratings and Fatigue Life for Ball Bearings.
    - b. Standard 11-90 Load Ratings and Fatigue Life for Roller Bearings.
  3. American Institute of Steel Construction (AISC) Publications
  4. American Welding Society (AWS) Publications
    - a. D1.1 Structural Welding Code
  5. American Structures Painting Council (ASPC) Publications

## PART 2 PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURERS

- A. Each grit collector shall include lamella settling trays and lower horizontal shafted grit auger, and be model HUBER Lamella Grit Trap Grit Wolf® Size 7 manufactured by HUBER Technology, Inc. The substitution policy does not apply to this item.
- B. Each grit washer shall include a coanda tulip for directing inflowing grit slurry in radial direction to a circumferential overflow weir, conical stratification tank with cover, stirring device with gear motor, fluidized grit bed at the bottom, grit conveying and dewatering auger and be model HUBER Coanda Grit Washer, RoSF4 2 manufactured by HUBER Technology, Inc. The substitution policy does not apply to this item.

### 2.2 GENERAL MATERIALS

- A. Material requirements listed are applicable for the Grit Collector and Grit Washer unless otherwise specified.
- B. All stainless-steel components and structures shall be submersed in a chemical bath of nitric acid and hydrofluoric acid (pickling bath) to remove any residues that may be present on the material as a result of forming, manufacture, or handling. After removal from the pickling bath, the equipment must be washed with a high-pressure wash of cold water to remove any remaining surface debris and promote the formation of an oxidized passive layer which is critical to the long life of the stainless steel. No stainless steel components may be fabricated or assembled in a factory where carbon steel products are also fabricated, in order to prevent



contamination by rust. Glass bead or sand blast or chemically treatment processes not based on nitric acid / hydrofluoric acid for stainless steel shall not be allowed.

- C. All welding in the factory shall use shielded arc, inert gas, MIG or TIG method. Filler wire shall be added to all welds to provide for a cross section equal to or greater than the parent metal. Butt welds shall fully penetrate to the interior surface and gas shielding to interior and exterior of the joint shall be provided.
- D. Equipment manufacturer shall furnish all anchor bolts of ample size and strength required to securely anchor each item of equipment. Anchor bolts shall be wedge or epoxy type and set by the Contractor. Bolts, nuts, and washers shall be selected from AISI 316L stainless steel such that they are anti-seizing. Equipment shall be placed on foundations, leveled, shimmed, bolted down, and grouted with non-shrinking grout.
- E. Electric motors, gear reducers, and other self-contained or enclosed components shall have an acrylic enamel finish.
- F. Manufacturer shall provide the following spare parts within package system; one perforated diaphragm (membrane), one complete solenoid valve assembly, and one set of all special tools, if required.

2.3 GRIT COLLECTOR PERFORMANCE DATA

- A. Manufacturer shall provide unit adhering to the following performance criteria.
  - 1. Grit Collector

Number of Units	2 – North & South Grit Collectors
Peak Design Flow per Unit	30.0 MGD
Average Flow per Unit	18.5 MGD
Grit Removal Efficiency @ Peak Flow	90% ≥ 212 micron
Grit Removal Efficiency @ Average Flow	95% ≥ 125 micron
Total Lamella Surface Area per Unit	1442 ft <sup>2</sup>
Loading Rate @ Peak Flow	14.46 GPM/ft <sup>2</sup>
Outlet Weir Headloss @ Peak Flow (North)	6 inches
Outlet Weir Headloss @ Peak Flow (South)	6 inches

2.4 GRIT COLLECTOR MATERIALS & DETAILS

- A. The entire unit shall be manufacturer from AISI 304L stainless steel unless otherwise noted.
- B. Grit Collector:
  - 1. Grit particles shall flow into the grit collector and through the lamella tray inserts, trays where grit shall settle out by gravity through the lamellas and drop down to the bottom of the concrete grit tank. Flow shall continue through the system and over the outlet channel weir.
  - 2. Grit collected at the bottom shall be removed axially by a time-controlled shafted horizontal grit auger conveyor and sent to a collection chamber. A grit slurry pump as specified in Section 11112 shall pump the grit slurry mixture out from the collection chamber by non-continuous operation and into a Grit Washer unit for grit treatment.
  - 3. Side baffles shall be included in 304SS construction with lifting points, 0.12” (3mm) thickness, and shall be mounted directly to the front of the lamella tray package frame,

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as shown on the drawings. Baffles shall have sturdy neoprene gasket bolted to the downstream face of the baffle along the vertical edge of baffle to be installed near the lamella plate. Gasket shall be wide enough to seal the space between the side baffles and lamella plates, approximately 2". Baffles will be fabricated and installed by the Contractor per the details on the Drawings.

4. Front baffle shall be included in 304SS construction with lifting points, 0.12" (3mm) thickness, and shall be mounted directly to the concrete channel floor by anchor bolts.

C. Lamella Tray

1. Lamella tray inserts shall be made from polypropylene material and shall be constructed within a 304L stainless steel lamella tray support frame. The spacing between each lamella plate shall be 3.14-inches (80mm) and shall have a thickness of 1/4 inches (6 mm). Lamella packages shall be double tray version that shall be supported to a 304L stainless steel structural frame and attached to the concrete channel walls by supporting steel angles. Each double lamella tray package shall have a minimum width of 9.75-feet, height of 6.48-feet and depth of 3.6-feet. The overall width of channel required shall not exceed 11-feet.
2. Lamella trays shall be sloped 55 degrees for enhancing grit capture efficiency and shall be a removable design from the channel. Trays that are non-modular to facilitate ease of removal for maintenance are not acceptable.
3. Support frame and lamella trays shall be assembled on site by Contractor before installation into concrete chamber.

D. Grit Auger

1. The horizontal grit auger shall have a minimum diameter of 12.75" (324mm) with a minimum shaft diameter of 4.5" (114mm). The auger flights shall be a minimum of 1/4" (6mm) thick.
2. The horizontal grit auger shall be supported by the drive at one end and along their length by sectional bearing liner that shall have a thickness of 0.315" (8mm) and shall be constructed of high-density polyethylene (HDPE) material. Grease lubricated bearings are not acceptable. A trough constructed of 316 stainless steel shall be provided with the auger. Trough shall be designed to restrain auger liners from movement and allow for replacement of the liner with the use of removable restraining brackets.
3. The drive ends of the horizontal auger shaft tube shall be machined and shrink-fitted with solid stainless-steel stubs. The horizontal grit auger shall be a two-section design to facilitate ease of installation and maintenance as required.
4. Wall pipe shall be provided for drive end of auger to pass through the wall and allow for connection to drive motor and gearbox assembly located in the dry well. Lantern shall be provided to connect wall pipe to gearbox assembly and house auger gland seal assembly. Cover plate constructed of 304SS shall be provided to seal wall penetration.
5. The grit auger shall transport grit to the collection chamber before pumping by timer control.
6. The horizontal grit auger motor power shall be a minimum of 2.0 HP. The auger shall be driven by a shaft mounted gearbox and motor. The gearbox shall have a minimum service factor of 1.0 equivalent to an AGMA Class I rating.
7. The horizontal grit auger drive shall be equipped with a 3-phase, 60 Hertz, 230/460 volt, Class 1, Division 1, continuous-duty motor with leads to a conduit box for

outdoor operation. The motor and gearbox shall be mounted to a stainless-steel plate and fastened to the concrete channel walls.

8. Chain drives, belt drives, hydraulic drives for the transport auger will not be acceptable for this project.
9. Manufacturer will provide alignment and installation instructions for the Contractor to follow closing to confirm the auger is aligned within the channel.

## 2.5 GRIT WASHER PERFORMANCE DATA

A. Manufacturer shall provide unit adhering to the following performance criteria.

1. Grit Washer

Number of Units	2
Grit Processing Capacity per Unit	1.5 ton/hr
Maximum Pumped Flow Rate	300 GPM
Removal Efficiency @ Design Flow	95% ≥ 106 micron
Maximum Volatile Content @ Design Flow	5%
Maximum Water Content @ Design Flow	10%
Minimum Weir Length	19.6 feet
Headloss @ Design Flow	9.84 inches
Approximate Empty Weight	2470 lbs
Approximate Loaded Weight	15880 lbs
Wash Water Consumption	22 GPM
Wash Water Minimum Pressure	29 psi
Tank Water Surface Area	30.5 ft <sup>2</sup>
Weir Overflow Rate including wash water	0.031 ft <sup>2</sup> /sec

## 2.6 GRIT WASHER MATERIALS & DETAILS

A. Two Grit Washer units shall be installed within the Dumpster Room as shown on the Drawings.

B. Grit Washer Tank

1. Water containing grit from a grit chamber shall be introduced through a 6 inch inlet into the vortex chamber, creating a rotating flow pattern, and through the Coanda tulip into the grit washer tank. The maximum allowable influent velocity into the grit washer tank shall be less than 0.5 ft/s. The grit slurry mixture shall be fed directly to the grit washing unit without the need for additional screening via a drum screen, designs requiring a screen to meet the performance requirements shall not be allowed. Designs incorporating a tangential side inlet entry shall not be acceptable.
2. The inlet connection of the grit washer unit shall be rotatable 360 degrees for site adjustment. Designs that incorporate a fixed inlet connection or that rotate less than 360 degrees shall not be allowed.
3. The water flow is directed by the Coanda from an axial flow to a radial flow towards the overflow weir that is provided at the circumference of the grit washer tank. This change of the flow direction leads to effective sedimentation of the grit towards the bottom of the grit washer tank. The grit washer tank shall have a minimum of 0.10" wall thickness.
4. The classified water shall pass over the overflow weir with a length of 19.6-feet and discharge out of a single 8-inch clean water outlet.

5. Effective stratification of particles, depending on their specific density, but not depending on their particle size and weight, shall be achieved within the conical portion of the grit washer tank.
6. A 4-inch connection with an automatically operated one quarter-turn ball valve shall be provided for removal of organic material out of the conical section of the tank. The ball valve shall be directly flanged to the conical tank without any adapter or connection pieces to avoid clogging issues. The ball valve shall have a PVC body and ball to prevent binding when in contact with abrasive materials. Metallic ball valves which can bind in highly abrasive applications shall not be acceptable.
7. A 110VAC, single phase, electrically operated actuator shall be provided to provide automatic control of the ball valve. The actuator shall only be acceptable for the grit washer unit. The actuator shall be suitable for operation in a Class 1, Division 1 hazardous location. The stirrer shall move organic matter toward this connection. Organics outlet pipe shall be connected to the overflow outlet piping and shall discharge flow downstream of the grit removal system.
8. A 3-inch automatically operated one quarter-turn ball valve shall be provided for flushing the organics line with non-potable water after the cycling of each organics discharge. Ball valve shall be full port, 316 SST construction with 150# flanges and PTFE seats and seals. The electric valve actuator shall be as specified in section 2.6.B.7.
9. A 110VAC, single phase, pressure probe by VEGA shall be mounted in the bottom of the grit settling area to monitor the grit level within the tank and to control the operation of the grit stirrer and grit removal auger. The pressure probe shall be suitable for installation in a Class 1, Division 1 hazardous location.

C. Fluidized Grit Bed

1. A fluidized grit bed shall be maintained in the bottom portion of the grit washer tank. Within this fluidized bed, the grit is intensively washed and organic material is effectively removed from mineral particles.
2. The grit washer shall be designed for a water supply of 22gpm with a minimum pressure of 29psi with a single 1-inch connection point for connecting to the treatment plants final effluent water supply.
3. Wash water shall be introduced into the bottom of the grit washer and dispersed through a perforated diaphragm to generate the fluidized bed in the bottom portion of the grit washer. This wash water shall also effectively flush the organic components out of the fluidized bed towards the overflow weir.
4. Wash water through the perforated plate diaphragm shall be distributed uniformly in order to reduce grit sedimentation on the bottom of the grit tank. The perforated plate neoprene diaphragm shall have a 2mm thickness.
5. The wash water manifold will be provided with a variable area flow meter with a transparent PVC casing to allow visual inspection of the internal float for manual flow rate confirmation. The variable area flow meter shall be factory installed and attached to the grit washer unit before shipment.
6. Wash water control shall be provided via a 1-inch 110V, 60Hz, Class 1, Division 1 solenoid valve.

D. Grit Screw

1. Washed grit shall be removed through a central tube at the bottom of the grit washer. The stirrer shall move washed grit to the central tube. The grit to be removed shall drop into an inclined auger. This auger shall dewater and convey the grit above the

level of the overflow weir. The washed and dewatered grit is discharged at the upper end of the auger.

2. Its inlet hopper shall be flange-connected to the grit discharge tube. The auger shall have a discharge height of 96" (2443 mm) above the floor. Its inlet hopper shall be provided with a 3" diameter (DN 80) drain connection that is provided with a ball valve. The drain connection shall also be provided with a 3/4" flush connection with ball valve.
3. The screw conveyor trough shall be made of minimum 10/64 inch (4 mm) thick stainless steel and shall have a minimum trough diameter of 13.8-inches.
4. The screw shall be shafted and shall be made of stainless steel. A shaft-less screw is not acceptable. The lower end of the screw shaft shall be supported by a chilled cast-iron stub bearing with a maintenance-free ceramic sleeve. Wear strips are not acceptable.
5. The grit screw design shall have intelligent screw flights preventing clogging issues within the grit screw.
6. A screw drive shall be provided at the upper end of the auger. The motor shall be continuous duty rated and shall be selected to match the duty of the particular grit conveying screw. The drive unit shall be directly coupled to the grit conveying screw drive shaft.

E. Grit Stirrer

1. The center stirrer shaft diameter shall be 60 mm and shall have a thickness of 5 mm. The stirrer arms shall be 30 mm in diameter and constructed of 304L stainless steel. The stirrer shall consist of a minimum of 2 arm sections. The stirrer design shall promote better discharge of organics, grit bed fluidization, and ability to discharge larger stones.

F. Motors

1. Grit Screw

Maximum Motor Speed	1800 rpm
Service Factor	1.15
Rating	480 VAC, 3ph, 60 Hz
Location Rating	Class 1, Division 1
Maximum Power Screw Drive Motor	1.5 HP

- a. Torque must be sufficient to start and operate grit washer without exceeding nameplate ratings for current and power.

2. Grit Stirrer

Maximum Motor Speed	1800 rpm
Service Factor	1.15
Rating	480 VAC, 3ph, 60 Hz
Location Rating	Class 1, Division 1
Maximum Power Stirrer Drive Motor	0.75 HP

- a. Torque must be sufficient to start and operate grit washer without exceeding nameplate ratings for current and power.

2.7 CONTROLS

- A. All controls necessary for the fully automatic operation of the grit system shall be provided, including a total of two (2) NEMA 4X main control panels with each individual panel

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controlling one (1) GritWolf grit removal system, one (1) RoSF4 grit washer, and two (2) grit slurry pumps, as described here in. A NEMA 7 local control station per each individual machine shall be provided.

1. The North grit removal system panel shall control two (2) grit slurry pumps (Grit Pump No.1 and No. 2) in a duty/standby configuration.
  2. The South grit removal system, panel shall control two (2) grit slurry pumps (Grit Pump No. 3 and No. 4) in a duty/standby configuration.
- B. The electrical control system shall provide for automatic control of the grit washer via a signal from the feed pump control panel. The grit removal system screws shall be operated by timer.
- C. Each control panel shall be suitable for outdoor, wall-mounting. Enclosure shall be NEMA 4X stainless steel with continuous hinge and lockable door latch, and shall include the following:
1. Door-interlocked and fused disconnect
  2. 600 VAC terminal block
  3. Uninterruptible Power Supply
  4. NEMA motor starters and Circuit Breaker Branch Circuit Protection for all electrical motors
  5. Control power transformer with 120 VAC transient voltage surge compressor (TVSC) and fused primary and secondary
  6. Programmable logic controller (PLC), Allen Bradley Micrologix 1400
  7. Operator Interface Terminal (OIT), Allen Bradley 10" PanelView Plus 7
  8. Pilot lights for
    - a. Control power on (white)
    - b. Horizontal grit screw running (green)
    - c. Grit Screw running (green)
    - d. Grit Stirrer (green)
    - e. Organic Valve open (green)
    - f. Grit Screw fault (red)
    - g. Grit Stirrer fault (red)
    - h. Organic valve fault (red)
    - i. Grit pump running (green)
    - j. Grit pump fault (red)
  9. E-stop push button (red)
  10. Reset push button (black)
  11. Door mounted elapsed time meters for the following:
    - a. Horizontal grit screw drive
    - b. Grit Washer Screw drive
    - c. Grit Washer Stirrer drive
  12. Remote dry contact inputs for the following:
    - a. Machine start
    - b. One spare input
  13. Remote dry contact outputs for the following:
    - a. Horizontal grit screw running
    - b. Grit washer running
    - c. Grit Pump running
    - d. Faults
    - e. E-stops

- f. Two spare outputs
- 14. Flashing alarm light and alarm horn with silencer-reset button
- 15. Plastic Nameplates
- 16. Seal water solenoid valves for each pump shall be wired directly to the motor controls such that the solenoid energizes (opens) when the pump is started and deenergizes (closes) when the pump stops.

D. LOCAL CONTROL STATIONS

- 1. Control Power On-Delay: Each time the control panel power supply is cycled, the PLC will allow all solid-state devices to become fully energized before enabling the control power circuit.
- 2. Each grit washer shall be provided with a NEMA 7, Cast Aluminum Local Control Station. Each Local Control Station Shall be equipped with the following devices
  - a. Hand-Off-Auto selector switches for the following
    - 1) Grit Washer drive
    - 2) Grit Washer Stirrer drive
    - 3) Grit Washer solenoid valve
    - 4) Drain valve MOV
    - 5) Flushing valve MOV
  - b. Grit Washer forward-off-reverse
    - 1) Grit Washer drive
  - c. E-stop pushbutton (red)
  - d. The stirrer, grit screw, organics valve, and wash water selector switches must all be in the auto position for the grit washer to function in the auto mode.
  - e. If the stirrer, grit screw, or organics valve are faulted, the stirrer, grit screw, organics valve, and wash water will not function in the auto mode.
  - f. When the stirrer hand-off-auto selector is in the hand position, the stirrer will run continuously.
  - g. When the stirrer hand-off-auto selector is in the auto position, the stirrer will operate per the auto sequence detailed below.
  - h. When the grit screw selector is in the hand position, the grit screw will cycle on and off with the grit screw for-off-rev selector.
  - i. When the grit screw selector is in the hand position and the forward direction is selected, the grit screw will cycle continuously in the forward direction.
  - j. When the grit screw selector is in the hand position and the forward direction is selected, the grit screw will cycle continuously in the forward direction.
  - k. When the grit screw selector is in the hand position and the forward direction is selected, the grit screw will cycle continuously in the forward direction.
  - l. When the grit screw selector is in the hand position and the reverse direction is selected, the grit screw will cycle continuously in the reverse direction. This switch will spring return from rev to off.
  - m. When the grit screw selector is in the auto position, the grit screw will operate per the auto sequence detailed below.
  - n. When the organics valve selector is in the open position, the organics valve will open and remain open.
  - o. When the organics valve selector is in the close position, the organics valve will close and remain closed.
  - p. When the organics valve selector is in the auto position, the organics valve will operate per the auto sequence detailed below.

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- q. Once the organics valve closes, the motor operated valve for the non-potable water flushing connection will open for a set time (initially set for 2-minutes) Once the open time has expired the valve shall close.
- r. When the wash water selector is in the hand position, the wash water will run continuously.
- s. When the wash water selector is in the auto position, the wash water will operate per the auto sequence detailed below.
- t. The grit washer will start an automatic cycle based on (2) conditions: (1) once the feeding equipment is running. (2) once a call to run has been received from the SCADA system.
- u. The feeding equipment contact or the call to run signal from SCADA must be maintained for the time set in the grit cycle on-delay timer before the grit system will start an automatic cycle.
  - 1) The wash water will start to run once the automatic feeding cycle starts.
  - 2) When the automatic feeding cycle starts, the stirrer will start to run once the stirrer on-delay timer reaches its setpoint.
  - 3) The pressure sensor will be activated once the automatic feeding cycle starts, and stay active through the entire feeding cycle.
  - 4) The grit screw will start to run once the grit level, as measured by the pressure sensor, rises and stays above the grit density start setpoint for the time set in the start level debounce timer. Once the grit screw is called to run, the grit screw will cycle on and off, on time first, per the settings of the grit screw repeat cycle timers. The on off cycles of the grit screw will continue after the grit density falls below the grit density stop setpoint for the time set in the low level debounce timer.
  - 5) When the automatic feeding cycle starts, the organics valve will close if not already closed and the organics valve open-delay timer will begin timing. Once the valve open-delay timer reaches its setpoint, the organics valve will open. The organics valve will remain open for the time set in the organics valve open duration timer. Once the open duration timer has reached its set point, the organics valve will close. This cycle may be repeated as required during the feeding cycle.
  - 6) The organics valve will never be open while the grit screw is operating. If the grit screw is called to run while the organics valve is opened, the organics valve will close immediately.
- v. Once the grit feeding has stopped the system will go into a shutdown cycle. During the shutdown cycle the remote start signal will no longer be received.
  - 1) During the shutdown cycle the stirrer will continue to run after the organics valve completes its final cycle for the time set in the stirrer off-delay timer.
  - 2) During the shutdown cycle the wash water will remain on until the stirrer motor shuts off.
  - 3) Once the system enters into the shutdown mode the pressure sensor will only remain active for the time set on the pressure sensor off delay timer. Once this time has expired the sensor will be deactivated.
  - 4) During the shutdown cycle the grit screw will continue to operate per the feeding cycle sequence of operation as long as the pressure sensor is active.



- 5) Once the grit screw begins its cycle the pressure switch will remain active until its cycle is complete.
  - 6) During the shutdown cycle the organics valve will open once the pressure sensor becomes de-activated. The organics valve will remain open for a time set on the organics valve open duration timer. Once the open time has expired the valve shall close.
  - 7) Once the organics valve closes, the motor operated valve for the non-potable water flushing connection will open for a set time (initially set for 2-minutes) Once the open time has expired the valve shall close.
- w. An operator may change from normal to continuous feed mode as required from the OIT. During a continuous feed mode, the wash water and stirrer will both cycle per the continuous feed mode, the wash water and stirrer will both cycle per the continuous feed mode repeat cycle on and off timers. The pressure sensor, grit screw, and organics valve will run as noted in the grit system automatic feeding cycle. Once the feed signal from the pump or SCADA has been removed, the system will operate as described in the grit system automatic shut down cycle.
- x. The South grit removal system, panel shall control two (2) grit slurry pumps (Grit Pump No. 3 and No. 4) in a duty/standby configuration. An operator can manually reconfigure the grit pump suction and discharge piping with the manually operated valves. From the OIU, an operator may select either grit pump no.3 or no.4 to operate with grit collector No. 2.
- y. During normal operation grit collector no. 1 and its corresponding grit pump(s) shall be configured to route flows to grit washer no.1 (i.e., north grit removal system) and grit collector no. 2 shall be configured to operate with grit washer no.2. An operator can manually reconfigure the grit slurry piping from each grit collector to route slurry flows to either grit washer unit, with the manually operated valves. From the OIU, an operator may select either grit washer no.1 or no.2 to operate with either grit collector.
- z. Limit switches installed on the grit piping suction valves and interconnect valves (that allow the ability for grit slurry from a given grit tank to be directed to the opposite grit washer unit) shall be monitored by the control panels. Interlocks within the control panel shall inhibit grit slurry from being pumped to a grit washer that is off-line, due to current valve(s) position. Notifications shall also be provided to inform operator of the condition and that system valve configuration should be reviewed or grit washer brought on-line.
- aa. Manual operation of the grit system shall allow grit slurry pumping to alternate between grit collector and grit washer units as required. In the event one of the two grit washers is out of service, an operator can manually reconfigure the grit slurry piping from each grit collector to route slurry flows from both grit collectors to a single grit washer unit, with the manually operated valves. From the OIU, an operator may select either grit washer no.1 or no.2 to operate with both grit collectors. In this mode, the grit washer would initiate the washing cycle until the grit pump run signal is removed. A delay shall occur before the grit pump associated with the alternate grit collector is started. The grit collector, grit pump, stirrer, grit screw, organics valve, and wash water will stop immediately, and the control power on light will be de-energized if any of the e-stop pushbuttons are pressed. Once the

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- pushbuttons are reset, the system reset pushbutton must be pressed before the equipment will cycle.
- bb. If power to the panel is interrupted, the equipment may cycle after a 5 second power up delay once the power is restored, without pressing the system reset pushbutton.
3. Each Grit Collector shall be provided with a NEMA 7, Cast Aluminum Local Control Station. Each Local Control Station Shall be equipped with the following devices
- a. Hand-Off-Auto selector switches for the following
    - 1) Horizontal Grit Auger drive
  - b. Grit Washer forward-off-reverse
  - c. Grit Auger drive E-stop pushbutton (red)
  - d. When the grit collector selector is in the hand position, the grit collector will run continuously.
  - e. When the grit collector selector is in the auto position, the grit collector will cycle off and on, off time first, per the grit collector repeat cycle timer.
  - f. The grit collector will start operating per the off and on cycle timer, once the feed pump running signal has been received.
4. Each grit pump shall be connected to the local control panel and shall be equipped with the following modes of operation:
- a. When the grit pump selector is in the hand position, the grit pump will run continuously.
  - b. When the grit pump selector is in the auto position, the grit pump will start running for the time set in the grit pump on time before collector timer, before the grit collector has been called to run. The grit pump will continue to run after the grit collector shuts down for the time set on the grit pump off delay timer.
5. Faults:
- a. When the grit collector motor overload is tripped, the grit collector will stop immediately and the grit collector fault light will energize.
  - b. When the grit collector current monitor senses high current, the grit collector will stop immediately and the grit collector fault light will energize.
  - c. When the grit pump motor overload is tripped, the grit pump will stop immediately and the grit pump fault light will energize.
  - d. When the stirrer motor overload is tripped the stirrer and grit auger will stop immediately, the organics valve will close, and the stirrer fault light will be energized.
  - e. If high current is measured, the stirrer and grit auger will stop immediately, the organics valve will close, and the stirrer fault light will be energized.
  - f. When the grit auger motor overload is tripped the stirrer and grit auger will stop immediately, the organics valve will close, and the grit auger fault light will be energized.
  - g. If high current is measured, the stirrer and grit auger will stop immediately, the organics valve will close, and the grit auger fault light will be energized.
  - h. If the organics valve is called to close and does not reach the closed position within the time set in the organics valve fault timer, the stirrer and grit auger will stop immediately and the organics valve fault light will be energized.
  - i. If the organics valve is called to open and does not reach the open position within the time set in the organics valve fault timer, the stirrer and grit auger will stop immediately and the organics valve fault light will be energized.
  - j. All of the above faults can be reset by pressing the system reset pushbutton.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Contractor shall install complete equipment in accordance with Manufacturer's instructions and as indicated and specified. Support frame and lamella trays shall be assembled on site by Contractor before installation into concrete channel.
- B. After installation touch-up paint shall be applied to all scratched, abraded, and damaged shop painted surfaces. Coating type and color shall match shop painting. Contractor shall not perform field welding of stainless steel.

3.2 PERFORMANCE TESTING

- A. **Refer to** Section 11414 – Grit Removal Performance Testing for details.

3.3 WARRANTY

- A. The manufacturer will warrant against any defects in material or workmanship to the grit removal system. This warranty will commence upon delivery of the products and will expire two years following Substantial Completion. In addition, the manufacturer shall provide a ten (10) year warranty on the horizontal grit auger liner for the grit collectors.

- B. The manufacturer shall provide a service contract for the first five (5) years after installation of the GritWolf(s), including:
  - 1. Semi-annual trips per year, including one to two days on site
  - 2. All required maintenance parts over the five-year period
  - 3. **Services shall include inspection of each GritWolf auger liner and replacement as needed over the service contract.**

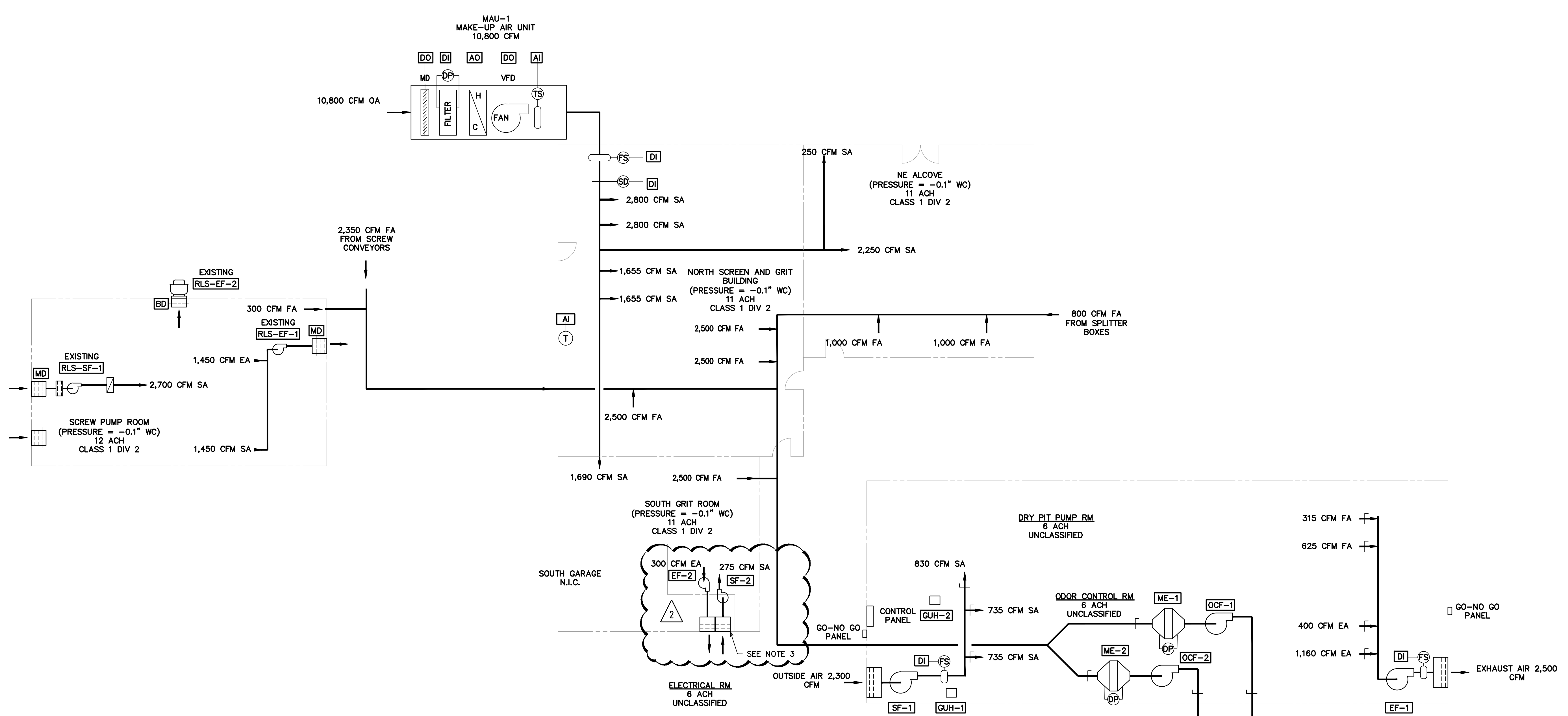
- C. The site shall be a reference site for future HUBER Technology customers. For each customer sent on site, a \$500 voucher will be provided to the City of Ann Arbor WWTP and can be used for GritWolf spare parts or additional service trips/days by HUBER certified service technician.

3.4 MANUFACTURER'S FIELD SERVICE

- A. **Start-up and Operator Training:** Manufacturer's Service Engineer for the equipment specified herein shall be present at the jobsite for two (2) trips and eight (8) man-days, travel time excluded, for installation assistance, functional testing, certificate of the installation, and Operator training. Service Engineer must have a minimum of five (5) years of experience on the type and size of equipment specified. Manufacturer's Service Engineer shall inspect location of anchor bolts; check setting, leveling, alignment, field erection. Manufacturer's Service Engineer shall calibrate and start-up the equipment.

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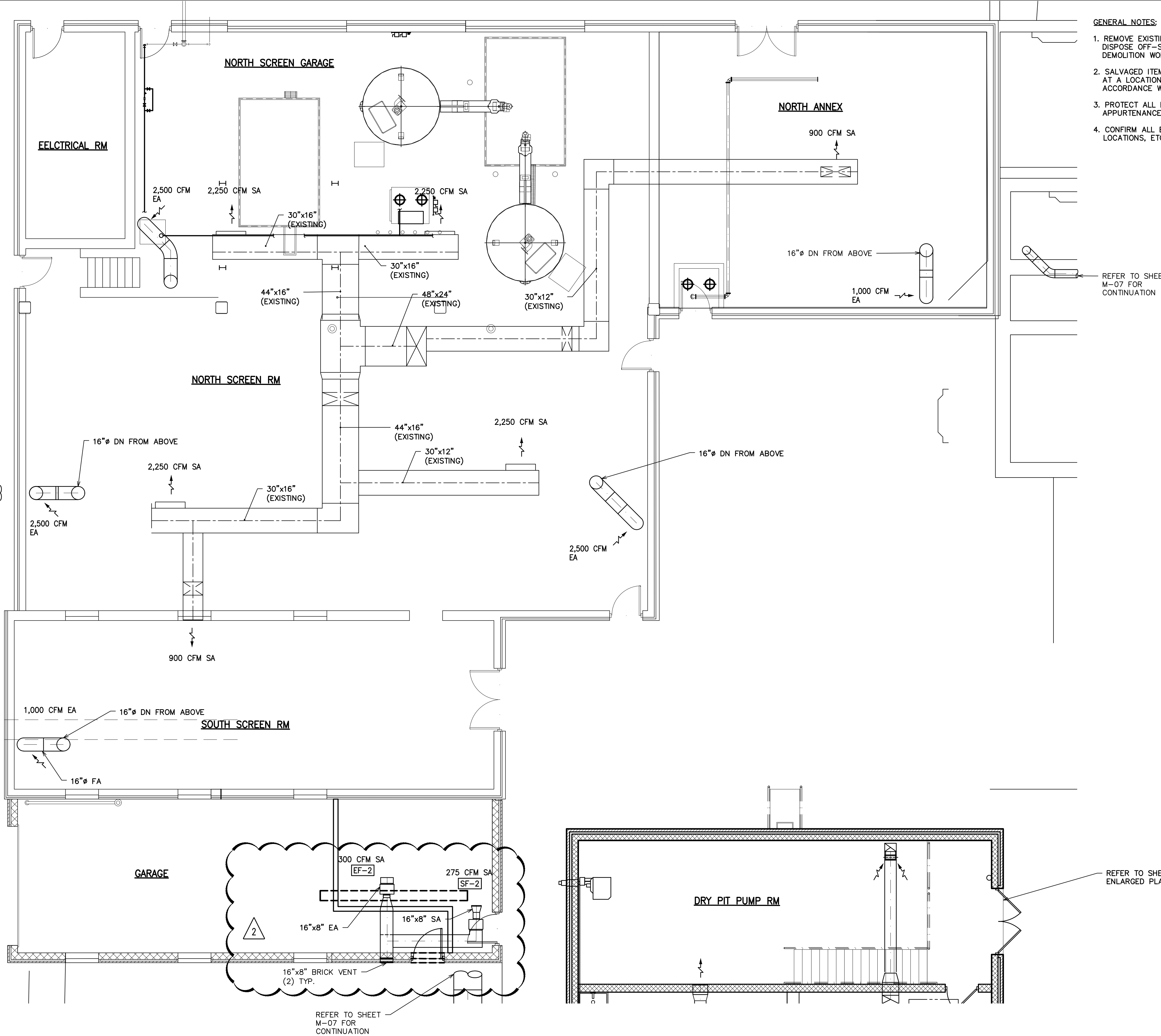
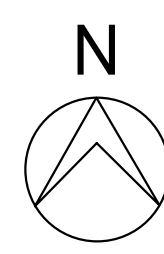


**CONTROL SYMBOLS**

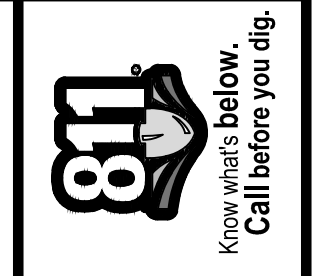
SMOKE DETECTOR	MOTOR OPERATED DAMPER	FLOW SWITCH
THERMOSTAT	R-RED A-AMBER G-GREEN B-BLUE W-WHITE	DIFFERENTIAL PRESSURE SWITCH
HAND-OFF-REMOTE	BACKDRAFT DAMPER	DIFFERENTIAL PRESSURE TRANSMITTER
ELECTRIC HEAT COIL	ALARM HORN	PRESSURE SWITCH - LOW
	ALARM LIGHT	PRESSURE SWITCH - HIGH

- NOTES:
- ALL ROOM PRESSURES ARE RELATIVE TO AMBIENT PRESSURE.
  - FOR SEQUENCE OF OPERATION SEE SPECIFICATION 15584.
  - REFER TO SHEET M-05 FOR DETAILS REGARDING DUCTWORK

2



- GENERAL NOTES:**
1. REMOVE EXISTING EQUIPMENT AS INDICATED AND LEGALLY DISPOSE OFF-SITE AS OUTLINED IN SPECIFICATION 02050 – DEMOLITION WORK.
  2. SALVAGED ITEMS SHALL BE CLEANED, STORED, AND PROTECTED AT A LOCATION APPROVED BY THE ENGINEER. SALVAGE ITEMS IN ACCORDANCE WITH SPECIFICATION 02050 – DEMOLITION WORK.
  3. PROTECT ALL EXISTING ISOLATION GATES AND ASSOCIATED APPURTENANCES THROUGHOUT THE ENTIRETY OF CONSTRUCTION.
  4. CONFIRM ALL EXISTING UTILITIES, CONDUIT PIPING, EQUIPMENT LOCATIONS, ETC. PRIOR TO CONSTRUCTION.



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
1-21-2022	ISSUED FOR ADDENDUM NO. 2	1-21-2022		
1-19-2022	ISSUED FOR ADDENDUM NO. 1	1-19-2022		
12-13-2021	ISSUED FOR BIDS SET	12-13-2021		

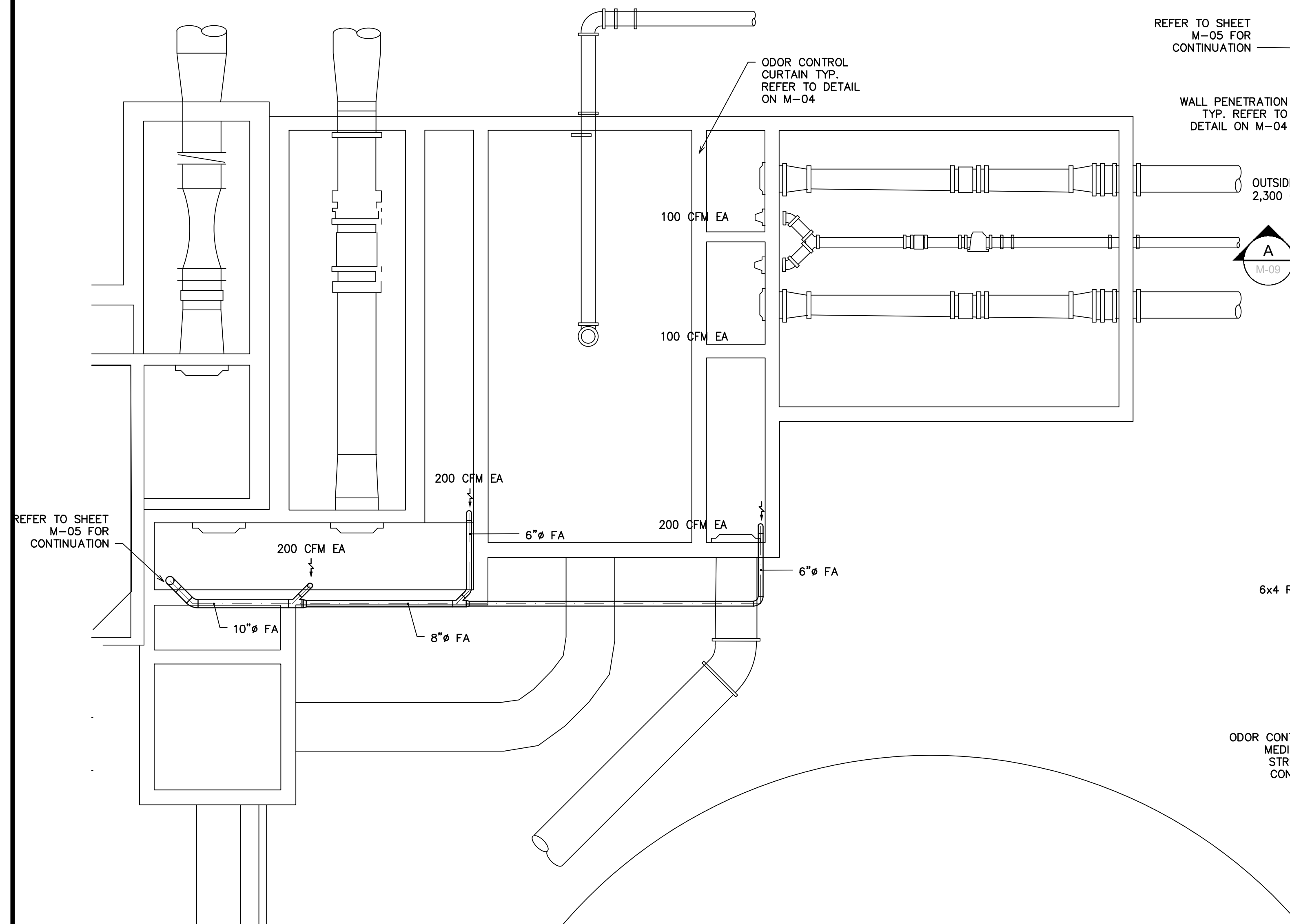
CITY OF ANN ARBOR  
 PUBLIC SERVICES  
 301 EAST HURON STREET  
 P.O. BOX 8647  
 ANN ARBOR MI 48107-8647  
 ANN ARBOR MI 48107-8647  
 www.aagov.org

**PROJECT MANAGEMENT - CITY OF ANN ARBOR**  
**PUBLIC SERVICES - IMPROVEMENTS PROJECT**  
**HEADWORKS PLAN OF ODOR CONTROL OVERALL**

SCALE: 3/16" = 1'-0"  
 DRAWING No. 609  
 SHEET No. **M-05**

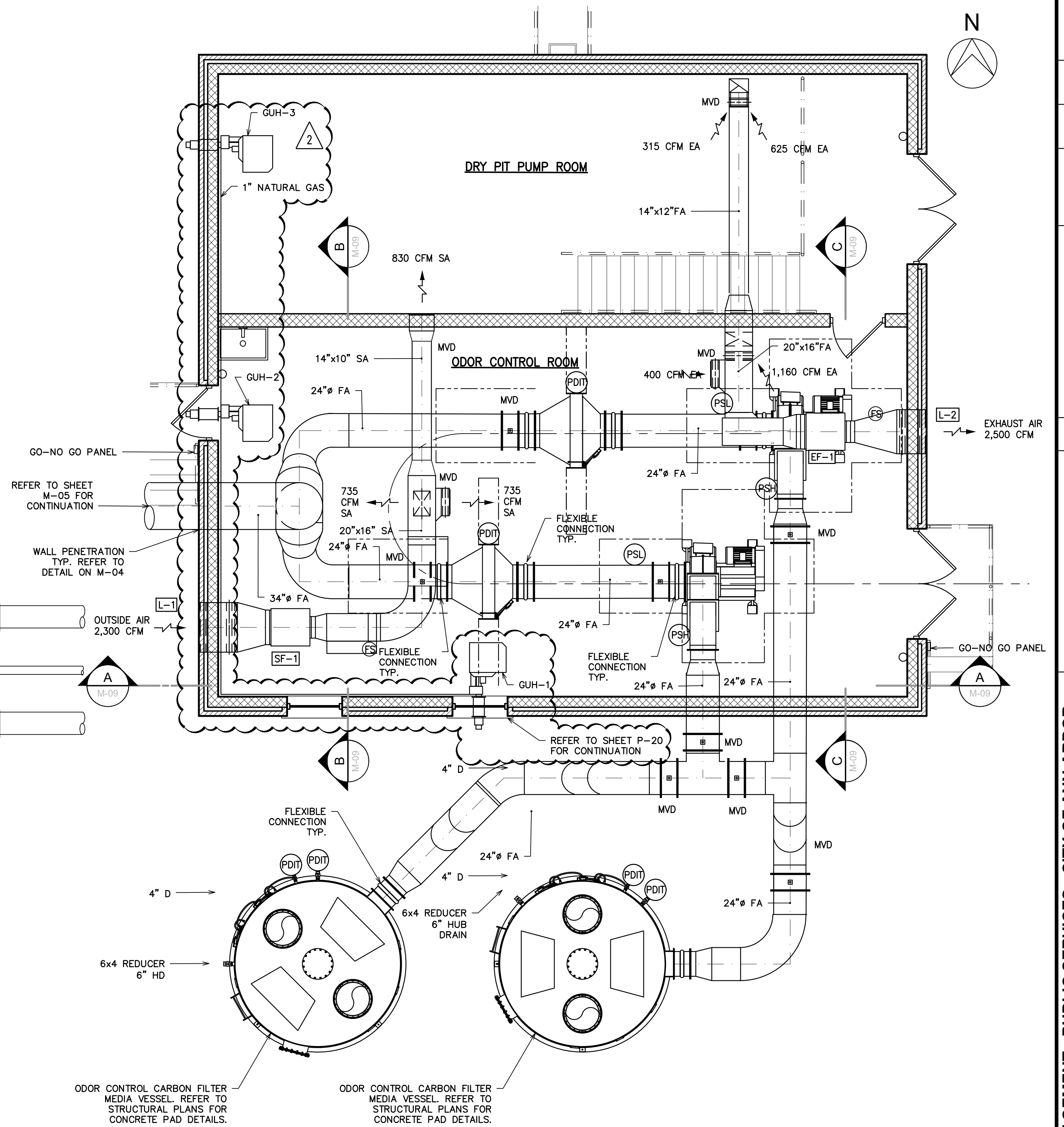
**ODOR CONTROL OVERALL PLAN @ EL 732.0**  
 SCALE: 3/16" = 1'-0"

- NOTES:
1. SLOPE DUCTWORK CONTINUOUSLY AT  $\frac{1}{16}$ " PER FOOT TOWARDS CFMES.
  2. COORDINATE DUCT ELEVATIONS WITH EQUIPMENT CONNECTIONS.
  3. MANUFACTURER - SUPPLIED EQUIPMENT MAY VARY DEPENDING ON EQUIPMENT PROVIDED. EQUIPMENT SHALL BE LOCATED IN GENERAL AREA AS SHOWN. INSTRUMENTS SHALL BE POWERED FROM THE VENDOR SUPPLIED CONTROL PANEL.
  4. PROVIDE A MINIMUM OF 4'-0" CLEAR IN FRONT OF CONTROL PANELS.
  5. REFER TO STRUCTURAL DRAWINGS FOR DUCT SUPPORT DETAILS.



**ODOR CONTROL INFLUENT FLOW SPLITTER PLAN @ EL 732.0**


SCALE: 1/8" = 1'-0"



**ODOR CONTROL ROOM PLAN @ EL 741.0**


SCALE: 1/4" = 1'-0"

2



Know what's below.  
Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
1	ISSUED FOR ADDENDUM NO. 2	1-21-2022		
2	ISSUED FOR ADDENDUM NO. 1	1-19-2022		
3	ISSUED FOR BIDS SET	12-13-2021		



**CITY OF ANN ARBOR**  
PUBLIC SERVICES  
301 E. BOYLSTON STREET  
ANN ARBOR, MI 48107-8847  
734-769-4510  
www.a2gov.org

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**HEADWORKS IMPROVEMENTS PROJECT**  
MISC PLANS AT EL 732.0

SCALE	VARIIES	SHEET
SHEET No.	DRAWING No.	#
<b>M-07</b>		



NEW DISTRIBUTION PANEL "DP-C" SCHEDULE							
480V., 3PH., 3 W., 400 AMP. MAIN AND GROUND BUS							
POS. No.	NAMEPLATE ENGRAVING * DESCRIPTION	DESIG.	CONN. LOAD	CONN. AMPS	OVERCURRENT PROTECTION BRKR TRIP POLES	WIRE AND CONDUIT	REMARKS
C-2	LIGHTING PANEL LP-C		30KVA	36A	80A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
C-3	SLUICE GATE NO. 3		1.5HP	3A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
C-4	ACTUATOR F-8-1, F-8-2			3A	20A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
C-5	SLUICE GATE NO. 4		1.5HP	3A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
C-6	NORTH GRIT SUMP PUMPS		2HP	3.4A	20A 3	3-#12 + #12 GRD., 3/4"C.	
C-7	SOUTH GARAGE SUMP PUMPS		2HP	3.4A	20A 3	3-#12 + #12 GRD., 3/4"C.	
C-8	RSLSE BUILDING ATS				150A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
C-9	S. GARAGE DOOR OPERATOR		1/3HP	1A	15A 3	3-#12 + #12 GRD., 3/4"C.	
C-10	N. GARAGE W. DOOR OPERATOR		1/3HP	1A	30A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
C-11	WELDER RECEPTACLE				30A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
C-12	ACTUATOR F-8-5		1.5HP	3A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
C-13	SCREEN NO. 1 CONTROL PANEL			6A	30A 3	3-#10 + #10 GRD., 3/4"C.	
C-14	SCREEN NO. 2 CONTROL PANEL			6A	30A 3	3-#10 + #10 GRD., 3/4"C.	
C-15	GRIT REMOVAL SYSTEM NO. 1 CONTROL PANEL			35A	50A 3	3-#8 + #10 GRD., 1"C.	
C-16	ODOR CONTROL DISTRIBUTION PANEL DP-E		97.4A		200A 3	3-3/0 + #6 GRD., 2"C.	
C-17	NORTH GRIT TANKS DOOR OPERATOR		3HP	4.8A	20A 3	3-#12 + #12 GRD., 3/4"C.	
C-18	NORTH GRIT TANKS HOIST		5HP	7.6A	15A 3	3-#12 + #12 GRD., 3/4"C.	
C-19	SPARE				30A 3		
C-20	SPARE				30A 3		
C-21	BUSSED SPACE						
TOTAL CONNECTED LOAD				213.6A			

NEW DISTRIBUTION PANEL "DP-E" SCHEDULE							
480V., 3PH., 3 W., 200 AMP. MAIN AND GROUND BUS							
POS. No.	NAMEPLATE ENGRAVING * DESCRIPTION	DESIG.	CONN. LOAD	CONN. AMPS	OVERCURRENT PROTECTION BRKR TRIP POLES	WIRE AND CONDUIT	REMARKS
E-2	LIGHTING TRANSFORMER LT-E		15KVA	18A	30A 3	3-#10 + #10 GRD., 3/4"C.	
E-3	ODOR CONTROL PANEL NO. 1		20HP	27A	40A 3	3-#8 + #10 GRD., 3/4"C.	
E-4	ODOR CONTROL PANEL NO. 2		20HP	27A	40A 3	3-#8 + #10 GRD., 3/4"C.	
E-5	EXHAUST FAN EF-1 VFD		1HP	2A	15A 3	3-#12 + #12 GRD., 3/4"C.	
E-6	SUPPLY FAN SF-1 VFD		1HP	2A	15A 3	3-#12 + #12 GRD., 3/4"C.	
E-7	UNIT HEATER UH-1		15KVA	18A	30A 3	3-#10 + #10 GRD., 3/4"C.	
E-8	SOUTH GRIT SUMP PUMPS		2HP	3.4A	20A 3	3-#12 + #12 GRD., 3/4"C.	
E-9	SPARE				30A 3		
E-10	SPARE				30A 3		
TOTAL CONNECTED LOAD				97.4A			

\* SEE NAMEPLATE DETAIL ON DWG. E-12. NAMEPLATES FOR SPARES SHALL BE BLANK.

**GENERAL NOTES:**

- THE CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY CHECK THE FIELD CONDITIONS AND EXISTING ELECTRICAL INSTALLATION AND UTILITIES PRIOR TO A SUBMITTED BID.
- OTHER PROJECTS ARE, OR MAY BE, UNDER CONSTRUCTION AT THIS SITE, AND THIS CONTRACTOR SHALL COORDINATE WITH THEM SO AS NOT TO DELAY THEIR SCHEDULES OR IMPEDE THEIR WORK.
- COORDINATE ALL UNDERGROUND WORK WITH NEW AND EXISTING UNDERGROUND UTILITIES BEFORE INSTALLATION. CALL MISS DIG 1-800-482-7171, 72 HOURS BEFORE ANY UNDERGROUND WORK IS DONE.
- ALL ELECTRICAL WORK SHALL COMPLY WITH N.E.C., AND THE CITY OF ANN ARBOR LOCAL CODES, ORDINANCES, AND REGULATIONS INCLUDING MIOSHA.
- ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A 1/4" DIA. POLYPROPYLENE FISHLINE.
- ALL DIRECT BURIED CONDUITS SHALL BE 30" BELOW GRADE (MIN.); AND SHALL SLOPE MINIMUM 3" PER 100' TO STRUCTURES.
- ALL DIRECT BURIAL CONDUIT SHALL BE RIGID GALVANIZED OR P.V.C. SCH. 40.
- ALL EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL, INSTALLED WITH WATER-TIGHT CONDUIT FITTINGS. EXPANSION FITTINGS SHALL BE PROVIDED AT ALL TRANSITIONS FROM UNDERGROUND TO EXPOSED CONDUIT.
- ALL UNDERGROUND CONDUITS SHALL BE P.V.C. EXCEPT WHERE ENTERING STRUCTURES. UNDERGROUND CONDUITS SHALL BE RIGID GALVANIZED STEEL WITHIN 5'-0" OF THE STRUCTURE.
- IN THE AREA WHERE ELECTRICAL WORK DISTURBS EXISTING SOD, GROUND SHALL BE RE-GRADED AS REQUIRED AND SOD SHALL BE REPAIRED OR REPLACED, AS REQUIRED, TO RETURN THE SITE TO A CONDITION MEETING OR EXCEEDING THAT PRIOR TO THE BEGINNING OF WORK.
- IN AREAS WITH EXISTING TRESS, THE CONTRACTOR SHALL CAREFULLY EXCAVATE THE CONDUIT RUNS SO AS NOT TO DAMAGE MAIN ROOTS OF TREES. DO NOT CUT OR REMOVE MAIN ROOTS OF TREES, BUT RUN CONDUIT AROUND ROOTS AS MAY BE REQUIRED BY FIELD CONDITIONS.
- GROUND CONDUCTOR SPLICING AND BONDING SHALL BE ACCOMPLISHED BY THE USE OF EXOTHERMIC WELDING.
- PROVIDE A GREEN GROUND CONDUCTOR IN ALL SYSTEM CONDUITS, EXCEPT INSTRUMENT SIGNAL AND ALARM CONDUITS. INCLUDING BRANCH CIRCUIT CONDUITS FOR LIGHTING AND RECEPTACLES. GROUND CONDUCTOR SIZING SHALL BE PER N.E.C. TABLE 250.122 (MINIMUM) WHERE NOT SIZED ON THE DRAWINGS.
- ALL EQUIPMENT SUPPORT PADS (PRECAST & POURED-IN-PLACE) SHALL BE INSTALLED WITH TOP OF PAD 4" MIN. ABOVE FINISHED GRADE/FLOOR.
- ALL THREADED ELECTRICAL EQUIPMENT (CONDUIT, FITTINGS, BOLTS, SCREWS, ETC.) INSTALLED OUTDOORS SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.
- THE EXACT HEIGHT, WIDTH AND DEPTH OF EQUIPMENT SUPPORT RACKS SHALL BE DETERMINED BY SIZE AND NUMBER OF ELECTRICAL DEVICES MOUNTED UPON IT.
- CONTRACTOR SHALL PROVIDE NAMEPLATES ON ALL DEVICES ON ALL NEW ELECTRICAL EQUIPMENT ENCLOSURES. NAMEPLATES SHALL BE WHITE LAMINATED PLASTIC WITH 1/8" HIGH (MINIMUM) BLOCK LETTERS ENGRAVED TO A BLACK CORE, AND SHALL BE ATTACHED WITH CORROSION-RESISTANT SCREWS.
- ALL WEATHERPROOF (W.P.) DUPLEX RECEPTACLES SHALL BE INSTALLED SUCH THAT COVER DOORS OPEN UPWARD.
- ALL SALVAGED MATERIALS SHALL BE TURNED OVER TO THE OWNER OR DISPOSED OF AS DIRECTED BY THE OWNER.
- HAND DIG WHERE REQUIRED TO LOCATE EXISTING UTILITIES PRIOR TO INSTALLATION OF DIRECT BURIAL CONDUIT.

NEW DISTRIBUTION PANEL "DP-D" SCHEDULE							
480V., 3PH., 3 W., 400 AMP. MAIN AND GROUND BUS							
POS. No.	NAMEPLATE ENGRAVING * DESCRIPTION	DESIG.	CONN. LOAD	CONN. AMPS	OVERCURRENT PROTECTION BRKR TRIP POLES	WIRE AND CONDUIT	REMARKS
D-2	LIGHTING PANEL LP-D		30KVA	36A	80A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-3	EAST PLANT FLOW CONTROL VALVE		1/2HP	1.1A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-4	LOWER ALCOVE SUMP PUMPS		2HP	3.4A	20A 3	3-#12 + #12 GRD., 3/4"C.	
D-5	NORTH DUMPSTER SUMP PUMPS		2HP	3.4A	20A 3	3-#12 + #12 GRD., 3/4"C.	
D-6	ACTUATOR F-6-4, F-7-1, F-8-6		1.5HP	3A	20A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-7	N. GARAGE EAST DOOR OPERATOR		1HP	2.1A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-8	WELDER RECEPTACLE				30A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-9	HOIST		5.25HP	8A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-10	ACTUATOR F-3-1		1.5HP	3A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-11	ACTUATOR F-5-1		1.5HP	3A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-12	ACTUATOR F-5-2		1.5HP	3A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-13	ACTUATOR F-6-1		1.5HP	3A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-14	ACTUATOR F-6-2		1.5HP	3A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-15	ACTUATOR F-6-3		1.5HP	3A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-16	SLUICE GATE NO. 5		1.5HP	3A	15A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-17	HEAT RECOVERY UNIT HR-1		25KVA	30A	40A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-18	RSLSE BUILDING ATS				150A 3	RECONNECT EXISTING, SPLICE AND EXTEND AS REQUIRED	
D-19	SCREEN NO. 3 CONTROL PANEL			6A	30A 3	3-#10 + #10 GRD., 3/4"C.	
D-20	GRIT REMOVAL SYSTEM NO. 2 CONTROL PANEL			62A	80A 3	3-#4 + #8 GRD., 1 1/4"C.	
D-21	MAKE-UP AIR UNIT MAU-1		5HP	9.6A	15A 3	3-#12 + #12 GRD., 3/4"C.	
D-22	SOUTH GRIT TANKS HOIST		5HP	7.6A	15A 3	3-#12 + #12 GRD., 3/4"C.	
D-23	SPARE				30A 3		
D-24	BUSSED SPACE						
TOTAL CONNECTED LOAD				193.2A			

NEW LIGHTING PANEL "LP-E" SCHEDULE					
120/208 V., 3PH., 4W., WITH 60 AMP. MAIN BREAKER, NEUTRAL BUS, & GRD. BUS					
CIRC. NO.	BRKR. SIZE	ITEM SERVED	LOAD (WATTS)		
			ØX	ØY	ØZ
1	20A	ODOR CONTROL GAS MONITORING PANEL	500		
3	20A	DIFFERENTIAL PRESSURE PANEL		500	
5	20A	ODOR CONTROL SUMP PUMP CONTROL PANEL			500
7	20A	SOUTH GARAGE ELECTRICAL ROOM RECEPTACLES	540		
9	20A	SOUTH GARAGE OVER DOOR LIGHTING		24	
11	20A	SOUTH GARAGE ELECTRICAL ROOM LIGHTING & NORTH AND SOUTH GIRT TANKS DOOR EXIT LIGHTING			126
13	20A	SUPPLY FAN SF-2	187		
15	20A	SPARE			
17	20A	SPARE			
19		SPACE			
21		SPACE			
23		SPACE			
25		SPACE			
27		SPACE			
29		SPACE			
2	20A	ODOR CONTROL BUILDING OVER DOOR LIGHTING	36		
4	20A	ODOR CONTROL DRY PIT LIGHTING		629	
6	20A	ODOR CONTROL ROOM LIGHTING & EXIT LIGHTING			681
8	20A	ODOR CONTROL BUILDING WATER HEATER	480		
10	20A	EXHAUST FAN EF-2		187	
12	20A	SPARE			
14	20A	SPARE			
16		SPACE			
18		SPACE			
20		SPACE			
22		SPACE			
24		SPACE			
26		SPACE			
28		SPACE			
30		SPACE			
TOTAL CONNECTED LOAD			1743	1340	1307



ISSUED FOR ADDENDUM NO. 2	1-21-2022	DATE
ISSUED FOR BIDS SET	12-13-2021	DATE
DESCRIPTION		
REV.		

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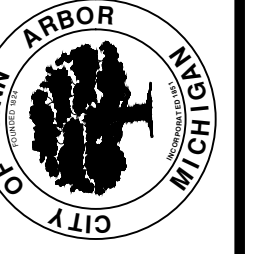


PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
HEADWORKS IMPROVEMENTS PROJECT  
ELECTRICAL SCHEDULES



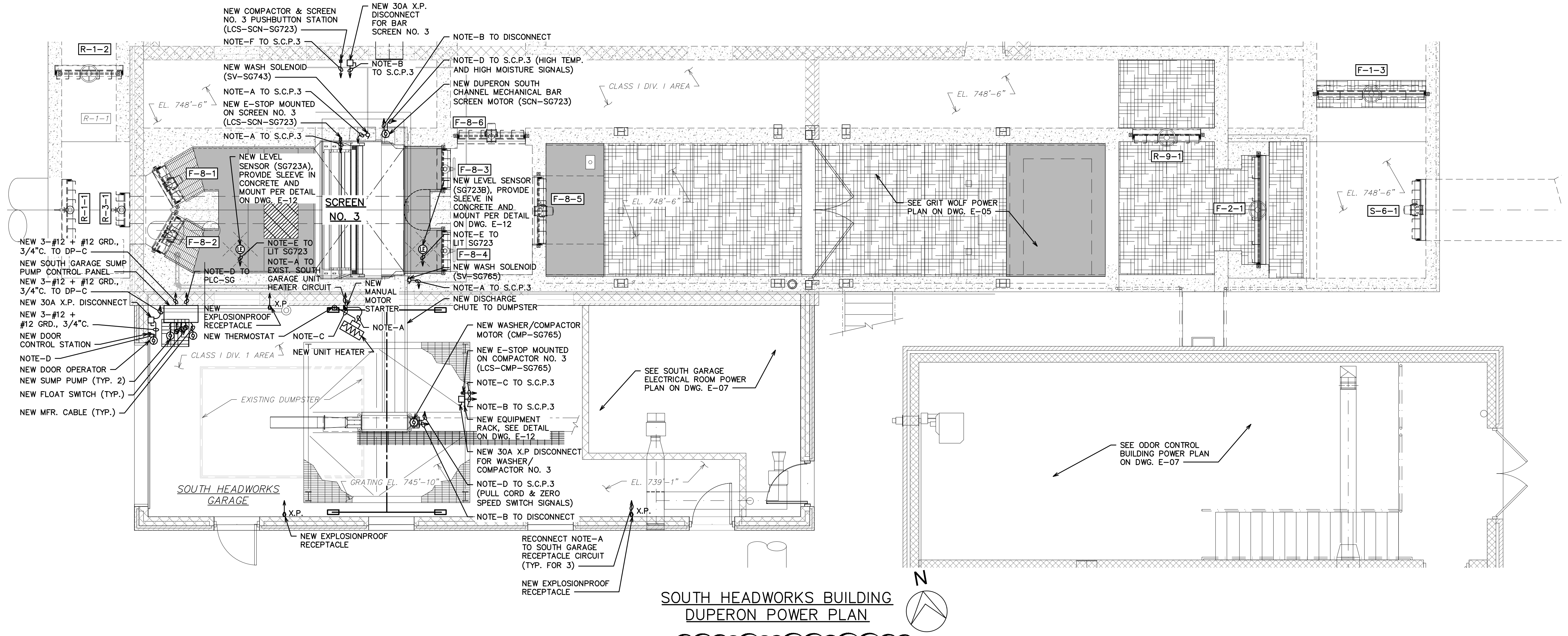
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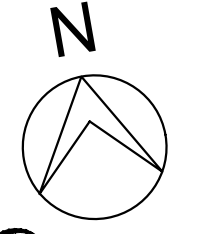
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
HEADWORKS IMPROVEMENTS PROJECT  
SOUTH HEADWORKS BUILDING  
DUPERON POWER PLAN

SHEET No. E-04A



**SOUTH HEADWORKS BUILDING  
DUPERON POWER PLAN**

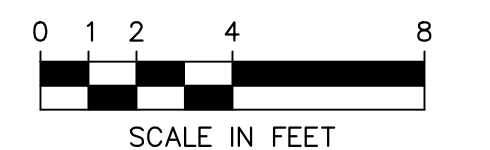
ALL EQUIPMENT SHALL BE EXPLOSIONPROOF, RATED CLASS 1 DIVISION 1 ON THIS DRAWING. INSTALL EQUIPMENT, WIRE, CONDUIT, AND SEAL-OFF FITTINGS PER NEC REQUIREMENTS FOR CLASSIFIED AREAS.



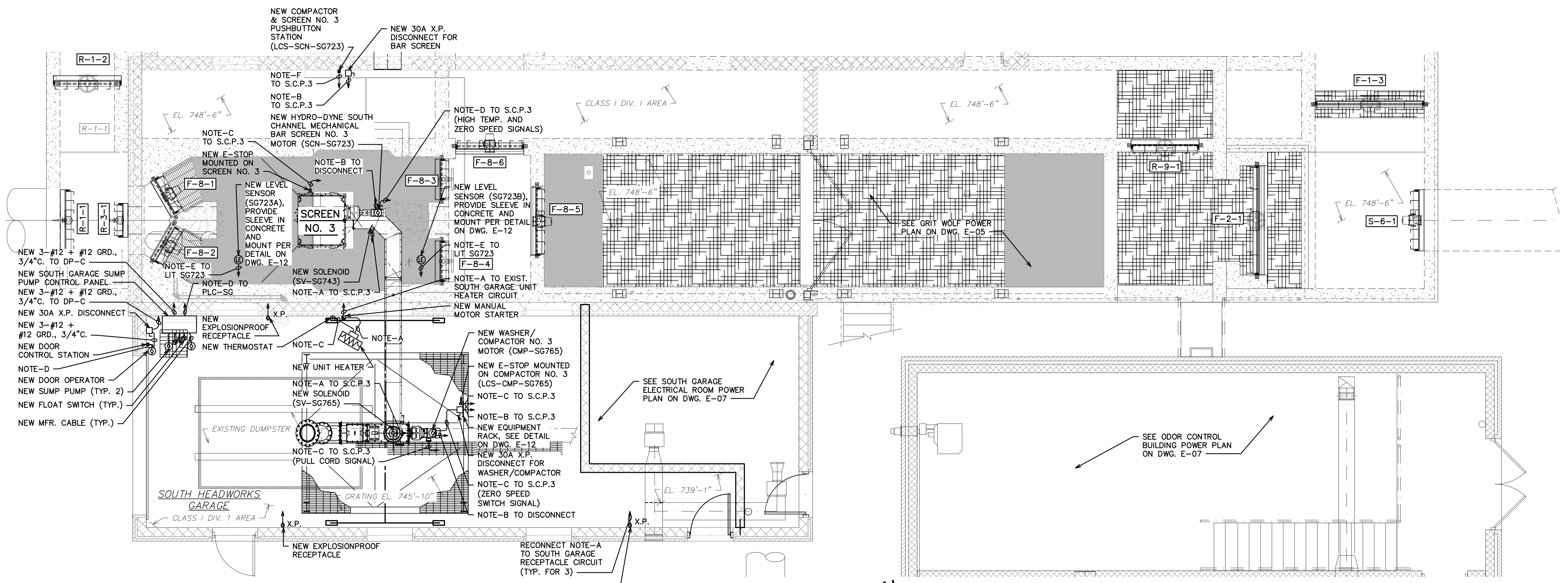
CONDUIT CLASSIFICATION	
1. CONDUIT SHALL BE PVC COATED RIGID GALVANIZED STEEL FOR CLASS 1 DIV. 1 AREAS.	4. CONDUIT SHALL BE PVC SCHEDULE 40 WHERE RUN UNDERGROUND.
2. EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL FOR UNCLASSIFIED AREAS.	5. CONDUIT MAY BE EXPLOSIONPROOF FLEXIBLE CONDUIT WITHIN 3' AND UP TO EQUIPMENT IN CLASSIFIED AREAS. CONNECTIONS SHALL BE MADE WITH EXPLOSIONPROOF FLEXIBLE CONDUIT COUPLINGS.
3. CONDUIT MAY BE LIQUIDTIGHT FLEXIBLE METAL CONDUIT FOR CONNECTIONS TO EQUIPMENT WITHIN 3' AND UP TO EQUIPMENT IN UNCLASSIFIED AREAS.	

**PLAN NOTES:**

- A. NEW 2-#12 + #12 GRD., 3/4"C.
- B. NEW 3-#12 + #12 GRD., 1"C. (SHIELDED VFD CABLE)
- C. NEW 2-#14, 3/4"C.
- D. NEW 4-#14, 3/4"C.
- E. NEW 1PR. #18 SHLD., 3/4"C.
- F. NEW 11-#14, 3/4"C.
- G. NEW CAT6 CABLE, 3/4"C.
- H. NEW 3PR. #18 SHLD., 3/4"C.
- I. NEW 13-#14, 3/4"C.
- J. NEW 3-#8 + #10 GRD., 1 1/2"C. (SHIELDED VFD CABLE)

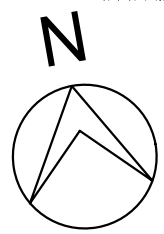


FOR TRUE SCALE PLOT THIS SHEET TO 34" X 22" PAPER SIZE



**SOUTH HEADWORKS BUILDING  
HYDRO-DYNE POWER PLAN**

ALL EQUIPMENT SHALL BE EXPLOSIONPROOF, RATED CLASS 1 DIVISION 1 ON THIS DRAWING. INSTALL EQUIPMENT, WIRE, CONDUIT, AND SEAL-OFF FITTINGS PER NEC REQUIREMENTS FOR CLASSIFIED AREAS.

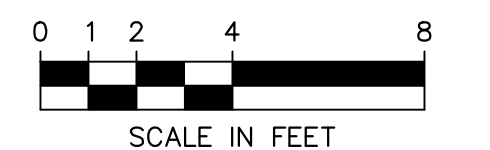


**CONDUIT CLASSIFICATION**

- |  |  |
|--|--|
| 1. CONDUIT SHALL BE PVC COATED RIGID GALVANIZED STEEL FOR CLASS 1 DIV. 1 AREAS.  | 4. CONDUIT SHALL BE PVC SCHEDULE 40 WHERE RUN UNDERGROUND.   |
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**PLAN NOTES:**

- |  |   |
|--|---|
| A. NEW 2-#12 + #12 GRD., 3/4"C.                    | F. NEW 11-#14, 3/4"C.                                 |
| B. NEW 3-#12 + #12 GRD., 1"C. (SHIELDED VFD CABLE) | G. NEW CAT6 CABLE, 3/4"C.                             |
| C. NEW 2-#14, 3/4"C.                               | H. NEW 3PR. #18 SHLD., 3/4"C.                         |
| D. NEW 4-#14, 3/4"C.                               | I. NEW 13-#14, 3/4"C.                                 |
| E. NEW 1PR. #18 SHLD., 3/4"C.                      | J. NEW 3-#8 + #10 GRD., 1 1/2"C. (SHIELDED VFD CABLE) |



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Know what's below. Call before you dig.

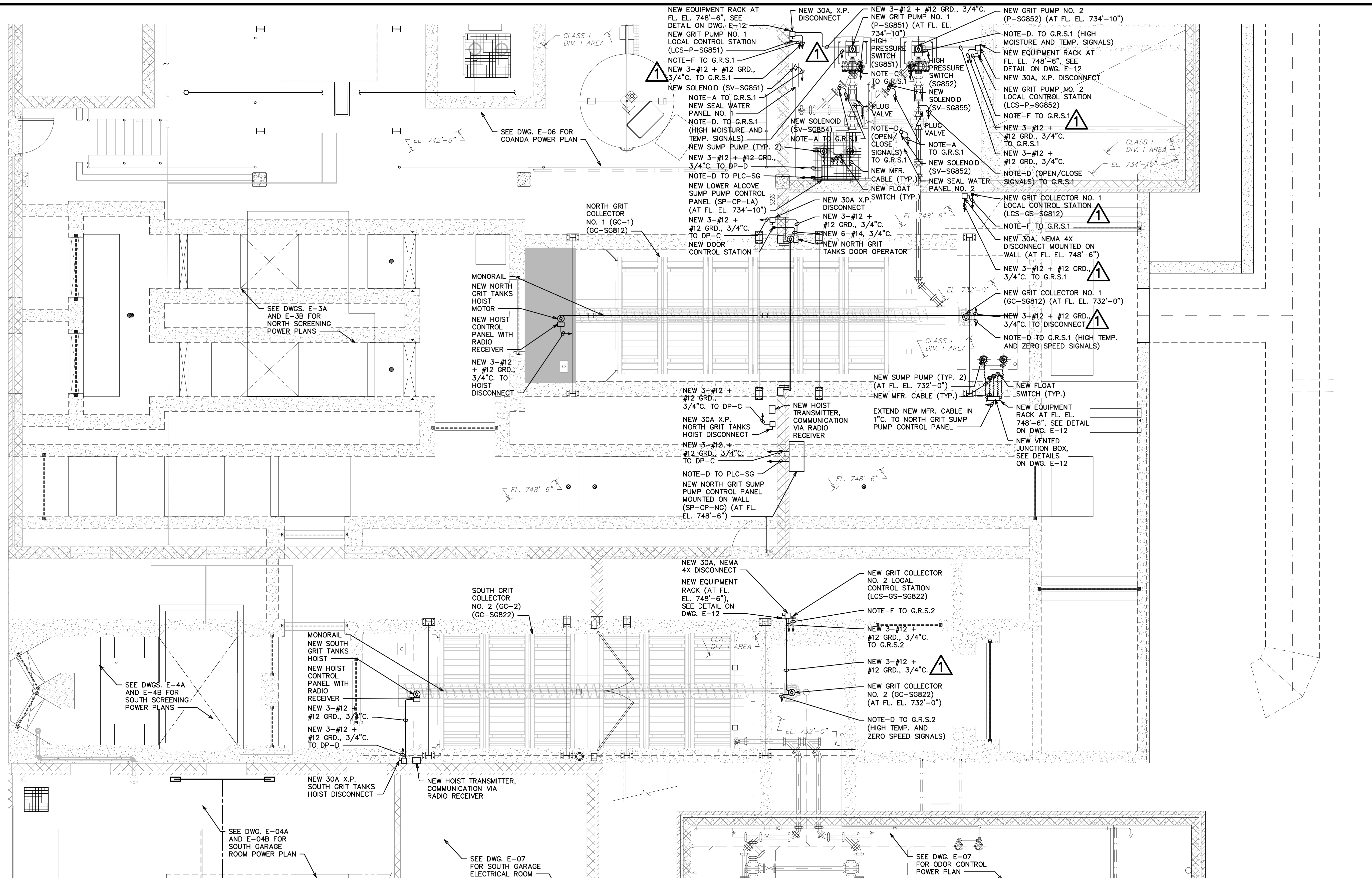
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1-19-2022	ISSUED FOR ADDENDUM NO. 1			
12-13-2021	ISSUED FOR BIDS SET			

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HEADWORKS IMPROVEMENTS PROJECT  
NORTH HEADWORKS BUILDING  
GRIT WOLF & PUMP POWER PLAN

SCALE 1/4" = 1'-0"  
DRAWING NO. 712  
SHEET NO. E-05

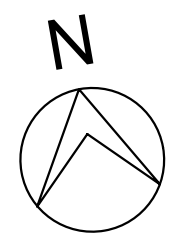


**CONDUIT CLASSIFICATION**

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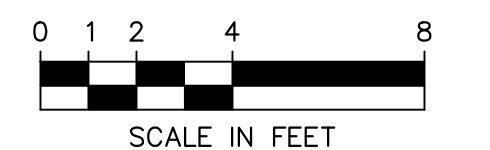
**NORTH HEADWORKS BUILDING  
GRIT WOLF & PUMP POWER PLAN**

ALL EQUIPMENT SHALL BE EXPLOSIONPROOF, RATED CLASS 1 DIVISION 1 ON THIS DRAWING, EXCEPT FOR EQUIPMENT MOUNTED OUTDOORS. INSTALL EQUIPMENT, WIRE, CONDUIT, AND SEAL-OFF FITTINGS PER IFC REQUIREMENTS FOR CLASSIFIED AREAS.



**PLAN NOTES:**

- NEW 2-#12 + #12 GRD., 3/4".
- NEW 3-#12 + #12 GRD., 1". (SHIELDED VFD CABLE)
- NEW 2-#14, 3/4".
- NEW 4-#14, 3/4".
- NEW 1PR. #18 SHLD., 3/4".
- NEW 11-#14, 3/4".
- NEW CAT6 CABLE, 3/4".
- NEW 3PR. #18 SHLD., 3/4".
- NEW 13-#14, 3/4".
- NEW 3-#8 + #10 GRD., 1 1/2". (SHIELDED VFD CABLE)



SCALE IN FEET  
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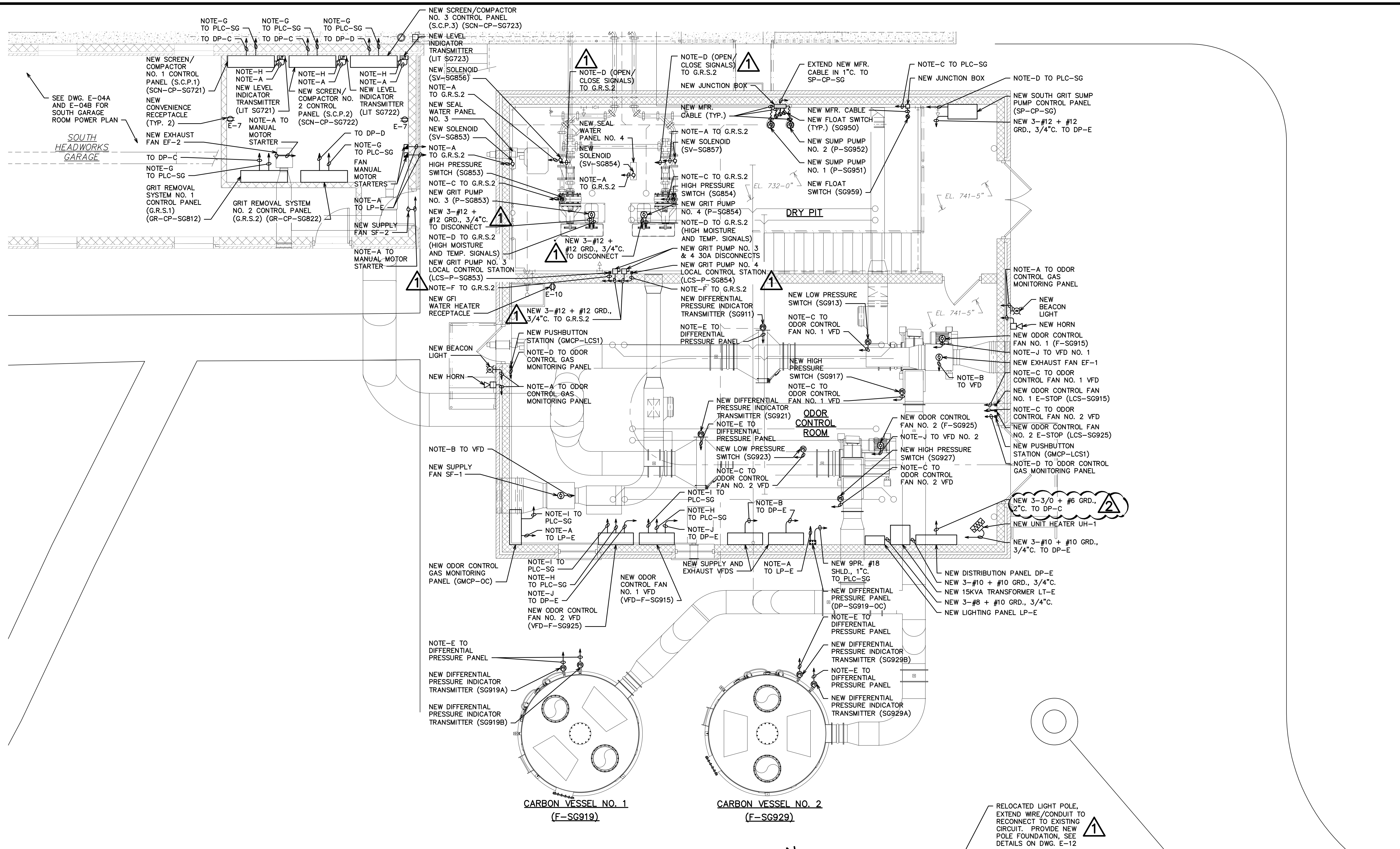
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ISSUED FOR BIDS SET	12-13-2021	DATE	DRAWN	CHECKED
REV.		DESCRIPTION		

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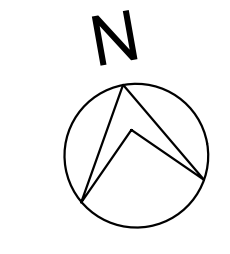
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
HEADWORKS IMPROVEMENTS PROJECT  
ODOR CONTROL BUILDING  
POWER PLAN

SHEET No. E-07



CONDUIT CLASSIFICATION	
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3. CONDUIT MAY BE LIQUIDTIGHT FLEXIBLE METAL CONDUIT FOR CONNECTIONS TO EQUIPMENT WITHIN 3' AND UP TO EQUIPMENT IN UNCLASSIFIED AREAS.	

ODOR CONTROL BUILDING  
POWER PLAN

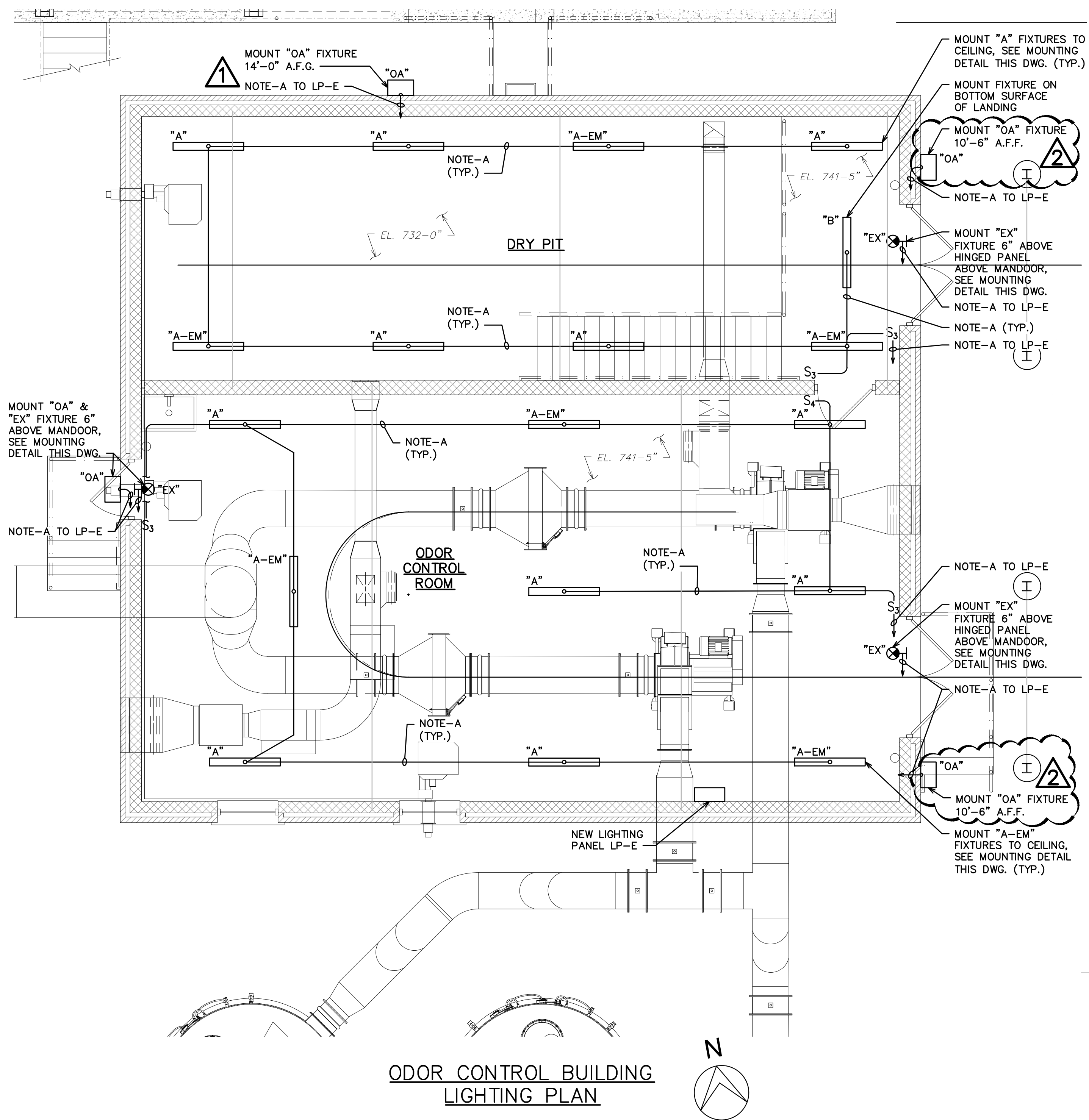


PLAN NOTES:

- A. NEW 2-#12 + #12 GRD., 3/4"C.
- B. NEW 3-#12 + #12 GRD., 1"C. (SHIELDED VFD CABLE)
- C. NEW 2-#14, 3/4"C.
- D. NEW 4-#14, 3/4"C.
- E. NEW 1PR. #18 SHLD., 3/4"C.
- F. NEW 11-#14, 3/4"C.
- G. NEW CAT6 CABLE, 3/4"C.
- H. NEW 3PR. #18 SHLD., 3/4"C.
- I. NEW 13-#14, 3/4"C.
- J. NEW 3-#8 + #10 GRD., 1 1/2"C. (SHIELDED VFD CABLE)



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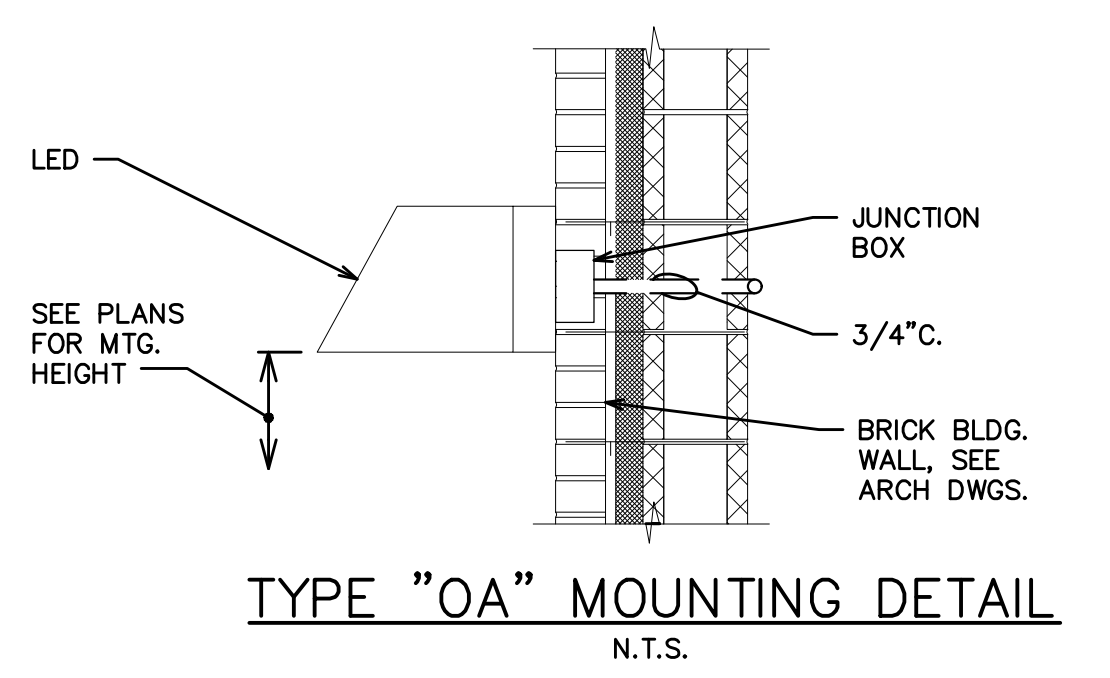
**ODOR CONTROL BUILDING LIGHTING PLAN**

**BASIS OF DESIGN**

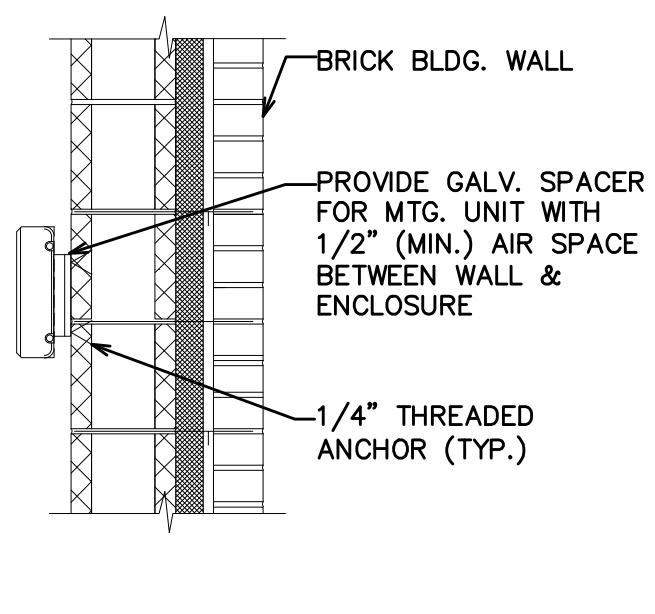
THIS LIGHTING PLAN WAS DESIGNED USING AGI32 VERSION 19.15.2. LIGHTING LEVELS HAVE BEEN DETERMINED FROM IES RECOMMENDATIONS. LIGHTING LEVELS AT FINISHED FLOOR LEVEL FOR THE DRY PIT AND ODOR CONTROL ROOM SHALL BE 30.0 FOOTCANDLES AVERAGE ±3.0 FOOTCANDLES. THIS LIGHTING PLAN IS BASED UPON THE SPECIFIED LIGHT FIXTURES ON THIS DRAWING. OTHER FIXTURES ARE ACCEPTABLE UPON SUBMITTAL OF A PHOTOMETRIC PLAN MATCHING THE LIGHTING LEVELS SPECIFIED ABOVE, MEETING SPECIFICATION REQUIREMENTS AS SHOWN ON THIS DRAWING, AND ENGINEER'S APPROVAL.

**CONDUIT CLASSIFICATION**

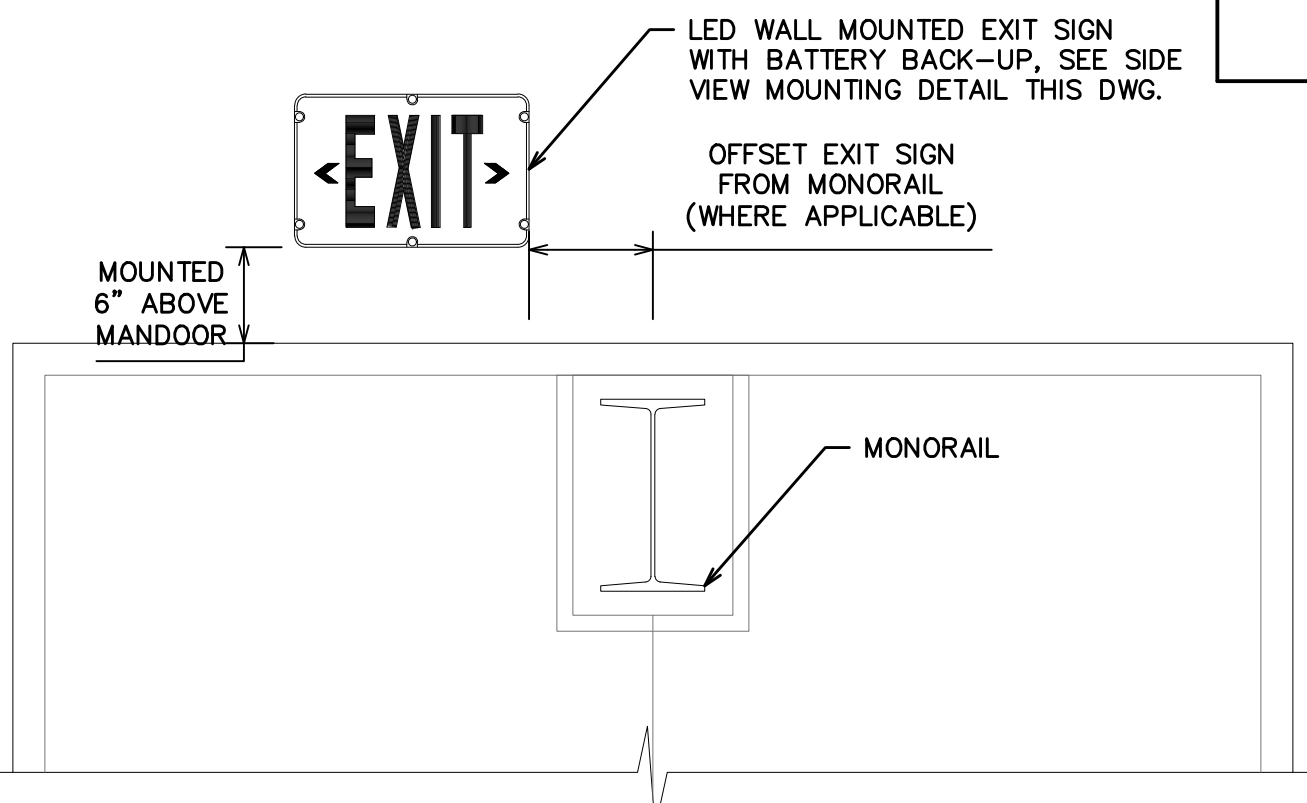
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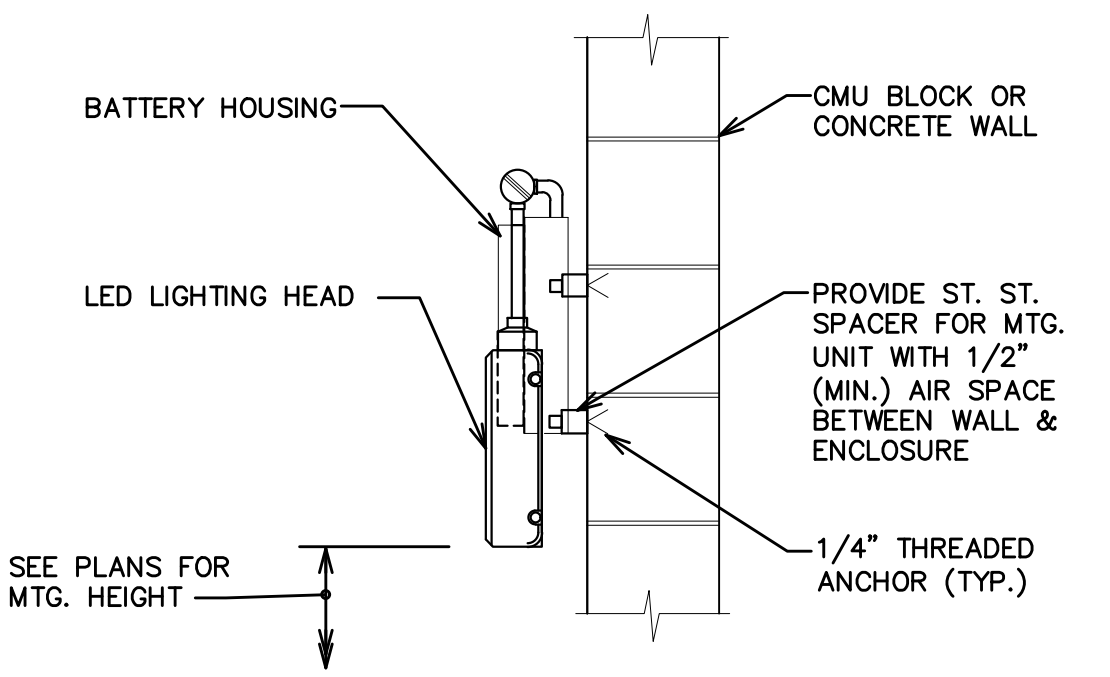
**TYPE "OA" MOUNTING DETAIL**  
N.T.S.



**EXIT LGT. FIXTURE TYPE "EX" SIDE-VIEW MOUNTING DETAIL**  
N.T.S.

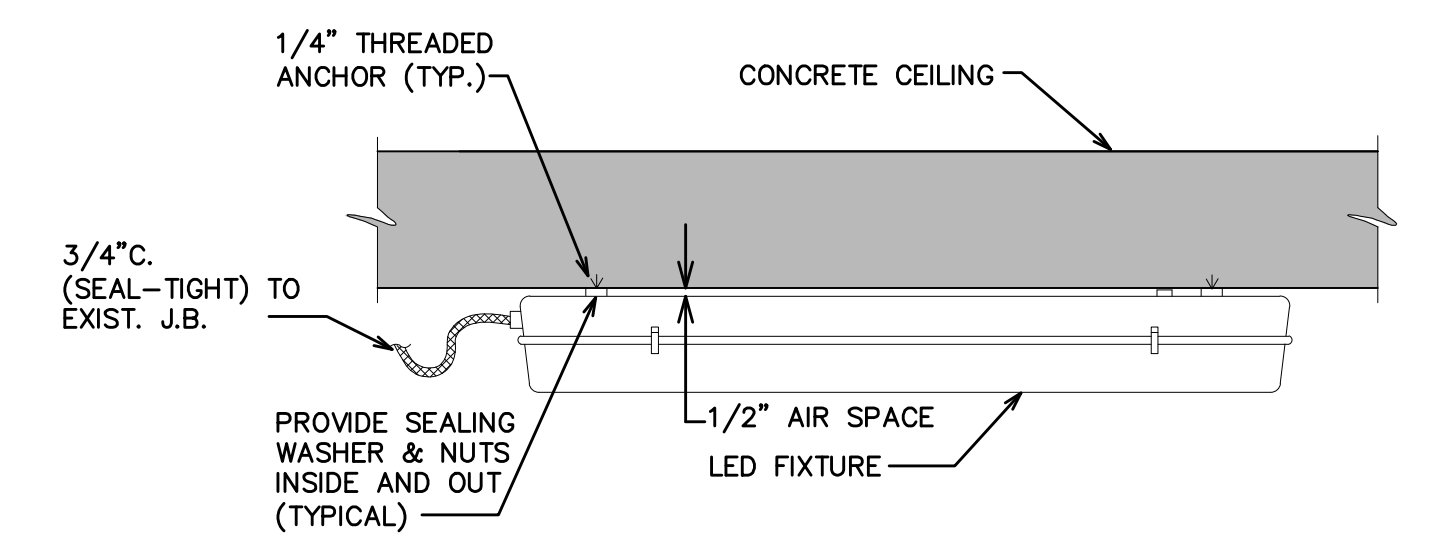


**EXIT LGT. FIXTURE TYPE "EX" FRONT-VIEW MOUNTING DETAIL**  
N.T.S.  
("EX-XP" FIXTURES MOUNTED SIMILAR WHERE APPLICABLE)

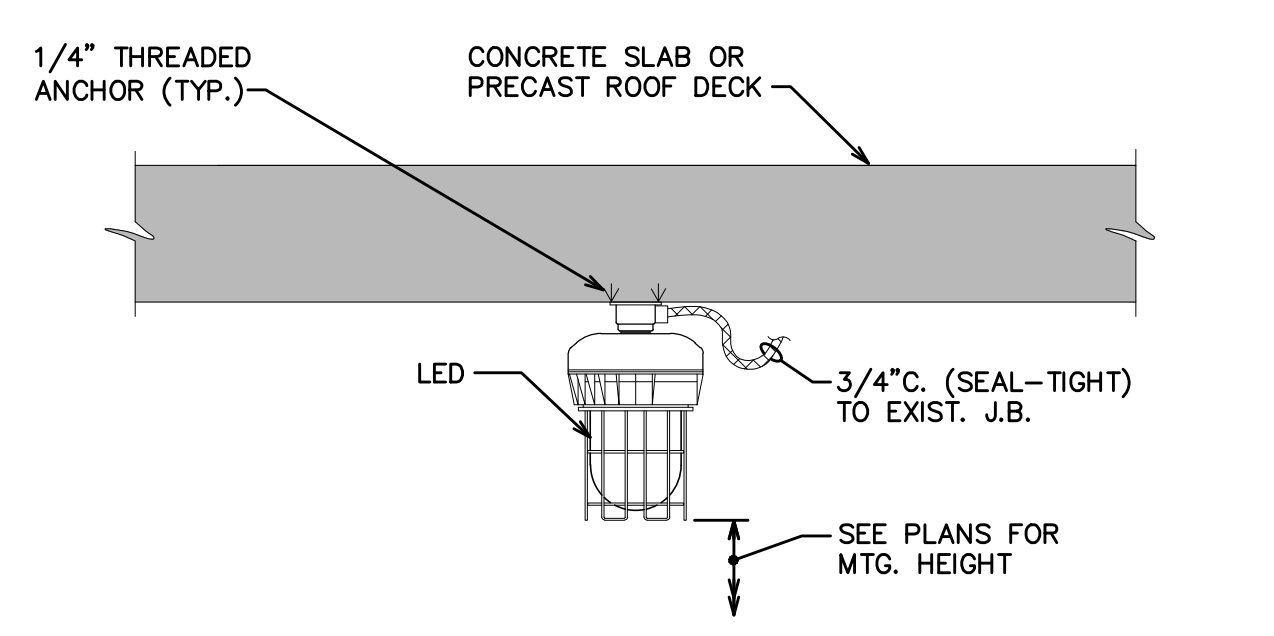


**TYPE "EX-XP" MOUNTING DETAIL**  
N.T.S.

LIGHTING FIXTURE SCHEDULE				
TYPE	LAMP	OPERATING VOLTAGE	DESCRIPTION	MFR. CAT. NO.
"A"	75 WATT 8000 LUMENS LED 4000K	120-277V. 1PH.	LED LOW BAY 4' LINEAR LIGHT FIXTURE WITH 20-GAUGE STEEL FULL-BODY HOUSING. FINISH IS HIGH-GLOSS, BAKED WHITE ENAMEL FINISH. LIGHT DISTRIBUTION HAS 0-60° ZONE WITH DIFFUSE ACRYLIC LENS. DRIVER HAS 0-10V DIMMABLE CONTROLS. LISTED FOR DAMP AND DRY LOCATIONS WITH 5-YEAR LIMITED WARRANTY.	LITHONIA: MSL 8000LM SBL MVOLT GZ10 40K 80CRI WH OR APPROVED EQUAL
"A-EM"	75 WATT 8000 LUMENS LED 4000K	120-277V. 1PH.	SAME AS TYPE "A" EXCEPT PROVIDE 7W EMERGENCY BATTERY PACK.	LITHONIA: MSL 8000LM SBL MVOLT GZ10 40K 80CRI E7W WH OR APPROVED EQUAL
"B"	29 WATT 4000 LUMENS LED 4000K	120-277V. 1PH.	SAME AS FIXTURE "A" EXCEPT 4000 LUMEN LED OUTPUT.	LITHONIA: MSL 4000LM SBL MVOLT GZ10 40K 80CRI WH OR APPROVED EQUAL
"C-XP"	55 WATT 5600 LUMENS LED 5000K	120-277V. 1PH.	LED JELLY JAR SHAPED, BAKED POWER EPOXY/POLYESTER FINISH, STAINLESS STEEL, CEILING-MOUNTED LIGHT FIXTURE. RATED EXPLOSIONPROOF FOR CLASS 1, DIV. 1 LOCATIONS. FIXTURE HAS LENS GUARD.	HUBBELL-KILLARK: EZL5530X2GAN OR APPROVED EQUAL
"OA"	12 WATT 1500 LUMENS LED 4000K	120V-277V. 1PH.	ARCHITECTURAL WALL SCONCE LUMINAIRE, SINGLE-PIECE, DIE CAST ALUMINUM HOUSING, POWDER COAT FINISH, DARK BRONZE, WITH MOUNTING PLATE, IP65 RATED, EMERGENCY 7W BATTERY BACKUP AND 5-YEAR LIMITED WARRANTY INCLUDED.	LITHONIA: WST LED P1 VW 40K MVOLT E7WC DDBXD OR APPROVED EQUAL
"EX"	2.5 WATT	120V. 1PH.	LED WALL MOUNTED EXIT SIGN, MOLDED THERMOPLASTIC HOUSING, RED LETTERING, SNAP IN/OUT CHEVRONS, LONG-LIFE LEDS, ADVANCED DIAGNOSTICS, NICKEL-CADMIUM BATTERY, UL LISTED FOR DAMP LOCATIONS, ROHS COMPLIANT, SURGE SUPPRESSOR, 5 YEAR WARRANTY ON ALL COMPONENTS.	EMERGI-LITE: PREMIER SERIES WPREMSXNDNR OR APPROVED EQUAL
"EX-XP"	3W. LED 6VDC	120V. 1PH.	LED SURFACE MOUNTED, SINGLE SIDED EXIT SIGN, CLASS 1, DIVISION 1 RATED, HEAVY CAST ALUMINUM HOUSING, HEAVY DUTY 20 GAUGE STEEL FACEPLATE WITH BAKED ENAMEL GRAY FINISH FOR EXIT SIGN, 6 INCH RED LETTERING, FIELD SELECTABLE CHEVRONS, LONG-LIFE LEDS, ROHS COMPLIANT, UL LISTED, SUITABLE FOR WET LOCATIONS, ALL STAINLESS STEEL HARDWARE, SURGE SUPPRESSOR, 5 YEAR WARRANTY ON ALL COMPONENTS.	EMERGI-LITE: 6EXC1-TS-T1LR; RIG-A-LITE OR APPROVED EQUAL



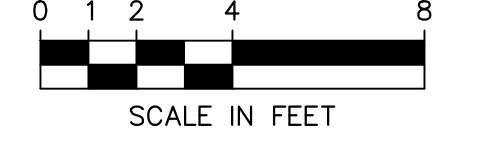
**TYPE "A" MOUNTING DETAIL**  
N.T.S.  
("A-EM" AND "B" FIXTURES MOUNTED SIMILAR)



**TYPE "C-XP" MOUNTING DETAIL**  
N.T.S.

**PLAN NOTES:**

- A. NEW 2-#12 + #12 GRD., 3/4"C.
- B. NEW 3-#12 + #12 GRD., 1"C. (SHIELDED VFD CABLE)
- C. NEW 2-#14, 3/4"C.
- D. NEW 4-#14, 3/4"C.
- E. NEW 1PR. #18 SHLD., 3/4"C.
- F. NEW 11-#14, 3/4"C.
- G. NEW CAT6 CABLE, 3/4"C.
- H. NEW 3PR. #18 SHLD., 3/4"C.
- I. NEW 13-#14, 3/4"C.
- J. NEW 3-#8 + #10 GRD., 1 1/2"C. (SHIELDED VFD CABLE)



**811**  
Know what's below. Call before you dig.

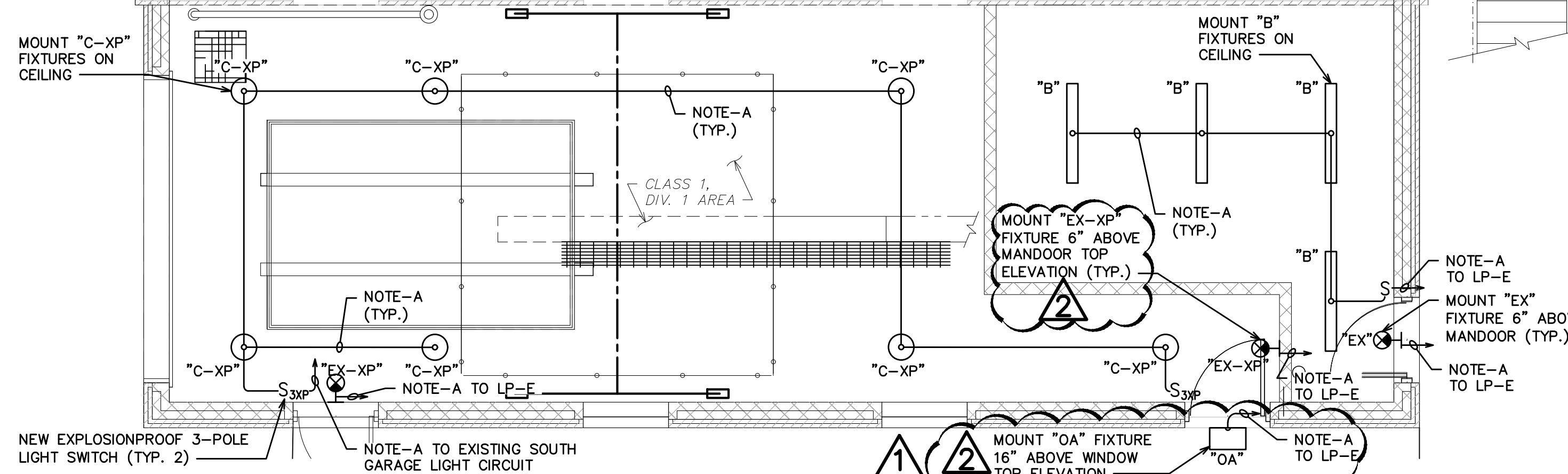
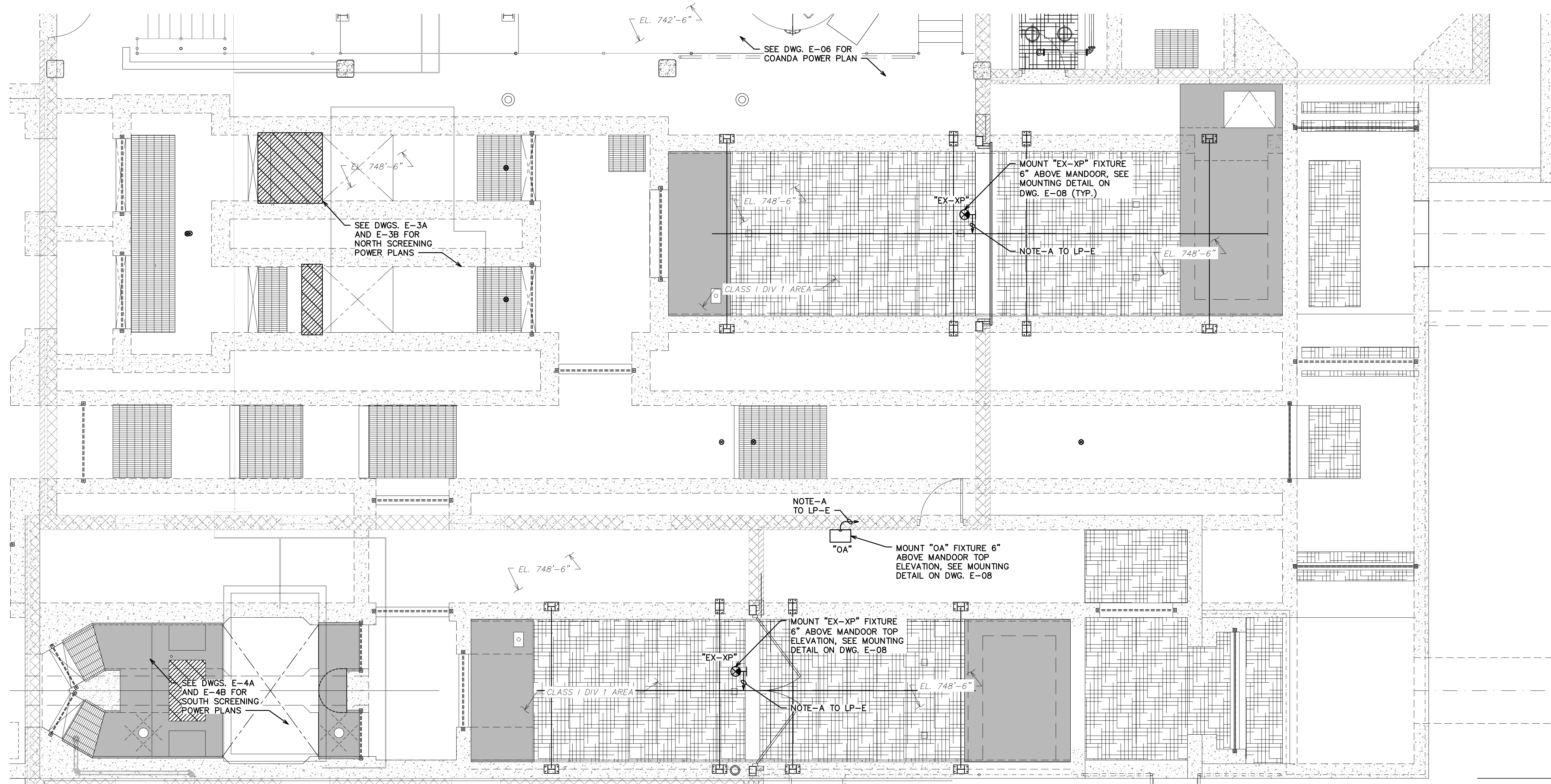
CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR, MI 48106-6647  
ANN ARBOR 734-764-4410  
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**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**HEADWORKS IMPROVEMENTS PROJECT**  
ODOR CONTROL BUILDING LIGHTING PLAN

SCALE 1/4" = 1'-0"  
DRAWING No. 718  
SHEET No. **E-08**

ISSUED FOR ADDENDUM NO. 2	1-21-2022	DATE	DRAWN	CHECKED
ISSUED FOR ADDENDUM NO. 1	1-19-2022	DATE	DRAWN	CHECKED
ISSUED FOR BIDS SET	12-13-2021	DATE	DRAWN	CHECKED
DESCRIPTION				
REV.				



**CONDUIT CLASSIFICATION**

- CONDUIT SHALL BE PVC COATED RIGID GALVANIZED STEEL FOR CLASS 1 DIV. 1 AREAS.
- EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL FOR UNCLASSIFIED AREAS.
- CONDUIT MAY BE LIQUIDTIGHT FLEXIBLE METAL CONDUIT FOR CONNECTIONS TO EQUIPMENT WITHIN 3' AND UP TO EQUIPMENT IN UNCLASSIFIED AREAS.
- CONDUIT SHALL BE PVC SCHEDULE 40 WHERE RUN UNDERGROUND.
- CONDUIT MAY BE EXPLOSIONPROOF FLEXIBLE CONDUIT WITHIN 3' AND UP TO EQUIPMENT IN CLASSIFIED AREAS. CONNECTIONS SHALL BE MADE WITH EXPLOSIONPROOF FLEXIBLE CONDUIT COUPLINGS.

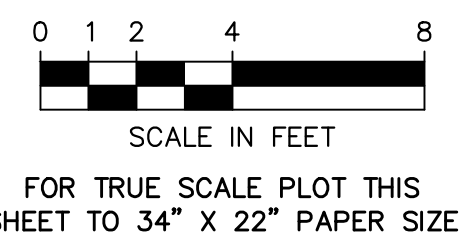
**BASIS OF DESIGN**

THIS LIGHTING PLAN WAS DESIGNED USING AGI32 VERSION 19.15.2. LIGHTING LEVELS HAVE BEEN DETERMINED FROM IES RECOMMENDATIONS. LIGHTING LEVELS AT FINISHED FLOOR LEVEL FOR THE SOUTH GARAGE AND ELECTRICAL ROOM SHALL BE 30.0 FOOTCANDLES AVERAGE ±3.0 FOOTCANDLES. THIS LIGHTING PLAN IS BASED UPON THE SPECIFIED LIGHT FIXTURES ON DRAWING E-08. OTHER FIXTURES ARE ACCEPTABLE UPON SUBMITTAL OF A PHOTOMETRIC PLAN MATCHING THE LIGHTING LEVELS SPECIFIED ABOVE, MEETING SPECIFICATION REQUIREMENTS AS SHOWN ON DRAWING E-08, AND ENGINEER'S APPROVAL.

**NORTH HEADWORKS BUILDING LIGHTING PLAN**

ALL EQUIPMENT SHALL BE EXPLOSIONPROOF, RATED CLASS 1 DIVISION 1 ON THIS DRAWING, EXCEPT FOR IN THE ELECTRICAL ROOM AND EQUIPMENT MOUNTED OUTSIDE. INSTALL EQUIPMENT, WIRE, CONDUIT, AND SEAL-OFF FITTINGS PER NEC REQUIREMENTS FOR CLASSIFIED AREAS.

- PLAN NOTES:**
- A. NEW 2-#12 + #12 GRD., 3/4"C.
  - B. NEW 3-#12 + #12 GRD., 1"C. (SHIELDED VFD CABLE)
  - C. NEW 2-#14, 3/4"C.
  - D. NEW 4-#14, 3/4"C.
  - E. NEW 1PR. #18 SHLD., 3/4"C.
  - F. NEW 11-#14, 3/4"C.
  - G. NEW CAT6 CABLE, 3/4"C.
  - H. NEW 3PR. #18 SHLD., 3/4"C.
  - I. NEW 13-#14, 3/4"C.
  - J. NEW 3-#8 + #10 GRD., 1 1/2"C. (SHIELDED VFD CABLE)



ISSUED FOR ADDENDUM NO. 2	1-21-2022	ISSUED FOR ADDENDUM NO. 1	1-19-2022	DATE	DRAWN
ISSUED FOR ADDENDUM NO. 1	1-19-2022	ISSUED FOR BIDS SET	12-13-2021	DATE	CHECKED
CITY OF ANN ARBOR PUBLIC SERVICES 301 EAST HURON STREET ANN ARBOR, MI 48106-6647 www.a2gov.org					
<b>PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR</b> <b>HEADWORKS IMPROVEMENTS PROJECT</b> NORTH HEADWORKS BUILDING LIGHTING PLAN					
SCALE	1/4" = 1'-0"	DRAWING NO.	722	SHEET NO.	E-10