

**Rock River Water Reclamation District
Rockford, Illinois**

Bidding Requirements and Contract Forms

for

**Fuller Creek Phase F
Pump Station Installation
Capital Project No. 1566
IEPA Project No. L17-5306**

March 6, 2018

Fuller Creek Phase F, Pump Station Installation

RRWRD Capital Project No. 1566, IEPA Project No. L17-5306

Bid Opening Date and Time: Monday, April 23, 2018 at 10:00 a.m.

Required Documents/Forms with Bid Submittal	Notes	Type:	Page(s)
Proposal / Bid Form		Form	15-23
Fair Employment Practices Affidavit of Compliance		Form	32
Bid Bond (including Power of Attorney)		Form	33-34
Contractor Statement of Qualifications	See Info for Bidders Section 3.8	Description	10
USEPA Certification RE: Debarment, Suspension and Other Responsibility Matters - EPA Form 5700-49		Form	62-63
Bidder Certification - Criminal Code of 2012		Form	68
USEPA Certification of Nonsegregated Facilities		Form	60
Notice to Labor Unions or Other Organizations of Workers Nondiscrimination in Employment		Form	61
Bidder Certification RE: The Use of American Iron and Steel Products		Form	78-79
IEPA DBE Program Form #4 - completed if using any subs		Form	77
IEPA DBE Program Form #1 *	If 1st box checked, RRWRD DBE Requirements III. A. 1	Form	75
Certification of proof of publication / Bidder Certification of Ad (RE: Sub [DBE])*	Dated 04/07/18 or before - RRWRD DBE Requirements III. A. 2	Description and Form	Description p. 69; Form p. 72-73
List of all DBE and non-DBE proposals submitted to bidder. List must include names, addresses, phone and/or email.	RRWRD DBE Requirements III. A. 3	Description	73
List of DBEs NOT being used and justification of non-utilization - May Use IEPA DBE Form #1	RRWRD DBE Requirements III. A. 4	Description and Form	Description p. 73; Form p. 75
IEPA DBE Program Form #3 - required 1 form per each MBE/WBE/SBE/DBE Sub to be utilized	RRWRD DBE Requirements III. A. 5	Description and Form	Description p. 73; Form p. 76
If DBE subs will be utilized, a completed and signed certification form from bidder attesting bidder has no controlling/dominating interest w/that DBE	RRWRD DBE Requirements III. A. 6	Description	73
If no proposals received from DBE, the bidder must provide written certification that no proposals received. - May Use IEPA DBE Form #1	RRWRD DBE Requirements III. A. 7	Description and Form	Description p. 73; Form p. 75
Summary Report of DBE Requirements for Contractors	Instructional	Description	73-74

Rock River Water Reclamation District Rockford, Illinois

Bidding Requirements and Contract Forms and *General Provisions and Technical Specifications* for *Sanitary Sewer Construction*

for

Fuller Creek Phase F Pump Station Installation Capital Project No. 1566 IEPA Project No. L17-5306

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Section I

Bidding Requirements and Contract Documents

Advertisement for Bids

Rock River Water Reclamation District
PO Box 7480
Rockford, IL 61126

Separate sealed BIDS for the construction of:

Fuller Creek Phase F, Pump Station Installation, Capital Project No. 1566, IEPA Project No. L17-5306, is comprised of all labor, materials, equipment, and supervision required to install a new duplex submersible pump station capable of pumping 809 GPM. Work includes installation of temporary utilities to maintain service of an existing wastewater treatment facility for the duration of construction, removal of an existing pump station, installation of new wet well and valve vault structures, installation and wiring of pumping and control equipment, sanitary sewer and force main piping, furnishing and installing a standby generator, minimal building alterations, and site restoration and seeding.

A Mandatory Pre-bid Meeting will be held at Winnebago Village Hall, 108 W. Main Street, Winnebago, Illinois, 61088, at 10:00 a.m., Tuesday, April 3, 2018. A site visit will immediately follow.

Bids will be received by Rock River Water Reclamation District at the office of 3501 Kishwaukee Street, Rockford, Illinois 61109 until 10:00 a.m., Monday, April 23, 2018 and then at said office publicly opened and read aloud.

“Any contract or contracts awarded under this invitation for bids are expected to be funded in part by a loan from the Illinois Environmental Protection Agency (Illinois EPA). Neither the State of Illinois nor any of its departments, agencies, or employees is or will be a party to this invitation for bids or any resulting contract. The procurement will be subject to regulations contained in the Procedures for Issuing Loans from the Water Pollution Control Loan Program (35 IAC Part 365), the Davis-Bacon Act (40 USC 276a through 276a-5) as defined by the United States Department of Labor, the Employment of Illinois Workers on Public Works Act (30 IL CS 570), and the “Use of American Iron and Steel” requirements as contained in Section 436 of H.R. 3547, The Consolidated Appropriations Act, 2014. This procurement is also subject to the loan recipient’s policy regarding the increased use of disadvantaged business enterprises. The loan recipient’s policy requires all bidders to undertake specified affirmative efforts at least sixteen (16) days prior to bid opening. The policy is contained in the specifications. Bidders are also required to comply with the President’s Executive Order No. 11246, as amended. The requirements for bidders and contractors under this order are explained in 41 CFR 60-4.”

The CONTRACT DOCUMENTS may be examined at the following locations:

Bid documents may be obtained by contacting the Engineering Department at the Rock River Water Reclamation District, (815)-387-7660, 3501 Kishwaukee Street, Rockford, IL 61109, upon payment of \$50.00 for each set. The amount of the deposit for each set of specifications will not be refunded. For more information visit the District's website at www.rrwrd.dst.il.us. Plans and specifications are available for viewing at the Rock River Water Reclamation District Engineering Department and the Northern Illinois Building Contractors Association, whose office is located at 1111 S. Alpine Road, Rockford, Illinois.

Bidder's attention is directed to Instruction to Bidders, Section 3.8, Statement of Qualifications.

Each proposal must be accompanied by the Rock River Water Reclamation District Bid Bond form with an acceptable Bid Security attached, in the amount of not less than five percent (5%) of the total bid price. This sum is a guarantee that, if the Proposal is accepted, a contract will be entered into and its performance properly secured.

The Rock River Water Reclamation District reserves the right to reject any or all bids or any part thereof, or to accept any bid or any part thereof, or to waive any formalities in any bids, deemed to be in the best interest of the Rock River Water Reclamation District.

Dated: March 7, 2018

By: Chris Black
Chris Black, Business Manager

INFORMATION FOR BIDDERS

BIDS will be received by Rock River Water Reclamation District (herein called the "OWNER"), at 3501 Kishwaukee St., Rockford IL 61109 until 10:00 a.m., Monday, April 23, 2018, and then at said office publicly opened and read aloud.

A Mandatory Pre-bid Meeting will be held at Winnebago Village Hall, 108 W. Main Street, Winnebago, Illinois, 61088, at 10:00 a.m., Tuesday, April 3, 2018. A site visit will immediately follow.

Each BID must be submitted in a sealed envelope, addressed to RRWRD, Engineering Department, 3501 Kishwaukee Street, Rockford IL 61109. Each sealed envelope containing a BID must be plainly marked on the outside as "BID for Fuller Creek Phase F, Pump Station Installation, Capital Project No. 1566, IEPA Project No. L17-5306" and the envelope should bear on the outside the name of the BIDDER, his/her address, and his/her license number if applicable and the name of the project for which the BID is submitted. If forwarded by mail, the sealed envelope containing the BID must be enclosed in another envelope addressed to the RRWRD, Engineering Department, 3501 Kishwaukee Street, Rockford IL 61109.

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed and executed when submitted. Only one copy of the BID form is required.

Any BID may be modified or withdrawn prior to the above scheduled time for opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within ninety (90) days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide the BIDDERS prior to BIDDING, all information that is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the contract.

A BID bond payable to the OWNER must accompany each BID for five percent (5%) of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three (3) lowest responsible BIDDERS. When the Agreement is executed the bonds of the two (2) remaining unsuccessful BIDDERS will be

returned. The BID BOND of the successful BIDDER will be retained until the payment of BOND and performance BOND have been executed and approved, after which it will be returned.

A performance BOND and payment BOND, each in the amount of 100 percent of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract.

Attorneys-in-fact who sign BID BONDS or payment BONDS and performance BONDS must file with each BOND a certified and effective dated copy of their power of attorney.

Any contract entered into by the loan recipient and any sub-agreement hereunder, shall provide that representatives of the Agency will have access to the work whenever it is in preparation or progress and that the contractor or subcontractor will provide proper facilities for such access and inspection. Such contract or sub-agreement must also provide that the Agency or any authorized representative shall have access to any books, documents, papers, and records of the contractor or subcontractor, which are pertinent to the project for the purpose of making audit, examination, excerpts, and transcriptions thereof.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the performance BOND and payment BOND within ten (10) calendar days from the date when NOTICE OF AWARD is delivered to the BIDDER. The necessary Agreement and BOND forms shall accompany the NOTICE OF AWARD. In case of failure of the BIDDER to execute the Agreement, the OWNER may at his option consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable performance BOND, payment BOND and Agreement signed by the party to whom the Agreement was awarded shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The OWNER shall issue the NOTICE TO PROCEED within ten (10) days of the execution of the Agreement. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR might terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as he deems necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional or qualified BID will not be accepted.

Award will be made to the low, responsive, responsible BIDDER.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout including the Employment of Illinois Workers on Public Works Act (30 ILCS 570) and the Davis-Bacon Wage Act (40 USC 276a through 276a-5) as defined by the United States Department of Labor.

All BIDDERS will comply with Sec. 436 of H.R. 3547, "The Consolidated Appropriations Act, 2014", which specifies that all "iron and steel products" used in the project are produced in the United States.

BIDDER shall not discriminate on the basis of race, color, national origin or sex in performance of this contract. The Contractor shall carry out applicable requirements of 40 CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

Each BIDDER is responsible for inspecting the site for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

Each BIDDER shall supply a list of all subcontractors that submitted proposals and if requested by the OWNER all major material suppliers.

Inspection trips for prospective BIDDERS will leave from the office of the Rock River Water Reclamation District at 3501 Kishwaukee St, Rockford, IL 61109.

The PROJECT ENGINEER is Matthew Campbell, PE. His phone number is 815.387.7684. His email address is mcampbell@rrwr.dst.il.us.

Instructions to Bidders

1 General

1.1 Scope and Intent

This section of the contract documents is concerned with furnishing detailed information and requirements for preparing bids to prospective bidders, bidders' responsibility, the preparation and the submission of bids, basis for awarding the contract and other general information concerned with bidding and executing the contract.

1.2 Contradictions

If in the case of apparent contradiction between or among the Contract Documents, the Contract Documents shall be consulted in the following order: Addenda, Agreement, Supplementary Drawings, Instructions to Bidders, Detailed Specifications, Plans, District General Provisions and Technical Specifications for Sanitary Sewer Construction. The language in the first such document in which language regarding the conflict, error or discrepancy occurs shall control.

2 Legal Requirements

2.1 Illinois Regulations

1. The undersigned, as Bidder, declares he will comply with prevailing wages in accordance with the Illinois Department of Labor Standards. The State of Illinois requires contractors and subcontractors on public works projects (including Rock River Water Reclamation District) to submit certified payroll records on a monthly basis, along with a statement affirming that such records are true and accurate, that the wages paid to each worker are not less than the required prevailing rate and that the contractor is aware that filing false records is a Class B Misdemeanor.

The certified payroll records must include the name, address, telephone number, social security number, job classification, hourly wages paid in each pay period, the number of hours worked each day, and the starting and ending time of work each day, for every worker employed on the project. Any contractor who fails to submit a certified payroll or knowingly files a false certified payroll is guilty of a Class B Misdemeanor. Certified payroll reports shall be submitted on standard I.D.O.T. forms.

2. Public Act 83-1030 entitled "Steel Products Procurement Act" requires that steel products used or supplied in performance of this contract or subcontract shall be manufactured or produced in the United States with three exceptions.

The provisions of this Section shall not apply:

- a. Where the contract involves an expenditure of less than \$500.
- b. Where the executive head of the public agency certifies in writing that
 - i. the specified products are not manufactured or produced in the United States in sufficient quantities to meet the agency's requirements, or
 - ii. obtaining the specified products, manufactured or produced in the United States would increase the cost of the contract by more than 10%.
- c. When its application is not in the public interest.

3. Article 2 of Public Act 83-1472 provides that Illinois residents be employed on Illinois public works projects, provided there has been a period of excessive unemployment (5%) in the State of Illinois as defined in the Act; and, further, that Illinois workers are available and capable of performing the particular type work involved.
4. Public Act 99-093 requires that any party to a contract adopt and promulgate written sexual harassment policies that include, as a minimum, the following information:
 - a. the illegality of sexual harassment
 - b. the definition of sexual harassment under Illinois State law
 - c. a description of sexual harassment, utilizing examples
 - d. my (our) organization's internal complaint process including penalties
 - e. the legal recourse, investigative and complaint process available through the Illinois Department of Human Rights and the Illinois Human Rights Commission
 - f. directions on how to contact the Department and the Commission
 - g. protection against retaliation as provided by Section 6-101 of the Illinois Human Rights Act

Upon request, this information shall be provided to the Illinois Department of Human Rights and the District.

5. With regard to nondiscrimination in employment, the Contractor for this project will be required to comply with the Illinois Fair Employment Practices Commission's Rules and Regulations.
6. The Contractor for this project shall comply with the Occupational Safety and Health Act.
7. The Contractor for this project shall comply with the Federal Drug-Free Workplace Act.
8. Public Act 96-1416 requires the certification of Clean Construction and Demolition Debris (CCDD) and uncontaminated soil prior to disposal at a CCDD fill site. The Contractor for this project shall comply with Public Act 96-1416 and be responsible for the certifications and any fees associated with the disposal at a CCDD fill site.
 - a. In the event that contaminated soil is uncovered on the project, the Contractor shall notify the District immediately. Any extra costs resulting from the presence of contaminated soil shall be in accordance with District General Provisions & Technical Specs for Sanitary Sewer Construction; General Conditions: Article 5 – Time Provisions and Article 8 – Changes.

2.2 Americans with Disabilities Act

The Contractor for this project will comply with all applicable requirements of the Americans with Disabilities Act of 1990 (ADA). The Contractor will hold harmless and indemnify the District and their representatives from all:

1. suits, claims, or actions
2. costs, either for defense (including, but not limited to, reasonable attorney's fees and expert witness fees) or for settlement
3. damages of any kind (including, but not limited to, actual, punitive, and compensatory damages) relating in any way to or arising out of the ADA, to which said firm is exposed or which it incurs in the execution of the contract.

3 General Instructions

3.1 Bidder's Responsibility

Bidders are cautioned not to submit proposals until having carefully examined the entire site of the proposed work and adjacent premises and the various means of approach and access to the site, and having made all necessary investigations to inform themselves thoroughly as to the facilities for delivering, placing and handling the materials at the site, and having informed themselves thoroughly as to all difficulties involved in the completion of all the work under this Contract in accordance with its requirements.

Bidders must examine the Plans, Specifications and other Contract Documents and shall exercise their own judgment as to the nature and amount of the whole of the work to be done and for the bid prices must assume all risk of variance, by whomsoever made, in any computation or statement of amount or quantities necessary to complete fully the work in strict compliance with the Contract Documents. The Bidder must satisfy himself by making borings or test pits, or by such methods as he may prefer, as to the character and location of the materials to be encountered or work to be performed. No pleas of ignorance of conditions that exist or that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work under this Contract, as a result of failure to make the necessary examinations and investigations, will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill, in every detail, all of the requirements of the Contract Documents, or will be accepted as a basis for any claims whatsoever for extra compensation or for an extension of time.

The Contractor is responsible for verifying the location of all existing utilities in project area.

The Bidder, therefore, shall satisfy himself by such means as he may deem proper as to the location of all structures that may be encountered in construction of the work.

3.2 Addenda and Interpretations

No interpretation of the meaning of the Plans, Specifications, or other Contract Documents will be made to any bidder orally. Every request for such interpretation must be in writing addressed to the Rock River Water Reclamation District, 3501 Kishwaukee Street, Rockford, Illinois. To be given consideration, such request must be received at least five (5) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda which, if issued, will be sent by email, fax or certified mail, with acknowledgement of receipt requested, to all prospective bidders, at the respective addresses furnished for such purposes, not later than three (3) days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addenda or interpretation shall not relieve said bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

3.3 Laws and Regulations

The prospective bidder is warned that he must comply with all laws of the United States Government, State of Illinois, all ordinances and regulations of the Rock River Water Reclamation District in the performance of the work under this contract. The Bidder's attention is specifically called to that provision of the General Conditions regarding the rate of wage to be paid on the work.

3.4 Quantities Estimated Only

Bidders are warned that the estimate of quantities of the various items of work and materials, as set forth in the proposal form, is approximate only and is given solely to be used as a uniform basis for the comparison of bids. The quantities actually required to complete the contract work may be less or more than so estimated, and if awarded a contract for the work specified, the Contractor further agrees that he will not make any claim for damages or for loss of profits or for an extension of time because of a difference between the quantities of the various classes of work assumed for comparison of bids and quantities of work actually performed.

3.5 Form, Preparation, and Presentation of Proposals

For particulars as to the quantity and quality of the supplies, materials and equipment to be furnished, and the nature and extent of the work or labor to be done, prospective bidders are referred to the Contract Documents, which may be examined or obtained at the office of the District.

Each bid will be submitted upon the prescribed proposal form. All blank spaces for bid prices must be filled in, in ink, with the unit or total sum or both for which the proposal is made. If the proposal contains any omissions, erasures, alterations, additions or items not called for in the itemized proposal, or contains irregularities of any kind, such may constitute sufficient cause for rejection of bid. In case of any discrepancy in the unit price or amount bid for any item in the proposal, the unit price as expressed in figures will govern. In no case is the agreement form to be filled out or signed by the bidder.

Should the Contractor desire to have an electronic proposal form e-mailed to him, the Contractor should contact the District's Engineering Department at (815) 387-7660. This form must be attached to the hard copy proposal form and appropriately signed and executed with the bid.

The bid must be verified and be presented on the prescribed form in a sealed envelope on or before the time and at the place stated in the Advertisement for Bids, endorsed with the name of the person, firm or corporation presenting it, the date of presentation, and the title of the work for which the bid is made. If forwarded by mail, the sealed envelope containing the proposal and marked as directed above, must be enclosed in another envelope addressed to Clerk of the Rock River Water Reclamation District, 3501 Kishwaukee Street, Rockford, Illinois, and be sent preferably by certified mail. The District will not accept facsimile generated bids.

3.6 Bid Security

Each proposal must be accompanied by the District Bid Bond form with an acceptable bid security attached in an amount of not less than five percent (5%) of the total bid price. This sum is a guarantee that, if the Proposal is accepted, a contract will be entered into and its performance properly secured. Failure to provide a Bid Security in the amount specified will constitute sufficient cause for rejection of the bid. **The District's Bid Bond Form included in the bid packet must be used. No other Bid Bond form may be substituted.**

Within ten (10) days after opening of bids, the deposits of all but the three lowest bidders will be returned. The deposits of the remaining two unsuccessful bidders will be returned within three (3) days after the execution of the contract, or, if no such contract has been executed, within ninety (90) days after the date of opening bids. The deposit of the successful bidder will be returned only after he has duly executed the contract and furnished the required bond and insurance.

3.7 Affidavit of Compliance

Each proposal must be accompanied by an executed Affidavit of Compliance. A separate Affidavit of Compliance form is enclosed with the Proposal packet. Failure to submit an executed Affidavit of Compliance with the proposal may constitute sufficient cause for rejection of the bid.

3.8 Statement of Qualifications

Each proposal must be accompanied by a Statement of Qualifications certifying that the bidder is registered to do business in the State of Illinois and has an operating business office as described in 3.10.2 – Evaluation of Responsibility. The proposal must provide documentation that the bidder possesses the appropriate financial, material, equipment, facility and personnel resources and expertise necessary to meet all contractual obligations as described in 3.10.2, Evaluation of Responsibility. Also, the Bidder shall document no less than three (3) contracts for similar projects within the past five (5) years having equal or greater value to the bid being submitted. The District reserves the right to request additional information as needed to evaluate bids prior to making an award.

3.9 Comparison of Proposals

Bids on item contracts will be compared on the basis of a total computed price arrived at by taking the sum of the estimated quantities of each item, multiplied by the corresponding unit prices and including any lump sum bids on individual items, in accordance with the estimate of quantities set forth in the proposal form. Bids on lump sum contracts will be considered upon the basis of the lowest sum bid.

3.10 Acceptance of Bids and Basis of Award

No bidder may withdraw his bid after the scheduled closing time for receipt of bids, for at least ninety (90) days.

The contract will be awarded, if at all, to the lowest responsive, responsible bidder. The Rock River Water Reclamation District also reserves the right to reject any or all bids.

The bidder whose proposal is accepted shall enter into a written contract for the performance of the work and furnish the required bonds and insurance certificate within ten (10) days after written notice by the Engineering Manager of the District has been served on such bidder personally or by mailing a postpaid wrapper to such bidder at the address given in his proposal. If the bidder to whom the contract is awarded refuses or neglects to execute it or fails to furnish the required bond and insurance within five (5) days after receipt by him of the notice, the amount of his deposit shall be forfeited and shall be retained by the District as liquidated damage and not as a penalty. It being now agreed that said sum is a fair estimate of the amount of damages that the District will sustain in case said bidder fails to enter into a contract and furnish the required bond and insurance. No plea of mistake in the bid shall be available to the bidder for the recovery of his deposit or as a defense to any action based upon the neglect or refusal to execute a contract.

3.10.1 Evaluation of Responsiveness

The responsiveness of bidders will be judged on the basis of the completeness of the bid submitted. To be responsive, a Bid must be submitted on the forms provided as part of the Bid Documents and comply with all the requirements of the Instruction to Bidders.

3.10.2 Evaluation of Responsibility

To be judged as responsible, the bidder shall:

- a. Have adequate financial resources for performance, the necessary experience, organization, technical qualifications, and facilities, or a firm commitment to obtain such by subcontracts;
- b. Be able to comply with the required completion schedule for the project;
- c. Have a satisfactory record of integrity, judgment, and performance, including, in particular, any prior performance on contracts from the District;
- d. Have an adequate financial management system and audit procedures, that provide efficient and effective accountability and control of all property, funds, and assets;
- e. Conform to the civil rights, equal employment opportunity and labor law requirements of the Bid Documents.
- f. Have satisfactorily completed no less than three (3) similar contracts within the last five (5) years of equal or greater value to bid being submitted.
- g. Certify that he currently participates in an apprenticeship or training program that is registered with the United States Department of Labor's Bureau of Apprenticeship and Training or other acceptable State of Illinois Department of Labor monitored program.

3.11 The Rejection of Bids

The District reserves the right to reject any bid if the evidence submitted in the statement of the bidder's qualifications, or if investigation of such bidder fails to satisfy either the District that such bidder is properly qualified to carry out the obligations and to complete the work contemplated therein. Any or all proposals will be rejected if there is reason to believe that collusion exists among the bidders. Conditional bids will not be accepted. The District reserves the right to reject any and all bids and to accept the bid which they deem most favorable to the interest of the District after all proposals have been examined and canvassed.

3.12 Insurance and Bonding

Contractor shall provide all necessary insurance and bonds required to complete the project. No more than ten (10) calendar days subsequent to the District's issuance of an award letter, the Contractor shall provide documentation to prove that he has obtained all required insurance and bonds. The District shall be the sole judge as to the acceptability of any such proof.

Contractor shall provide and maintain all insurance and bonds as required by the District.

3.12.1 General

The Contractor shall ensure that:

1. All insurance policies shall be specific to the project.
2. The insurance certificate shall state: This certifies that the insurance coverage meets or exceeds that required for the Fuller Creek Phase F, Pump Station Installation, Capital Project No. 1566, IEPA Project No. L17-5306.
3. The Rock River Water Reclamation District shall be named as additional insured in all policies; this shall include the Owners Contractors Protective Policy option.

4. All completed operations coverages and bonds shall remain in force for a period of two (2) years following acceptance of the project and completed operations shall stay in force for two (2) years following completion of the project.

3.12.2 Insurance

The Contractor shall, for the duration of the contract and for two (2) years following project acceptance, maintain the following:

1. General Liability: \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project or the general aggregate limit shall be twice the required occurrence limit. The Contractor shall provide "XCU" coverage.
2. Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage including coverages for owned, hired or non—owned vehicles, as applicable.
3. Workers' Compensation and Employers Liability: Workers' Compensation limits as required by statute and Employers Liability limits of \$500,000 per accident and \$500,000 per disease.
4. Umbrella: \$2,000,000 per occurrence/aggregate for contracts valued at \$500,000 or over, or \$1,000,000 for contracts below \$500,000. \$10,000 is maximum allowable self-retained limit.
5. Errors and Omissions: If the Contractor performs professional services, he shall maintain errors and omissions insurance with a limit no lower than \$1,000,000 for the duration of the contract.

The policies shall contain, or be endorsed to contain, the following provisions in the General Liability and Automobile Liability Coverage's:

- a. Unless otherwise provided in paragraph "c" of this section, the District, its officers, officials, employees and volunteers shall be covered as additional insureds as respects liability arising out of activities performed by or on insured's general supervision of the Contractor, products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the District, its officers, officials, employees, volunteers, or agents.
- b. Unless otherwise provided in paragraph "c" of this section, the Contractor's insurance coverage shall be primary insurance as respects the District, its officers, officials, employees, volunteers, and agents. Any insurance or self-insurance maintained by the District, its officers, officials, employees, volunteers, or agents shall be excess of the Contractor's insurance and shall not contribute with it.
- c. As an acceptable alternative to provisions "a" and "b" of this section, the Contractor may provide owner's and contractor's protective liability insurance with coverage limits, named insureds, and in conformity with all applicable specifications of this section.
- d. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the District, its officers, officials, employees, volunteers, or agents.

- e. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- f. All Coverages — Each insurance policy required by this clause shall not be suspended, voided, canceled by either party, reduced in coverage, or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the District.

3.12.3 Best's Ratings

The District shall be the sole judge of whether or not said insurer's ratios are satisfactory. The District's decision shall be final and the District's bidding procedures contain no appeal provision.

1. **Alphabetical Rating:** For purposes of this Request for Bids, "insurer" shall mean any surety, insurance carrier, or other organization which proposes to provide an insurance policy or bond for the Contractor. No insurer or surety rated lower than "A-, Excellent" in the current *Best's Key Rating Guide* shall be acceptable to the District.
2. **Financial Size Rating:** Provided an insurer's alphabetical rating is satisfactory, the District will examine said insurer's financial size rating.
 - a. If Best classifies the insurer XII or larger, said insurer shall be acceptable to the District.
 - b. If Best classifies the insurer as smaller than XII, but larger than VI, said insurer shall be submitted to the District's Business Manager and/or the District's insurance consultant for review.

Financial Size ratings less than VII are not acceptable and will disqualify the Contractor.

3.12.4 Performance Bond and Labor & Materials Bond Form

The Contractor shall provide a Performance Bond and Labor & Materials Bond form acceptable to the District. The performance bond shall be for either 100% of the contract price or for the Contractor's unit price times the estimated number of units, as applicable.

This Request for Bids contains a Performance Bond and a Labor & Materials Bond form for the Contractor's use.

If the Contractor fails to provide an acceptable bond within the specified time, he shall be in default.

3.12.5 Correction of Contractor's Insurance or Bond Deficiencies

If the District determines that the Contractor's insurance or bond documentation does not conform to these specifications, the District shall inform said Contractor of the non-conformity. If said Contractor fails to provide conforming insurance or bond documentation within five (5) calendar days of the District's deficiency notice, he shall be in default.

3.12.6 Indemnification Clause

Contractor shall protect, indemnify, hold and save harmless and defend the District, its officers, officials, employees, volunteers, and agents against any and all claims, costs, causes, actions and expenses, including but not limited to attorney's fees incurred by reason of a lawsuit or claim for compensation arising in favor of any person, including the employees, officers, independent contractors, or subcontractors of the Contractor or District, on account of personal injuries or death,

or damages to property occurring, growing out of, incident to, or resulting directly or indirectly from the performance by the Contractor or subcontractor, whether such loss, damage, injury or liability is contributed to by the negligence of the District or by premises themselves or any equipment thereon whether latent or patent, or from other causes whatsoever, except that the successful bidder shall have no liability for damages or the costs incident thereto caused by the sole negligence of the District.

The indemnification shall not be limited by a limitation on amount or type of damages payable by or for the Contractor or its subcontractor under any employee benefits act including, but not limited, to the Workers Compensation Act.

No inspection by the District, its employees, or agents shall be deemed a waiver by the District of full compliance with the requirements of the Contract. This indemnification shall not be limited by the required minimum insurance coverages in the Contract.

3.12.7. Funding Requirements

Any contract or contracts awarded under this invitation for bids are expected to be funded by a loan from the Illinois Environmental Protection Agency (IEPA). Neither the State of Illinois nor any of its departments, agencies, or employees is or will be a party to this invitation to bids or any resulting contract. The procurement will be subject to regulations contained in the procedures for issuing loans from the State Revolving Loan Fund Program. The Davis-Bacon Act (40 USC 276a through 276a-5), and the Employment of Illinois Worker's on Public Works Act (30 ILCS CS 570). This procurement is also subject to the loan recipient's policy regarding the increased use of disadvantaged business. The loan recipient's policy requires all Bidders to undertake specified affirmative efforts at least 16 days prior to the day of the bid opening. The policy is contained in the Specifications. Bidders also required to comply with the President's Executive Order No. 11246, as amended. The requirements for bidders and contractor's under this order are explained in 41 CFR 60-4.

3.12.8 Subcontractor's Payments

Contractor shall pay Subcontractors for satisfactory performance no more than thirty (30) days from the Contractor's receipt of payment from the District.

3.13 Tax Exemption

The District is exempt, by law, from paying bidder Federal Excise Tax and Illinois Retailers' Occupational Tax. Therefore, the bidder shall exclude those taxes from his bid. The District's tax exemption number is E9992-3696-06. The bidder shall include only applicable taxes in his bid price.

3.14 Guarantee and Maintenance

The Contractor shall promptly repair, replace, restore or rebuild any imperfections that may arise and shall maintain, satisfactory to the District, all work for a period of one (1) year from the date of formal acceptance of the Contract, except where more extended guarantee and maintenance is provided for. The Contractor shall, for this period, indemnify and save harmless the District, its officers and agents from any injury or damage done to persons or property as a direct or alleged result of imperfections in the Contractor's work, and shall immediately assume and take charge of the defense of such action or suits in like manner and to all intents and purposes as if said actions and suits had been brought directly against the Contractor.

If the Contractor shall fail to promptly repair, replace, rebuild or restore such defective or damaged work after receiving notice given by the District, the District shall have the right to have the work done by others and to call on the Contractor and his bondsman to pay the costs thereof.

BID FORM OR PROPOSAL

Proposal of _____ (hereinafter called "BIDDER"), organized and existing under the laws of the State of _____ doing business as _____*
to the Rock River Water Reclamation District (hereinafter called "OWNER").

In compliance with your Advertisement for Bids, BIDDER hereby proposes to perform all WORK for the construction of Fuller Creek Phase F, Pump Station Installation, Capital Project No. 1566, IEPA Project No. L17-5306, in strict accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the prices stated below.

BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete by January 31, 2019. BIDDER further agrees to pay as liquidated damages, the sum of \$300.00 for each consecutive calendar day thereafter.

BIDDER certifies that all iron and steel products used in the project for the construction, alteration, maintenance, or repair of a public water system are produced in the United States in compliance with Section 436.(a) – (f) of H.R. 3547, "The Consolidated Appropriation Act, 2014."

* **Insert "a corporation", "a partnership", or "an individual" as applicable.**

(I) By submission of the bid, each bidder certifies, and in the case of a joint bid, each party certifies as to his or her own organization, that in connection with the bid:

- (i) The prices in the bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
- (ii) Unless otherwise required by law, the prices which have been quoted in the bid have not knowingly been disclosed by the bidder, prior to opening, directly or indirectly to any other bidder or to any competitor; and
- (iii) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition.

(II) Each person signing the bid shall certify that:

- (i) He is the person in the bidder's organization responsible within that organization for the decision as to the prices being bid and that he has not participated, and will not participate, in any action contrary to (I)(i) through (I)(iii) above; or
- (ii) He is not the person in the bidder's organization responsible within that organization for the decision as to the prices being bid but that he has been authorized to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to (I)(i) through (I)(iii) above, and as their agent shall so certify; and shall also certify that he has not participated, and will not participate, in any action contrary to (I)(i) through (I)(iii) above.

BIDDER acknowledges receipt of the following ADDENDUM (where applicable):

BIDDER certifies that wages paid in connection with the PROJECT shall be paid at prevailing rates not less than those prevailing under the Davis-Bacon Wage Act. Bidder further certifies that the provisions contained in the following clauses will be exercised in the performance of any contract resulting from this BID and are made a part of the CONTRACT DOCUMENTS thereto by their inclusion in the BID as follows:

(1) Minimum wages

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section: also, regular contributions made or costs incurred for more than a weekly period (but not less than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. Subrecipients may obtain wage determination from the US Department of Labor's website www.dol.gov.

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

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

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

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

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the subrecipient to IEPA. IEPA will forward the report to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative,

will approve, modify or disapprove every additional classification action within 30 days of receipt and so advise IEPA or will notify IEPA within the 30-day period that additional time is necessary.

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

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

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

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

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

(3) Payrolls and basic records

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

program is financially responsible, and the that plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the subrecipient. Such documentation shall be available on request of IEPA or US EPA. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any for desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site <https://www.dol.gov/whd/forms/index.html>. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient, for transmission to the IEPA, US EPA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient.

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

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

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

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

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

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

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(1) of this section available for inspection, copying, or transcription by authorized representatives of IEPA, US EPA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR5.12.

(4) Apprentices and trainees

(i) Apprentices. Apprentices will be permitted to work at less than predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as state above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid in the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with the determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainee. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by form certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and

Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at the trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will not longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

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

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

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

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

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

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

(10) Certification of eligibility.

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

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

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

4. Contract Provision for Contracts in Excess of \$100,000 – clauses (1) through (4) shall be inserted in full in any contract in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act.

Contract Work Hours and Safety Standards Act.

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

(2) Violation: liability for unpaid wages: liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanics, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$25 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

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

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

The following shall be inserted into any contract subject only to the Contract Work Hours and Safety Standards Act.

The contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the US EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following unit prices or lump sum:

BID SCHEDULE

NOTE: BIDS shall include sales tax and all other applicable taxes and fees.

No.	Item	Quantity	Unit	Unit Price	Total Price
1	Temporary Utilities, Complete	1	LS		
2	Site Demolition, Complete	1	LS		
3	6" Sanitary Sewer Service with 6" Dia. Cleanout	1	EA		
4	5' Dia. Sanitary Manhole	1	EA		
5	24" Dia. PVC Sanitary Sewer, AWWA C905, ASTM D3139	47	LF		
6	12" Dia. PVC Sanitary Force Main, AWWA C905, ASTM D3139	43	LF		
7	PCC Sidewalk, 4"	235	SF		
8	Temporary Pavement	418	SY		
9	Rock Excavation	88	CY		
10	Duplex Submersible Pump Station, Complete	1	LS		
11	Valve Vault, Complete	1	LS		
12	Building Renovations, Complete	1	LS		
13	General Electric, Complete	1	LS		
14	Standby Power Generating System Complete	1	LS		
15	Site Restoration and Seeding	1	LS		

TOTAL OF BID..... \$_____

Bidder is currently certified as an MBE or WBE under EPA’S DBE Program?

Yes _____ No _____

Respectfully submitted:

Signature

Address

Title

Date

License Number (if applicable)
(SEAL - if BID is by a corporation)

Attest _____

Major Items of Equipment

It is hereby expressly agreed that the Contractor shall furnish and install in full compliance with the Plans and Contract Documents, the major items of equipment, as manufactured or supplied by the following listed manufacturers or suppliers:

No.	Description	Manufacturer or Supplier
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		

Prevailing Wage rates for
Winnebago County
effective Sept. 1, 2017

Trade Title

Rev. 9/25/17 in green

Trade Title	Region	Type	Class	Base Wage	Foreman Wage	M-F OT	OSA	OSH	H/W	Pension	Vacation	Training
ASBESTOS ABT-GEN	ALL	BLD		37.75	38.75	1.5	1.5	2	8.52	17.79	0.00	0.80
ASBESTOS ABT-MEC	ALL	BLD		18.95	0.00	1.5	1.5	2	2.70	3.35	0.00	0.00
BOILERMAKER	ALL	BLD		48.49	52.86	2	2	2	6.97	19.61	0.00	0.90
BRICK MASON	ALL	BLD		39.42	42.17	1.5	1.5	2	10.10	12.02	0.00	0.89
CARPENTER	ALL	BLD		39.40	43.73	1.5	1.5	2	10.39	13.90	0.00	0.60
CARPENTER	ALL	HWY		43.74	45.49	1.5	1.5	2	10.65	14.00	0.00	0.49
CEMENT MASON	ALL	ALL		36.99	39.74	1.5	1.5	2	10.85	15.49	0.00	0.50
CERAMIC TILE FNISHER	ALL	BLD		33.88	33.88	1.5	1.5	2	9.40	5.86	0.00	0.75
COMMUNICATION TECH	ALL	BLD		39.00	42.90	1.5	1.5	2	12.84	13.67	0.00	0.78
ELECTRIC PWR EQMT OP	ALL	ALL		37.89	51.48	1.5	1.5	2	5.00	11.75	0.00	0.38
ELECTRIC PWR EQMT OP	ALL	HWY		41.45	56.38	1.5	1.5	2	5.50	12.87	0.00	0.73
ELECTRIC PWR GRNDMAN	ALL	ALL		29.30	51.48	1.5	1.5	2	5.00	9.09	0.00	0.29
ELECTRIC PWR GRNDMAN	ALL	HWY		32.00	56.38	1.5	1.5	2	5.50	9.92	0.00	0.66
ELECTRIC PWR LINEMAN	ALL	ALL		45.56	51.48	1.5	1.5	2	5.00	14.06	0.00	0.45
ELECTRIC PWR LINEMAN	ALL	HWY		49.67	56.38	1.5	1.5	2	5.50	15.40	0.00	0.88
ELECTRIC PWR TRK DRV	ALL	ALL		30.34	51.48	1.5	1.5	2	5.00	9.40	0.00	0.30
ELECTRIC PWR TRK DRV	ALL	HWY		33.14	56.38	1.5	1.5	2	5.50	10.29	0.00	0.59
ELECTRICIAN	ALL	BLD		45.50	50.05	1.5	1.5	2	12.84	18.73	0.00	0.91
ELEVATOR CONSTRUCTOR	ALL	BLD		46.83	52.68	2	2	2	13.57	14.51	3.77	0.60
GLAZIER	ALL	BLD		39.53	39.53	1.5	1.5	1.5	10.55	8.20	0.00	1.25
HT/FROST INSULATOR	ALL	BLD		33.83	36.87	1.5	1.5	2	9.10	20.67	0.00	0.48
IRON WORKER	ALL	ALL		38.33	44.08	2	2	2	12.27	24.57	0.00	0.60
LABORER	ALL	BLD		32.84	33.84	1.5	1.5	2	8.52	17.79	0.00	0.80
LABORER	ALL	HWY		35.00	35.75	1.5	1.5	2	8.52	20.73	0.00	0.80
LABORER, SKILLED	ALL	HWY		37.75	38.50	1.5	1.5	2	8.52	20.73	0.00	0.80

LATHER	ALL	BLD		39.40	43.73	1.5	1.5	2	10.39	13.90	0.00	0.60
MACHINIST	ALL	BLD		45.35	47.85	1.5	1.5	2	7.26	8.95	1.85	0.00
MARBLE FINISHERS	ALL	BLD		33.88		1.5	1.5	2	9.40	5.86	0.00	0.75
MARBLE MASON	ALL	BLD		36.71	36.96	1.5	1.5	2	9.40	8.02	0.00	0.80
MATERIAL TESTER I	ALL	ALL		33.56	0.00	1.5	1.5	2	8.24	16.39	0.00	0.80
MATERIALS TESTER II	ALL	ALL		33.56	0.00	1.5	1.5	2	8.24	16.39	0.00	0.80
MILLWRIGHT	ALL	BLD		38.52	42.37	1.5	1.5	2	9.40	15.00	0.00	0.60
OPERATING ENGINEER	ALL	BLD	1	45.80	49.80	2	2	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	BLD	2	45.10	49.80	2	2	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	BLD	3	42.65	49.80	2	2	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	BLD	4	40.65	49.80	2	2	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	BLD	5	49.55	49.80	2	2	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	BLD	6	48.80	49.80	2	2	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	BLD	7	45.80	49.80	2	2	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	HWY	1	45.65	49.65	1.5	1.5	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	HWY	2	45.10	49.65	1.5	1.5	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	HWY	3	43.80	49.65	1.5	1.5	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	HWY	4	42.35	49.65	1.5	1.5	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	HWY	5	40.90	49.65	1.5	1.5	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	HWY	6	48.65	49.65	1.5	1.5	2	18.80	13.45	2.35	1.30
OPERATING ENGINEER	ALL	HWY	7	46.65	49.65	1.5	1.5	2	18.80	13.45	2.35	1.30
PAINTER	ALL	ALL		48.55	40.55	1.5	1.5	1.5	10.30	8.46	0.00	1.35
PILED RIVER	ALL	BLD		39.94	44.33	1.5	1.5	2	9.75	13.05	0.00	0.60
PILED RIVER	ALL	HWY		43.74	45.49	1.5	1.5	2	10.65	14.00	0.00	0.49
PIPEFITTER	ALL	BLD		47.30	50.61	1.5	1.5	2	8.79	11.94	0.00	1.45
PLASTERER	ALL	BLD		34.78	38.26	1.5	1.5	2	10.85	15.84	0.00	0.50
PLUMBER	ALL	BLD		47.30	50.61	1.5	1.5	2	8.79	11.94	0.00	1.45
ROOFER	ALL	BLD		42.30	45.30	1.5	1.5	2	9.08	12.14	0.00	0.58
SHEETMETAL WORKER	ALL	BLD		41.24	44.54	1.5	1.5	2	6.90	18.36	0.00	0.39
SPRINKLER FITTER	ALL	BLD		37.12	39.87	1.5	1.5	2	8.42	8.50	0.00	0.35
STONE MASON	ALL	BLD		39.42	42.17	1.5	1.5	2	10.10	12.02	0.00	0.89

TERRAZZO FINISHER	ALL	BLD		33.88		1.5	1.5	2	9.40	5.86	0.00	0.75
TERRAZZO MASON	ALL	BLD		36.71	36.96	1.5	1.5	2	9.40	8.02	0.00	0.80
TILE LAYER	ALL	BLD		39.40	43.73	1.5	1.5	2	10.39	13.90	0.00	0.60
TILE MASON	ALL	BLD		36.71	36.96	1.5	1.5	2	9.40	8.02	0.00	0.80
TRUCK DRIVER	ALL	ALL	1	35.02	0.00	1.5	1.5	2	8.60	8.60	0.00	0.20
TRUCK DRIVER	ALL	ALL	2	35.17	0.00	1.5	1.5	2	8.60	8.60	0.00	0.20
TRUCK DRIVER	ALL	ALL	3	35.37	0.00	1.5	1.5	2	8.60	8.60	0.00	0.20
TRUCK DRIVER	ALL	ALL	4	35.48	0.00	1.5	1.5	2	8.60	8.60	0.00	0.20
TUCK POINTER	ALL	BLD		39.42	42.17	1.5	1.5	2	10.10	12.02	0.00	0.89

Legend

M-F OT Unless otherwise noted, OT pay is required for any hour greater than 8 worked each day, Mon through Fri. The number listed is the multiple of the base wage.

OSA Overtime pay required for every hour worked on Saturdays

OSH Overtime pay required for every hour worked on Sundays and Holidays

H/W Health/Welfare benefit

Explanations WINNEBAGO COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date. **ASBESTOS - MECHANICAL** - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER, MARBLE FINISHER, TERRAZZO FINISHER

Assisting, helping or supporting the tile, marble and terrazzo mechanic by performing their historic and traditional work assignments required to complete the proper installation of the work covered by said crafts. The term "Ceramic" is used for naming the classification only and is in no way a limitation of the product handled. Ceramic takes into consideration most hard tiles.

COMMUNICATIONS TECHNICIAN

Installing, manufacturing, assembling and maintaining sound and intercom, protection alarm (security), fire alarm, master antenna television, closed circuit television, low voltage control for computers and/or door monitoring, school communications systems, telephones and servicing of nurse and emergency calls, and the installation and maintenance of transmit and receive antennas, transmitters, receivers, and associated apparatus which operates in conjunction with above systems. All work associated with these system installations will be included EXCEPT the installation of protective metallic conduit in new construction projects (excluding less than ten-foot, runs strictly for protection of cable) and 120 volt AC (or higher) power wiring and associated hardware.

LABORER, SKILLED - HIGHWAY

Individuals engaged in the following types of work, irrespective of the site of the work: asbestos abatement worker, handling of any materials with any foreign matter harmful to skin or clothing, track laborer, cement handlers, chloride handlers, the unloading and loading with steel workers and re-bars, concrete workers wet, tunnel helpers in free air, batch dumpers, mason tenders, kettle and tar men, tank cleaners, plastic installers, scaffold workers, motorized buggies or motorized unit used for wet concrete or handling of building materials, laborers with de-watering systems, sewer workers plus depth, rod and chainmen with technical engineers, rod and chainmen with land surveyors, rod and chainmen with surveyors, vibrator operators, cement silica, clay, fly ash, lime and plasters, handlers (bulk or bag), cofferdam workers plus depth, on concrete paving, placing, cutting and tying of reinforcing, deck hand, dredge hand, and shore laborers, bankmen on floating plant, grade checker, power tools, front end man on chip spreaders, cession workers plus depth, gunnite nozzle men, lead man on sewer work, welders, cutters, burners and torchmen, chainsaw operators, jackhammer and drill operators, layout man and/or drainage tile layer, steel form setter - street and highway, air tamping hammermen, signal man on crane, concrete saw operator, screedman on asphalt pavers, laborers tending masons with hot material or where foreign materials are used, mortar mixer operators, multiple concrete duct - leadsman, lumen, asphalt raker, curb asphalt machine operator, ready mix scalemen (permanent, portable or temporary plant), laborers handling masterplate or similar materials, laser beam operator, con-crete burning machine operator, coring machine operator, plaster tender, underpinning and shoring of buildings, pump men, manhole and catch basin, dirt and stone tamper, hose men on concrete pumps, haz-ardous waste worker, lead base paint

abatement worker, lining of pipe, refusing machine, assisting on direct boring machine, the work of laying watermain, fire hydrants, all mechanical joints to watermain work, sewer worker, and tapping water service and forced lift station mechanical worker.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEERS - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver (over 27E cu. ft.): Concrete Paver (27 cu. ft. and under); Concrete Placer; Concrete Pump (Truck Mounted); Concrete Conveyor (Truck Mounted); Concrete Tower; Cranes, All; GCI and similar types (required two operators only); Cranes, Hammerhead; Creter Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, one, two and three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment - excluding hose work and any sewer work); Locomotives, All; Lubrication Technician; Manipulators; Motor Patrol; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Raised and Blind Hole Drill; Rock Drill (self-propelled); Rock Drill - Truck Mounted; Roto Mill Grinder; Scoops - Tractor Drawn; Slipform Paver; Scrapers Prime Movers; Straddle Buggies; Tie Back Machine; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Bobcat (over 3/4 cu. yd.); Boilers; Brick Forklift; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Asphalt Spreader; Combination - Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators - (Rheostat Manual Controlled); Hydraulic Power Units (Pile Driving, Extracting, or Drilling - with a seat); Lowboys; Pumps, Over 3" (1 to 3 not to exceed total of 300 ft.); Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches; Bobcat (up to and including 3/4 cu. yd.).

Class 4. Elevator push button with automatic doors; Hoists, Inside; Oilers; Brick Forklift.

Class 5. Assistant Craft Foreman

Class 6. Mechanics; Welders.

Class 7. Grادل

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Silo Tender; Asphalt Spreader; Autograder; ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Backhoe w/shear attachments; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower of all types; Creter Crane; Crusher, Stone, etc.; Derricks, All; Derricks Boats; Derricks, Traveling; Directional Boring Machine over 12"; Dredges; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Grader, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Mounted; Hoists, One, Two and Three Drum; Hydraulic Backhoes; Hydro Vac, Self Propelled, Truck Mounted (excluding hose work and any sewer work); Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; GCI Crane; Hydraulic Telescoping Form (Tunnel); Tie Back Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader with attached pusher; Tractor with Boom; Tractaire with Attachments; Traffic Barrier Conveyor Machine; Raised or Blind Hole Drills; Trenching Machine (over 12"); Truck Mounted Concrete Pump with Boom; Truck Mounted Concrete Conveyor; Work Boat (no license required - 90 h.p. or above); Underground Boring and/or Mining Machines; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw (large self-propelled - excluding walk-behinds and hand-held); Conveyor Muck Cars (Haglund or Similar Type); Drills, all; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro Blaster; All Locomotives, Dinky; Off-Road Hauling Units; Non-Self Loading Dump; Ejection Pump; Pump Cretes; Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Scoops - Tractor Drawn; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper; Scraper - Prime Mover in Tandem (Regardless of Size); Tank Car Heater; Tractors, Push, Pulling Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Fireman on Boilers; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper - Form - Motor Driven.

Class 4. Air Compressor - Small and Large; Asphalt Spreader, Backend Man; Bobcat (Skid Steer) all; Brick Forklift; Combination - Small Equipment Operator; Directional Boring Machine up to 12"; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Hydro-Blaster; Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Tractaire; Trencher 12" and under; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. Oilers and Directional Boring Machine Locator.

Class 6. Field Mechanics and Field Welders

Class 7. Gradall and machines of like nature.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters Unskilled dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetots under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetots 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable

Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

Fair Employment Practices Affidavit of Compliance

PROJECT: Fuller Creek Phase F, Pump Station Installation, Capital Project No. 1566, IEPA Project No. L17-5306

NOTE: THE BIDDER MUST EXECUTE THIS AFFIDAVIT AND SUBMIT IT WITH ITS SIGNED BID. THE ROCK RIVER WATER RECLAMATION DISTRICT CANNOT ACCEPT ANY BID WHICH DOES NOT CONTAIN THIS AFFIDAVIT

_____, being first duly sworn, deposes and says that:
(Name of person making affidavit)

They are: _____ of _____
(Officer's Title) (Company Name)

that said company is and "Equal Opportunity Employer" as defined by Section 2000(e) of Chapter 21, Title 42 of the United States Code annotated and Federal Executive Orders #11375 which are incorporated herein by reference;

and that said company will comply with any and all requirements of Title 44 Admin. Code 750. APPENDIX A – Equal Opportunity Clause, Rules and Regulations, Illinois Department of Human Rights, which read as follows:

"In the event of the contractor's non-compliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act or the Rules and Regulations of the Illinois Department of Human Rights ("Department"), the contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation. During the performance to this contract, the contractor agrees as follows:

1. That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, marital status, national origin or ancestry, citizen status, age, physical or mental handicap unrelated to ability, sexual orientation, military status or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
2. That, if he or she hires additional employees in order to perform this contract or any portion of this contract, he or she will determine the availability (in accordance with the Department's Rules and Regulations) of minorities and women in the areas from which he or she may reasonably recruit and he or she will hire for each job classification for which employees are hired in a way that minorities and women are not underutilized.
3. That, in all solicitations or advertisements for employees placed by him or her or on his or her behalf, he or she will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, national origin or ancestry, citizenship status, age, physical or mental handicap unrelated to ability, sexual orientation, military status or an unfavorable discharge from military service.
4. That he or she will send to each labor organization or representative of workers with which he or she has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any labor organization or representative fails or refuses to cooperate with the contractor in his or her efforts to comply with such Act and Rules and Regulations, the contractor will promptly so notify the Department and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations under the contract.
5. That he or she will submit reports as required by the Department's Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Departments Rules and Regulations.
6. That he or she will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Department for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.
7. That he or she will include verbatim or by reference the provisions of this clause in every subcontract awarded under which any portion of the contract obligations are undertaken or assumed, so that the provisions will be binding upon the subcontractor. In the same manner as with other provisions of this contract, the contractor will be liable for compliance with applicable provisions of this clause by such subcontractors; and further it will promptly notify the contracting agency and the Department in the event any subcontractor fails or refuses to comply with the provisions. In addition, the contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

(Source: Amended at 32 Ill. Reg. 16484, effective September 23, 2008)"

IL Dept of Human Rights Registration No.: _____ Expiration Date: _____

Signature

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____
_____ as Principal, and
_____ as Surety, are hereby held and
firmly bound unto Rock River Water Reclamation District as OWNER in the penal sum of five percent (5%) of the total Bid price for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, _____.

The Condition of the above obligation is such that whereas the Principal has submitted to Rock River Water Reclamation District a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for the Fuller Creek Phase F, Pump Station Installation, Capital Project No. 1566, IEPA Project No. L17-5306.

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____(L.S.)
Principal

Surety

By: _____

IMPORTANT-Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

Agreement

THIS AGREEMENT, made this _____ day of _____, 20 _____, by and between _____, hereinafter called "OWNER" and _____ doing business as (an individual) or (a partnership) or (a corporation) hereinafter called "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete the construction of Fuller Creek Phase F, Pump Station Installation, Capital Project No. 1566 IEPA Project No. L17-5306.
2. The CONTRACTOR will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the PROJECT described herein.
3. The CONTRACTOR will commence the work required by the Contract Documents within one (1) calendar day after the date of the NOTICE TO PROCEED and will complete all work by January 31, 2019 unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS.
4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of \$ _____, or as shown in the BID schedule.
5. The term "CONTRACT DOCUMENTS" means and includes the following:
 - (A) Advertisement for BIDS
 - (B) Information for BIDDERS
 - (C) Instructions for BIDDERS
 - (D) BID
 - (E) BID BOND
 - (F) Agreement
 - (G) Payment BOND
 - (H) Performance BOND
 - (I) NOTICE OF AWARD
 - (J) NOTICE TO PROCEED
 - (K) CHANGE ORDER
 - (L) DRAWINGS prepared by Rock River Water Reclamation numbered 1 through 12, and dated March 6, 2018
 - (M) SPECIFICATIONS prepared by Rock River Reclamation District, dated March 6, 2018
 - (N) ADDENDA:
 - No. _____, dated _____, 20 _____
 - No. _____, dated _____, 20 _____
 - No. _____, dated _____, 20 _____

6. The OWNER will pay to the CONTRACTOR in the manner and at such times, such amounts as required by the CONTRACT DOCUMENTS.

7. The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

8. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in (triplicate) each of which shall be deemed an original on the date first above written.

OWNER:

By _____
Name _____
Title _____

(Please Type)

(SEAL)

ATTEST:

Name _____
(Please Type)
Title _____

CONTRACTOR:

By _____
Name _____
Address _____

(Please Type)

(SEAL)

ATTEST:

Name _____
(Please Type)

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bound unto Rock River Water Reclamation District, 3501 Kishwaukee Street, Rockford, IL 61109 hereinafter called OWNER, in the penal sum of _____ (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 20 _____, a copy of which is hereto attached and made a part hereof for the construction of:

_____.
NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed hereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive 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.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this _____ day of _____ 20 _____.

ATTEST:

By: _____

(SEAL)

ATTEST:

(SEAL)

By: _____

NOTE: Date of BOND must not be prior to date of Contract.
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bound unto Rock River Water Reclamation District, 3501 Kishwaukee Street, Rockford, IL 61109 hereinafter called OWNER, in the penal sum of _____
(\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:

_____.

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed hereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive 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.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this _____ day of _____ 20 _____.

ATTEST:

(SEAL)

By: _____

ATTEST:

By: _____

NOTE: Date of BOND must not be prior to date of Contract.

If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

Notice of Intent to Award

To: _____

PROJECT Description: Fuller Creek Phase F, Pump Station Installation, Capital Project No. 1566, IEPA Project No. L17-5306

The OWNER has considered the BID submitted by you for the above described WORK, in response to its Advertisement for Bids, dated _____ and Information for Bidders.

You are hereby notified that your BID will be accepted, contingent upon Illinois Environmental Protection Agency (IEPA) approval, for items in the amount of \$ _____.

You will be required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and certificates of insurance listing the Rock River Water Reclamation District as Additional insured parties within ten (10) calendar days from the date of the final Notice to be sent upon IEPA approval, to you.

Dated this _____ day of _____

(Owner)

By _____

Title _____

Notice of Award

To: _____

PROJECT Description: Fuller Creek Phase F, Pump Station Installation, Capital Project No. 1566, IEPA Project No. L17-5306

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated _____, 20____ and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$_____.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTORS Performance BOND, Payment BOND and certificates of insurance listing the Rock River Water Reclamation District as Additional insured parties within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 20_____.

(Owner)

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged,

By _____,

this _____ day of _____, 20_____.

By _____

Title _____

Notice to Proceed

To: _____

Date: _____

Project: Fuller Creek Phase F, Pump Station Installation,
Capital Project No. 1566, IEPA Project No. L17-5306

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 20 _____, on or before _____, 20 _____, and you are to complete all work by January 31, 2019.

(Owner)

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED
is hereby acknowledged by:

this _____ day of

_____, 20 ____.

By _____

Title _____

Change Order

No. _____

Date of Issuance: _____ Effective Date: _____

Project:	Owner:	Owner's Contract No.:
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

The Contract Documents are modified as follows upon execution of this Change Order:

Description: _____

Attachments: (List documents supporting change): _____

CHANGE IN CONTRACT PRICE:

Original Contract Price:

\$ _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:

\$ _____

Contract Price prior to this Change Order:

\$ _____

[Increase] [Decrease] of this Change Order:

\$ _____

Contract Price incorporating this Change Order:

\$ _____

CHANGE IN CONTRACT TIMES:

Original Contract Times: ☐ Working days ☐ Calendar days

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:

Substantial completion (days): _____

Ready for final payment (days): _____

Contract Times prior to this Change Order:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] of this Change Order:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

Contract Times with all approved Change Orders:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

RECOMMENDED:

By: _____
Engineer (Authorized Signature)

Date: _____

ACCEPTED:

By: _____
Owner (Authorized Signature)

Date: _____

ACCEPTED:

By: _____
Contractor (Authorized Signature)

Date: _____

Approved by Funding Agency (if applicable): _____

Date: _____

EJCDC No. C-941 (2002 Edition)

Page 2 of 2

Prepared by the Engineers' Joint Contract Documents Committee and endorsed by the Associated General Contractors of America and the Construction Specifications Institute.

Change Order

Instructions

A. GENERAL INFORMATION

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Work Change Directive must be incorporated into a subsequent Change Order if they affect Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating Change Orders to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed in the Agreement, any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order should be used.

B. COMPLETING THE CHANGE ORDER FORM

Engineer normally initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Contractor, or requests from Owner, or both.

Once Engineer has completed and signed the form, all copies should be sent to Owner or Contractor for approval, depending on whether the Change Order is a true order to the Contractor or the formalization of a negotiated agreement for a previously performed change. After approval by one contracting party, all copies should be sent to the other party for approval. Engineer should make distribution of executed copies after approval by both parties.

If a change only applies to price or to times, cross out the part of the tabulation that does not apply.

**Notice of Requirement for Affirmative Action to
Ensure Equal Employment Opportunity (Executive Order 11246)**

1. The Offeror or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables	Goals for minority participation for each trade	Goals for female participation in each trade
	6.3%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area.

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

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

As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is Illinois, Winnebago County, City of Rockford, City of Loves Park, and the Village of Machesney Park.

Construction Contractors Affirmative Action Requirements
Goals for Minority Participation
(As published in the Friday, October 3, 1980 Federal Register)
Female participation = 6.9% Statewide

<u>County</u>	<u>Percentage</u>	<u>County</u>	<u>Percentage</u>	<u>County</u>	<u>Percentage</u>
Adams	3.1%	Henry	4.6%	Perry	11.4%
Alexander	11.4%	Iroquois	18.4%	Piatt	4.8%
Bond	11.4%	Jackson	11.4%	Pike	3.1%
Boone	6.3%	Jasper	11.4%	Pope	5.2%
Brown	3.1%	Jefferson	11.4%	Pulaski	11.4%
Bureau	18.4%	Jersey	11.4%	Putnam	18.4%
Calhoun	11.4%	Jo Davis	0.5%	Randolph	11.4%
Carroll	3.4%	Johnson	11.4%	Richland	11.4%
Cass	4.0%	Kane	19.6%	Rock Island	4.6%
Champaign	7.8%	Kankakee	9.1%	Saline	3.5%
Christian	4.0%	Kendall	18.4%	Sangamon	4.5%
Clark	2.5%	Knox	3.3%	Schuyler	3.3%
Clay	11.4%	Lake	19.6%	Scott	4.0%
Clinton	14.7%	La Salle	18.4%	Shelby	4.0%
Coles	4.8%	Lawrence	3.5%	Stark	3.3%
Cook	19.6%	Lee	4.6%	St. Clair	14.7%
Crawford	2.5%	Livingston	18.4%	Stephenson	4.6%
Cumberland	4.8%	Logan	4.0%	Tazwell	4.4%
De Kalb	18.4%	Macon	7.6%	Union	11.4%
De Witt	4.0%	Macoupin	11.4%	Vermilion	4.8%
Douglas	4.8%	Madison	14.7%	Wabash	3.5%
Du Page	19.6%	Marion	11.4%	Warren	3.3%
Edgar	4.8%	Marshall	3.3%	Washington	11.4%
Edwards	3.5%	Mason	3.3%	Wayne	11.4%
Effingham	11.4%	Massac	5.2%	White	3.5%
Fayette	11.4%	McDonough	3.3%	Whiteside	3.4%
Ford	4.8%	McHenry	19.6%	Will	20.9%
Franklin	11.4%	McLean	2.5%	Williamson	11.4%
Fulton	3.3%	Menard	4.5%	Winnebago	6.3%
Gallatin	3.5%	Mercer	3.4%	Woodford	4.4%
Greene	11.4%	Monroe	14.7%		
Grundy	18.4%	Montgomery	11.4%		
Hamilton	3.5%	Morgan	4.0%		
Hancock	3.4%	Moultrie	4.0%		
Hardin	5.2%	Ogle	4.6%		
Henderson	3.4%	Peoria	4.4%		

41 CFR 60

60-4.1 Scope and Application.

This part applies to all contractors and subcontractors that hold any Federal and federally assisted construction contract in excess of \$10,000. The regulations in this part are applicable to all of a construction contractor's or subcontractor's construction employees who are engaged in on site construction including those construction employees who work on a non-Federal or non-federally assisted construction site. This part also establishes procedures, which all Federal contracting officers and all applicants, as applicable, shall follow in soliciting for and awarding Federal or federally assisted construction contracts. Procedures also are established which administering agencies shall follow in making any grant, contract, loan, insurance, or guarantee involving federally assisted construction which is not exempt from the requirements of Executive Order 11246, as amended. In addition, this part applies to construction work performed by construction contractors and subcontractors for Federal non-construction contractors and subcontractors if the construction work is necessary in whole or in part to the performance of a non-construction contract or subcontract.

[43 FR 49254, Oct. 20, 1978; 43 FR 51404, Nov. 3, 1978]

60-4.2 Solicitations

- (a) All Federal contracting officers and all applicants shall include the notice set forth in paragraph (d) of this section and the Standard Federal Equal Employment Opportunity Construction Contract Specifications set forth in § 60-4.3 of this part in all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts to be performed in geographical areas designated by the Director pursuant to § 60-4.6 of the part. Administering agencies shall require the inclusion of the notice set forth in paragraph (d) of this section and the specifications set forth in § 60-4.3 of this part as a condition of any grant, contract, subcontract, loan, insurance or guarantee involving federally assisted construction covered by this Part 60-4.
- (b) All non-construction contractors covered by Executive Order 11246 and the implementing regulations shall include the notice in paragraph (d) of this section in all construction agreements, which are necessary in whole or in part to the performance of the covered non-construction contract.
- (c) Contracting officers, applications and non-construction contractors shall give written notice to the Director within 10 working days of award of a contract subject to these provisions. The notification shall include the name, address and telephone number of the contractor; employer identification number; dollar amount of the contract; estimated starting and completion dates of the contract; the contract number; and geographical area in which the contract is to be performed.
- (d) The following notice shall be included in, and shall be a part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in

excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to § 60-4.6 of this part (see 41 CFR 60-4.2(a)).

Not to be used for bidding purposes

**Notice of Requirement for Affirmative Action to
Ensure Equal Employment Opportunity (Executive Order 11246)**

1. The Offeror or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Time-tables	Goals for minority participation for each trade	Goals for female participation in each trade
	Insert goals for each year.	Insert goals for each year.

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

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

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is Illinois, Winnebago County, City of Rockford, City of Loves Park, and the Village of Machesney Park.

[43 FR 49254, Oct. 20, 1978; 43 FR 51401, Nov. 3, 1978, as amended at 45 FR 65977, Oct. 3, 1980]

60-4.3 Equal Opportunity Clauses.

- (a) The equal opportunity clause published at 41 CFR 60-1.4(a) of this chapter is required to be included in, and is part of, all nonexempt Federal contracts and subcontracts, including construction contracts and subcontracts. The equal opportunity clause published at 41 CFR 60-1.4(b) is required to be included in, and is a part of, all nonexempt federally assisted construction contracts and subcontracts. In addition to the clauses described above, all Federal contracting officers, all applicants, and all non-construction contractors, as applicable, shall include the specifications set forth in this section in all Federal and federally assisted construction contracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to 60-4.6 of this part and in construction subcontracts in excess of \$10,000 necessary in whole or in part to the performance of non-construction Federal contracts and subcontracts covered under the Executive order.

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

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted.
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority.
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - d. "Minority" includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin)
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

- Not to be used for bidding purposes
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with the Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
 4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
 5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, nor the regulations promulgated pursuant thereto.
 6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, the Contractor must employ such apprentices and trainees during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
 7. The Contractor shall take specific affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned

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

- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore; along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written

record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women, and where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of the Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practice, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating

to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice trainee, helper or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

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

- (b) The notice set forth in 41 CFR 60-4.2 and the specifications set forth in 41 CFR 60-4.3 replace the New Form for Federal Equal Employment Opportunity Bid Conditions for Federal and Federally Assisted Construction published at 41 FR 32482 and commonly known as the Model Federal EEO Bid Conditions, and the New Form shall not be used after the regulations in 41 CFR Part 60-4 become effective.

[43 FR 49254, Oct. 20, 1978; 43 FR 51401, Nov. 3, 1978, as amended at 45 FR 65978, Oct. 3, 1980]

60-4.4 Affirmative Action Requirements

- (a) To implement the affirmative action requirements of Executive Order 11246 in the construction industry, the Office of Federal Contract Compliance Programs previously has approved affirmative action programs commonly referred to as "Hometown Plans," has promulgated affirmative action plans referred to as "Imposed Plans" and has approved "Special Bid Conditions" for high impact projects constructed in areas not covered by a Hometown or an Imposed Plan. All solicitations for construction contracts made after the effective date of the regulations in this part shall include the notice specified in § 60-4.2 of this part and the specifications in § 60-4.3 of this part in lieu of the Hometown and Imposed Plans including the Philadelphia Plan and Special Bid Conditions. Until the Director has issued an order pursuant to § 60-4.6 of this part establishing goals and timetables for minorities in the appropriate geographical areas or for a project covered by Special Bid Conditions, the goals and timetables for minorities to be inserted in the Notice required by 41 CFR 60-4.2 shall be the goals and timetables contained in the Hometown Plan, Imposed Plan or Special Bid Conditions presently covering the respective geographical area or project involved.
- (b) Signatories to a Hometown Plan (including heavy highway affirmative action plans) shall have 45 days from the effective date of the regulations in this part to submit under such a Plan (for the director's approval) goals and timetables for women and to include female representation on the Hometown Plan Administrative Committee. Such goals for female representation shall be at least as high as the goals established for female representation

in the notice issued pursuant to 41 CFR 60-4.6. Failure of the signatories, within the 45-day period, to include female representation and to submit goals for women or a new plan, as appropriate, shall result in an automatic termination of the Office of Federal Contract Compliance Program's approval of the Hometown Plan. At any time the Office of Federal Contract Compliance Programs terminates or withdraws its approval of a Hometown Plan, or when the plan expires and another plan is not approved, the contractors signatory to the plan shall be covered automatically by the specifications set forth in § 60-4.3 of this part and by the goals and timetables established for that geographical area pursuant to § 60-4.6 of this part.

60-4.5 Hometown Plans

(a) A contractor participating, either individually or through an association, in an approved Hometown Plan (including heavy highway affirmative action plans) shall comply with its affirmative action obligations under Executive Order 11246 by complying with its obligations under the plan: *Provided*, that each contractor or subcontractor participating in an approved plan is individually required to comply with the equal opportunity clause set forth in 41 CFR 60-1.4; to make a good faith effort to achieve the goals for each trade participating in the plan in which it has employees; and that the overall good performance by other contractors or subcontractors toward a goal in an approved plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the plan's goals and timetables. If a contractor is not participating in an approved Hometown Plan it shall comply with the specifications set forth in § 60-4.3 of this part and with the goals and timetables for the appropriate area as listed in the notice required by 41 CFR 60-4.2 with regard to that trade. For the purposes of this part 60-4, a contractor is not participating in a Hometown Plan for a particular trade if it:

- (1) Ceases to be signatory to a Hometown Plan covering that trade;
- (2) Is signatory to a Hometown Plan for that trade but is not party to a collective bargaining agreement for that trade;
- (3) Is signatory to a Hometown Plan for that trade but is party to a collective bargaining agreement with labor organizations, which are not or cease to be signatories to the same Hometown Plan for that trade;
- (4) Is signatory to a Hometown Plan for that trade but is party to a collective bargaining agreement with a labor organization for that trade but the two have not jointly executed a specific commitment to minority and female goals and timetables and incorporated the commitment in the Hometown Plan for that trade;
- (5) Is participating in a Hometown Plan for that trade which is no longer acceptable to the Office of Federal Contract Compliance Programs;
- (6) Is signatory to a Hometown Plan for that trade but is party to a collective bargaining agreement with a labor organization for that trade and the labor organization and the contractor have failed to make a good faith effort to comply with their obligations under the Hometown Plan for that trade.

(b) Contractor participating in Hometown Plans must be able to demonstrate their participation and document their compliance with the provision of the Hometown Plan.

[43 FR 49254, OCT. 20, 1978; 43 FR 51401, NOV. 3, 1978]

60-4.6 Goals and Timetables

The Director, from time to time, shall issue goals and timetables for minority and female utilization, which shall be based on appropriate workforce, demographics, and other relevant data and which shall cover construction projects or construction contracts performed in specific geographical areas. The goals, which shall be applicable to each construction trade in a covered contractor's or subcontractor's entire workforce which is working in the area covered by the goals and timetables, shall be published as notices in the Federal Register, and shall be inserted by the contracting officers and applicants, as applicable, in the Notice required in 41 CFR 60-4.2. Covered construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed.

[45 FR 65978, OCT. 3, 1980]

60-4.7 Effect on Other Regulations

The regulations in this part are in addition to the regulations contained in this chapter, which apply to construction contractors and subcontractors generally. See particularly, 41 CFR 60-1.4 (a), (b), (c), (d), and (e); 60-1.5; 60-1.7; 60-1.8; 60-1.26; 60-1.29; 60-1.30; 60-1.32; 60-1.41; 60-1.42; 60-1.43; and 41 CFR Part 60-3; Part 60-20; Part 60-30; Part 60-40; and Part 60-50.

60-4.8 Show Cause Notice

If an investigation or compliance review reveals that a construction contractor or subcontractor has violated the Executive order, any contract clause, specifications or the regulations in this chapter and if administrative enforcement is contemplated, the Director shall issue to the contractor or subcontractor a notice to show cause which shall contain the items specified in paragraphs (i) through (iv) of 41 CFR 60-2.2(c)(1). In the contractor does not show good cause within 30 days, or in the alternative, fails to enter an acceptable conciliation agreement which includes where appropriate, make up goals and timetables, back pay, and seniority relief for affected class members, the OFCCP shall follow the procedure in 41 CFR 60-1.26(b): *Provided*, that where a conciliation agreement has been violated, no show cause notice is required prior to the initiation of enforcement proceedings.

[43 FR 49254, OCT. 20, 1978; 43 FR 51401, NOV. 3, 1978]

60-4.9 Incorporation by Operation of the Order

By operation of the order, the equal opportunity clause contained in § 60-1.4, the Notice of Requirements for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246) contained in § 60-4.2, and the Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246) contained in § 60-4.3 shall be

deemed to be a part of every solicitation or of every contract and subcontract, as appropriate, required by the order and the regulations in this chapter to include such clauses whether or not they are physically incorporated in such solicitation or contract and whether or not the contract is written.

Not to be used for bidding purposes

**U.S. Environmental Protection Agency
Certification of Nonsegregated Facilities**

(Applicable to federally assisted construction contracts and related subcontracts exceeding \$10,000 that are not exempt from the Equal Opportunity clause.)

The federally assisted construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom or otherwise. The federally assisted construction contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certification in his files.

Signature

Date

Name and Title of Signer (Please type)

Firm Name

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

Notice to Labor Unions or Other Organizations of Workers
Nondiscrimination in Employment

To: _____
(Name of union or organization of workers)

The undersigned currently holds contract(s) with _____
(name of applicant)

involving funds or credit of the U.S. Government or (a) subcontract(s) with a prime contractor holding such contract(s).

You are advised that under the provisions of the above contracts(s) or subcontract(s) and in accordance with Executive Order 11246, as amended, dated September 24, 1965, as amended, the undersigned is obliged not to discriminate against any employee or applicant for employment because of race, color, creed or national origin. This obligation not to discriminate in employment includes, but is not limited to, the following:

HIRING, PLACEMENT, UPGRADING, TRANSFER OR DEMOTION, RECRUITMENT, ADVERTISING, OR SOLICITATION FOR EMPLOYMENT, TRAINING DURING EMPLOYMENT, RATES OF PAY OR OTHER FORMS OF COMPENSATION, SELECTION FOR TRAINING INCLUDING APPRENTICESHIP, LAYOFF OR TERMINATION.

This notice is furnished you pursuant to the provisions of the above contract(s) or subcontracts(s) and Executive Order 11246, as amended.

Copies of this notice will be posted by the undersigned in conspicuous places available to employees or applicants for employment.

(Contractor or Subcontractor)

(Date)

**United States Environmental Protection Agency
Washington, DC 20460**

Certification Regarding Debarment, Suspension and Other Responsibility Matters

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

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in fine of up to \$10,000 or imprisonment for up to 5 years, or both.

(Typed Name & Title of Authorized Representative)

(Signature of Authorized Representative)

(Date)

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

EPA FORM 5700-49 (11-88)

Instructions

Under Executive Order 12549 an individual or organization debarred or excluded from participation in Federal assistance or benefit programs may not receive any assistance award under a Federal program, or a sub-agreement thereunder for \$25,000 or more.

Accordingly, each prospective recipient of an EPA grant, loan, or cooperative agreement and any contract or sub-agreement participant thereunder must complete the attached certification or provide an explanation why they cannot. For further details, see 40 CFR 32.510, Participants' responsibilities, in the attached regulation.

Where to Submit

The prospective EPA grant, loan, or cooperative agreement recipient must return the signed certification or explanation with its application to the appropriate EPA Headquarters or Regional office, as required in the application instructions.

A prospective prime contractor must submit a completed certification or explanation to the individual or organization awarding the contract.

Each prospective subcontractor must submit a completed certification or explanation to the prime contractor for the project.

How to Obtain Forms:

EPA includes the certification form, instructions, and a copy of its implementing regulation (40 CFR Part 32) in each application kit. Applicants may reproduce these materials as needed and provide them to their prospective prime contractor, who, in turn, may reproduce and provide them to prospective subcontractors.

Additional copies/assistance may be requested from:

Compliance Branch
Grants Administration Division (PM-216F)
U.S. Environmental Protection Agency
401 M Street, SW
Washington DC 20460
(Telephone: 202-475-8025)

EPA Form 5700-19 (11-88)

**Construction Contracts of Loan Recipient and Other Sections from
“Procedures for Issuing Loans from the Water Pollution Control Loan Program”**

Sections 365.620(c) Negotiations of Contract Amendment (Change Orders)

2) Changes in contract price or time

The contract price or time may be changed only by a change order. When negotiations are required, they shall be conducted in accordance with subsection (c) of this Section.

3) For each change order the contractor shall submit to the loan recipient for review sufficient cost and pricing data to enable the loan recipient to ascertain the necessity and reasonableness of costs and amounts proposed, and the allowability and eligibility of costs proposed.

Section 365.620 (d) Required Construction Contract Provisions

Each construction contract shall include the following provisions:

1) Audit; access to records:

A) The contractor shall maintain books, records, documents and other evidence directly pertinent to performance on loan work in accordance with Generally Accepted Accounting Principles (GAAP). The contractor shall also maintain the financial information and data used by the contractor in the preparation or support of any cost submissions required under subsection (c) above, (Negotiation of Contract Amendments, Change Orders) and a copy of the cost summary submitted to the owner. The Auditor General, the owner, the Agency, or any of their duly authorized representatives shall have access to the books, records, documents, and other evidence for purposes of inspection, audit and copying. The contractor will provide facilities for such access and inspection.

B) If this contract is formally advertised, competitively awarded, fixed price contract, the contractor agrees to include access to records as specified in subsection (d)(1)(A) above. This requirement is applicable to all negotiated change orders and contract amendments in excess of \$25,000 that affect the contract price. In the case of all other prime contracts, the contractor also agrees to include access to records as specified above in all his or her contracts and all tier subcontracts or change orders in excess of \$25,000 that are directly related to project performance.

C) Audits shall be consistent in accordance with auditing standards generally accepted in the United States of America.

- D) The contractor agrees to the disclosure of all information and reports resulting from access to records pursuant to subsection (d)(1)(A) above. Where the audit concerns that contractor, the auditing agency will afford the contractor an opportunity for an audit exit conference and an opportunity to comment on the pertinent portions of the draft audit report. The final audit report shall include the written comments, if any, of the audited parties.
- E) The records required by subsection (d)(1)(A) above shall be maintained and made available during performance of the work under the loan agreement and for three years after the date of the final loan audit. In addition, records that relate to any dispute or litigation or the settlement of claims arising out of any performance, costs or items to which an audit exception has been taken, shall be maintained, and made available for three years after resolution of the dispute, appeal, litigation, claim or exception.
- F) The right of access will generally be exercised with respect to financial records under:
- i) Negotiated prime contracts
 - ii) Negotiated change orders or contract amendments in excess of \$25,000 affecting the price of any formally advertised, competitively awarded, fixed price contract; and
 - iii) Subcontracts or purchase orders under any contract other than a formally advertised, competitively awarded, fixed price contract.
- G) The right of access will generally not be exercised with respect to a prime contract, subcontract, or purchase order awarded after effective price competition. In any event, the right of access shall be exercised under any type of contract or subcontract:
- i) With respect to records pertaining directly to contract performance, excluding any financial records of the contractor; and
 - ii) If there is any indication that fraud, gross abuse, or corrupt practices may be involved in the award or performance of the contract or subcontract.

2) Covenant against contingent fees.

The contractor shall warrant that no person or selling agency has been employed or retained to solicit or secure the contract upon an agreement or understanding for a commission percentage, brokerage, or contingent fee. For breach or violation of this warranty, the owner shall have the right to annul the contract without liability or in its discretion to deduct from the contract price or

consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

3) Wage provisions.

The contractor shall pay prevailing wages in accordance with the Davis-Bacon Act (40 USC 276a through 276a-5) as defined by the U.S. Department of Labor). More information and guidance on the Davis-Bacon Wage Rate requirements is available on the IEPA website at:

<http://www.epa.state.il.us/water/forms.html1#financial-assistance>

4) Disadvantaged business enterprise requirements.

The contractor shall provide evidence, including, but not limited to, a copy of the advertisement or advertisements and the record of negotiation, that the contractor has taken affirmative steps in accordance with 40 CFR, Part 33 to assure that disadvantaged business enterprises are used when possible as sources of supplies, equipment, construction and services consistent with provisions of the Agency's Operating Agreement with USEPA.

5) Debarment and suspension provisions.

The contract shall require the successful bidder or bidders to submit a "Certificate Regarding Debarment, Suspension and Other Responsibility Matters" (EPA Form 5700-49) showing compliance with federal Executive Order 12549 (Appendix A, Exhibit C).

6) Non-segregated facilities provision

The successful bidder shall be required to submit a certification of non-segregated facilities as prescribed in 18 USC 1001.

Section 365.620(e) Subcontractors under Construction Contracts

The award or execution of all subcontractors by a prime contractor and the procurement and negotiation procedures used by the prime contractor shall comply with:

- 1) All applicable provisions of federal, State and local law;
- 2) All provisions of this Part 365 with respect to fraud and other unlawful or corrupt practices;
- 3) All provisions of this Part 365 with respect to access to facilities, records and audit of records; and

- 4) All provisions of subsection (d)(5) that require a “Certification Regarding Debarment, Suspension, and Other Responsibility Matters” (EPA Form 5700-49) showing compliance with federal Executive Order 12549 (Appendix A, Exhibit C).

Section 365.620(f) Contractor Bankruptcy

In the event of a contractor bankruptcy, the loan recipient shall notify the Agency and shall keep the Agency advised of any negotiations with the bonding company, including any proposed settlement. The Agency may participate in those negotiations and will advise the loan recipient of the impact of any proposed settlement to the loan agreement. The loan recipient shall be responsible for assuring that every appropriate procedure and incidental legal requirement is observed in advertising for bids and re-awarding a construction contract.

Section 365.640(c) Remedies

All claims, counter-claims, disputes, and other matters in question between the loan applicant and the contractor arising out of, or relating to a sub-agreement or its breach shall be decided by arbitration if the parties agree, or in a court of competent jurisdiction within the State.

Section 365.810(b) Access

Every contract entered into by the loan recipient for construction work, and every sub-agreement, shall provide the Agency representatives with access to the work. The contractor or subcontractor shall provide facilities for such access and inspection. The contract or sub-agreement shall also provide that the Agency or any authorized representative shall have access to any books, documents, papers and records that are pertinent to the project for the purpose of making audit, examination, excerpts and transcriptions.

Bidder Certification
In Compliance with Article 33E-11 to the
"Criminal Code of 2012"

I, _____, do hereby certify that:

1. I am _____ of the _____ and
(Position) (Firm)

have authority to execute this certification on behalf of the firm.

2. This firm is not barred from bidding on this contract due to either a Bid-rigging or Bid Rotating violation as set forth in Article 33E-11 to the "Illinois Criminal Code of 2012 [720 ILCS 5/33E-11]."

Name of Firm: _____

Signature: _____

Title: _____

Date: _____

Corporate Seal (where appropriate)

On this _____ day of _____, 20____, before me appeared (Name) _____
_____ to me personally known, who, being duly sworn, did
execute the foregoing affidavit, and did state that he or she was properly authorized by (Name of
Firm) _____ to execute the affidavit and did so as his or her free act and
deed.

Notary Public _____ Commission Expires _____

Notary Seal

Specification for Disadvantaged Business Enterprise Participation

Name of Loan Recipient: Rock River Water Reclamation District (RRWRD)

I. Disadvantaged Business Enterprise Policy

- A. It is the policy of the State of Illinois to award a fair share of sub-agreements to disadvantaged businesses (DBEs). In complying with this requirement, contractors are required to take affirmative steps to assure that disadvantaged businesses are used when possible as sources of supplies, equipment, construction, and services as explained herein.
- B. These specifications define the terms, conditions, and requirements of the State Revolving Fund Loan Program, and the RRWRD's policy and procedures for complying with these requirements.
- C. As required by the award conditions of USEPA's Assistance Agreement with IEPA, the fair share percentages are 5% for MBEs and 12% for WBEs.

II. Pre-Contract Award Obligations

- A. Bidders are required to advertise subcontracting opportunities and to negotiate with disadvantaged businesses prior to bid opening. Failure to document such affirmative efforts shall be deemed, relative to disadvantaged business compliance, non-responsive.
- B. To establish a bid as responsible, the bidder will be required to document the proposed utilization of disadvantaged businesses with letters of intent signed by the bidder and by the disadvantaged listed in the bid. The documentation requirements are outlined in Section III of this document.
- C. RRWRD's disadvantaged business policy clearly intends for bidders to contact and encourage the participation of disadvantaged businesses prior to bid opening. Affirmative efforts (the written record of conscientious and honest communications between the bidder and disadvantaged business) must be initiated and completed by the bidder prior to bid opening. All bidders must document compliance with the requirements of the disadvantaged business policy.

III. Evaluation of Disadvantaged Business Utilization and Affirmative Efforts

- A. As a prerequisite to demonstrate compliance with the RRWRD's disadvantaged business policy, ALL bidders shall provide the following with its bid:
 - 1. Completed and signed certification from the bidder(s), attesting that the bidder will award no sub-agreements, including the procurement of equipment, materials, supplies and services, in the performance of this contract.

OR

2. "Certification of publication" or adequate evidence of proof of publication, including an actual copy of the newspaper advertisement from a daily, regional newspaper. Bidders may publish the advertisement in an established, online bidder's clearinghouse such as the "Dodge Report (<http://construction.com/dodge/>). If an online advertisement is placed with the "Dodge Report" or an equivalent website, a screenshot of the advertisement along with the webpage address, and a payment receipt is required as documentation. **The advertisement must run one day at least sixteen (16) days prior to bid opening.** An example advertisement follows this section.
3. List of all disadvantaged business enterprise (DBE) and non-DBE's that submitted proposals to the bidder along with the date of the proposal. Names, addresses, phone number and/or email are required. Attached IEPA DBE Form No. 4 may be used for this purpose.
4. List of disadvantaged businesses not being utilized and justification for non-utilization (reference attached IEPA DBE Form No. 1).
5. If DBE subcontractors will be utilized for the project, a completed and signed copy of IEPA DBE Form No. 3 (DBE Subcontractor Utilization Form) or equivalent report is needed from each subcontractor.
6. If DBE subcontractors will be utilized for the project, a completed and signed certification from the bidder(s), attesting that the bidder has no controlling or dominating interest or conflict of interest with the disadvantaged business that will be utilized (reference attached IEPA DBE Form No. 1).
7. In instances where the bidder(s) does not receive any proposals from disadvantaged businesses prior to bid opening, the bidder(s) must provide a written certification attesting that no proposals were received (reference attached IEPA DBE Form No. 1).

Failure to submit the documentation pursuant to the requirements of A (1-7) above may cause rejection of the bid as non-responsive.

IV. Sanctions

- A. The RRWRD may reject one or all bids where the information submitted by the bidder(s) fails to objectively demonstrate compliance with the disadvantaged business requirements (i.e. failure to place the pre-bid advertisement by the bidder(s) at least 16 days prior to bid opening shall not be considered as objectively demonstrating compliance with the disadvantaged business requirements).

B. Upon finding that any Party has not complied with the requirements of these specifications, including misrepresenting a firm as a disadvantaged business, any one or a combination of the following actions may be take:

1. Declare the bidder and/or subcontractor non-responsible and therefore ineligible for contract award.
2. Disallow the contract costs associated with non-compliance.
3. Refer any matter, which may be fraudulent to the Illinois Attorney General

V. Post-Contract Award Compliance

- A. As required by the award conditions of USEPA's Assistance Agreement with IEPA, all sub-agreements of the prime contractor must identify that the fair share percentages are 5% of MBE's and 12% for WBE's.
- B. After award of the prime contract copies of all disadvantaged business related sub-agreements between the prime contractor and subcontractors shall be submitted to the owner.
- C. Subsequent to Bid Submission, any changes in previously reported disadvantaged businesses utilization shall be handled in accordance with Part 33.302(b-h). If the contractor fails to initiate such actions, the owner may withhold payments and/or institute other appropriate sanctions.

**Suggested Disadvantaged Business (DBE)
Advertisement for Construction Contractors**

Notice to Disadvantaged Businesses

_____, _____, _____
(Name of Company), (Address of Company), (Telephone),

is seeking disadvantaged businesses for the _____
(Name of Loan Recipient)

Project for subcontracting opportunities in the following areas: _____, _____
_____, _____.

All disadvantaged businesses should contact, IN WRITING _____, (certified letter, return receipt
requested), _____ to discuss the subcontracting opportunities.
(Company Contact Person)

All negotiations must be completed prior to bid opening _____ (date of bid
opening).

* The advertisement must clearly state the method of evaluating the proposals or quotations, and the relative importance attached to each criterion. Bidders must uniformly and objectively evaluate the proposals submitted by disadvantaged business in response to the advertisement based upon the evaluation criteria stated in the advertisement. The evaluation criteria must not be restrictive or exclusionary.

Summary Report of Disadvantaged Business Enterprise Requirements for Contractors

- 1) Completed and signed certificate from bidder(s), attesting that the bidder will award no sub-agreements, including the procurement of equipment, materials, supplies and services in the procurement of this contract (may use IEPA DBE Form #1).

OR

- 2) "Certificate of Publication," or adequate evidence of proof of publication, including an actual copy of the newspaper advertisement from a daily, regional publication. For advertisements placed in a construction project clearinghouse such as www.construction.com, a screenshot of the advertisement, link to website, and receipt is required for proof of advertising.

Dates of bidder advertisement: _____

Date of bid opening: _____

- 3) List of all disadvantaged business enterprises (DBE) and non DBE's that submitted proposals to the bidder/prime contractor. Specify as DBE or non-DBE, type of DBE, and the other information listed below (DBE Form #4 may be used for this purpose).

Name of Company

Name of Owners

Address of Company

Email Address of Company

Telephone Number

Date of Proposal

_____ Business _____ Type of DBE

Description of work to be performed

- 4) List of disadvantaged businesses that submitted proposals to the bidder but will not be utilized. Justification for non-utilization must be provided (may use IEPA DBE Form #1).
- 5) Completed and signed copies IEPA DBE Form #3 (Subcontractor Utilization Form). Only applies if using DBE subcontractors.
- 6) Completed and signed certificate from bidder(s) attesting that the bidder has no dominating or conflict of interest with the disadvantaged business to be utilized (IEPA DBE Form #1). Only applies if using DBE subcontractors.
- 7) In instances where the bidder(s) does not receive any proposals from disadvantaged businesses prior to bid opening, the bidder(s) must provide written certification attesting that no proposals were received (IEPA DBE Form #1).

- 8) **Note:** DBE Form #2 is not included in this packet. It is for consultant/engineers to report DBE activity. This form may be found in IEPA's DBE Guidance Manual which is available on the Agency's website or mailed upon request by calling (217)-782-2027.

Not to be used for bidding purposes

services), in the performance of this contract.

☐ This firm advertised for DBE subcontractors according to the good faith efforts outlined in the IEPA DBE Guidance Document.

☐ This firm received proposals from DBE(s) that will not be utilized. A list of the DBEs not hired, along with their address, phone number, and reason(s) for non-utilization, is below.

☐ This firm did not receive any inquiries from DBEs.

I certify that the above is true. I further certify that this firm and its partners, directors, and officers do not possess a controlling interest in ownership or conflict of interest or any other authority to control the DBE to be used during the performance of the contracts.

Dated: _____

EPA Disadvantaged Business Enterprise (DBE) Program Form #3 Subcontractor Utilization Form

(Only complete this form if DBE subcontractors or sub-consultants will be working on a project.)

This form is intended to capture the DBE subcontractor's description of work to be performed and the price of the work submitted to the prime contractor. All subcontractors must complete this form, and it must be included in the prime contractor's bid package.

Subcontractor Name	Project Name
Contact Person's Name & Title	
Address	
Telephone	Email
DBE Certified By:	Select One: MBE WBE SBE DBE
Prime Contractor Name	
Type of Work to be Performed	Cost Estimate of Work

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

Prime Contractor Signature:	Print Name:
Date:	Title:
Subcontractor Signature:	Print Name:
Date:	Title:

IEPA Disadvantaged Business Enterprise (DBE) Program Form #4 - Bidders List

(Only complete this form if subcontractors or sub-consultants will be working on a project)

Using this form / format is optional. Other formats are acceptable.

[illegible]

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**Bidder Certification Regarding the Use of
American Iron and Steel Products**

_____, do hereby certify that:
Name

1. I am _____ (title) of the _____ (company, partnership, etc.) and have authority to execute this certification on behalf of the firm.
2. This firm is aware that all iron and steel products used for this project must be produced in the United States per Section 436 (a) – (f) of the Consolidated Appropriation Act, 2014.
3. This firm is aware that the use of American iron and steel products applies to all projects for the construction, alteration, maintenance, or repair of publicly owned treatment works (POTW) or public water systems.
4. This firm understands the term “iron and steel products” refers to the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.
5. I am aware that this requirement applies to all portions of the project that are subcontracted.

Name of Firm: _____

Signature: _____

Title: _____

Date: _____

Corporate Seal (where appropriate)

Use of American Iron and Steel

Sec. 436 (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term “iron and steel products” means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the ‘Administrator’) finds that –

(1) Applying subsection (a) would be inconsistent with the public interest;

(2) Iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) Inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet website of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean Drinking Water State Revolving Funds for carrying out the provisions described in subsection (a)(1) for management and oversight of the requirements in this section.

(f) This section does not apply with respect to a project if a State agency approved the engineering plans and specifications for the project, in that agency’s capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

Section II

**Detailed Specifications –
Pump Station Construction**

Section II. Detailed Specifications – Pump Station Construction

1 GENERAL

This article contains detailed specifications relating to proposal items. The work to be done under each item is discussed along with units for payment and measurement for payment. However, the descriptions given do not necessarily outline all the work to be done under any item. In addition, work shall conform to the following Technical Specifications: *Standard Specifications for Water and Sewer Main Construction in Illinois*, current edition, and Rock River Water Reclamation District *General Provisions and Technical Specifications for Sanitary Sewer Construction*. When referenced in applicable sections, work shall conform to the Illinois Department of Transportation's *Standard Specifications for Road and Bridge Construction*, current edition (also referred to as *IDOT Standard Specifications*).

Throughout these specifications, the term "Owner" and "District" shall be synonymous.

In case of apparent contradictions between *Section II - Detailed Specifications, IDOT Standard Specifications*, and *General Provisions and Technical Specifications for Sanitary Sewer Construction, Section II - Detailed Specifications* shall govern.

Utility locations shown on the plans are based on the information obtained at the time of design and are not guaranteed. The location and/or elevation of existing underground utilities, such as gas mains, water mains, electric lines, field tiles, irrigation pipes, etc., shall be determined by the Contractor. The Contractor shall assume full responsibility for location of all utilities.

General location of sewer is governed by existing obstructions in the field. Minor variations in location may be made after approval by District to facilitate construction operations.

Any construction not supervised by a District Inspector shall not be accepted.

No work shall be permitted on Sundays or District Holidays without prior approval by District Engineering Manager.

Suppliers shall be deemed to impliedly warrant products and all component materials incorporated into work are suitable and fit for the intended use of such products and shall be free from defect in material, workmanship or design, such warranty to run to the benefit of the District. The foregoing applies whether the products or component materials are specified in the Contract Documents or are of supplier's design.

District will not supervise, direct, control, have authority over or be responsible for Contractor's means, methods, techniques, sequences, procedures of construction, safety precautions and programs incident thereto, or for any failure of Contractor to comply with laws and regulations applicable to the furnishing or performance of the work. The District

will not be responsible for Contractor's failure to perform or furnish the work in accordance with the contract documents.

2 NOTIFICATION, ACCESS, & SPECIAL CONSIDERATIONS

2.1 General

The Contractor shall notify all utility companies prior to beginning any work. All underground utilities shall be located by the utility involved and special care shall be taken when excavating near underground utilities to avoid damage. Forty-eight (48) hours minimum prior to starting construction, the Contractor shall call J.U.L.I.E. at 1-800-892-0123 for utility locations in the project area.

The Contractor shall notify the Rock River Water Reclamation District and the Village of Winnebago forty-eight (48) hours minimum prior to beginning any work.

The Contractor shall be responsible for the temporary maintenance of all roadways and drives over the course of this project and shall maintain access to District and Village personnel at all times (i.e. drives, roadways, ramps, etc., must remain open or temporary access must be provided). All materials, equipment, labor, etc., necessary to assure this shall be considered incidental to the contract.

ACCESS: Access to the site is controlled by gate. Contractor will be provided two (2) remote gate actuators to access the site. Actuators shall be returned upon completion of construction and before final payment.

The Contractor shall clean up areas from which spoil has been removed at the end of each day by sweeping, washing or other approved methods. When the work is halted by rain, the Contractor shall clean up work areas before leaving the site.

2.2 Materials – Not used.

2.3 Required Submittals – Not used.

2.4 Measurement and Payment

No payment will be made for costs associated with notification, access, and special considerations, this work shall be considered incidental to the contract.

3 EROSION & SEDIMENT CONTROL

3.1 General

The total disturbed area for this project is less than 1.0 acre. A Notice of Intent (N.O.I.) and a Storm Water Pollution Prevention Plan (SWPPP) will not be submitted to the I.E.P.A.

The Contractor shall comply with all the requirements of the I.E.P.A. Illinois Urban Manual, Current Edition and standard specifications for soil erosion and sediment control as

contained in I.E.P.A./WPC/87-012 or Current Edition. All disturbed areas shall be restored to near original contours and seeded in accordance with RRWRD requirements.

The Contractor shall take whatever measures the Engineer deems necessary to eliminate excessive erosion or siltation. This includes but is not limited to: stabilizing slopes with fabric and/or mulch, seeding, sodding, erosion control mat, silt fence installation, inlet protection, rip-rap, etc. Sediment control shall be provided around the perimeter of all stockpile areas.

The Contractor shall keep the roadways free from all dirt and construction debris at all times during construction. Mud and debris shall be removed daily from roadway surfaces at the end of each workday or as necessary.

The Contractor shall remove and dispose of all temporary erosion control devices within 30 days of final site stabilization and approval by the District.

Erosion control includes all labor, equipment, materials, maintenance and supervision required to provide erosion control as required by the District or Village of Winnebago. The Contractor shall maintain storm water flow in all storm sewers disturbed as a result of construction.

Silt fence shall be Amoco 2127 or approved equal. Silt fencing shall be installed prior to excavation or stockpiling of materials.

Inlet Protection shall be installed in conformance with I.D.O.T. Highway Manual standard 28001-02 for temporary erosion control systems.

3.2 Materials

Temporary erosion control measures shall conform to *IL Urban Manual* and *Article 1081 of IDOT Standard Specifications*.

3.3 Required Submittals

1. Material specifications for erosion control products, as applicable.

3.4 Payment

Payment for all erosion and sediment control measures shall be incidental to Site Restoration and Seeding.

4 ROCK EXCAVATION

4.1 General

This item shall consist of furnishing all labor, equipment, tools, transportation and material necessary to perform all operations needed to excavate, remove, and dispose of rock material during the construction of the proposed project.

Contractor shall demonstrate to the District that the material encountered while excavating within the lines and grades shown on the plans within the designated limits of payment as described in *T.S. 2:3 of the General Provisions and Technical Specifications*

for Sanitary Sewer Construction is not able to be removed with conventional excavation methods. This demonstration shall be completed before the subsurface material is classified as rock.

The following criteria will be used in the determination of whether or not the work will be considered rock excavation:

- The guidelines and requirements of the *General Provisions and Technical Specifications for Sanitary Sewer Construction*.
- A substantial reduction in production rate.
- Visual evidence of large boulders, rock, granite, trap quartzite, chert, limestone, hard sand stone, hard shale or slate, or other hard materials, in natural ledges or displaced masses which cannot be removed by a modern backhoe without resorting to the continuous use of pneumatic tools, blasting, barring or wedging for removal from their original beds.

See geotechnical report provided in bid documents.

4.2 Materials – Not used.

4.3 Required Submittals – Not used.

4.4 Measurement and Payment

Length and depth will be as determined by the District as encountered in the field. The maximum trench width payment limits shall not exceed the nominal pipe size plus eighteen inches (18”) for 8” to 24” pipes, or the area of structures plus 24” to each side. This work will be paid for at the contract unit price per cubic yard (CY) for **Rock Excavation**.

5 DEWATERING

5.1 General

Contractor shall use all means at his/her disposal to maintain a dry trench to the satisfaction of the District.

Groundwater will not be allowed to be pumped on existing ground surfaces or pavements where it may cause a traffic nuisance or discharge into existing sanitary sewers; it shall be discharged to a point acceptable to the District, with all erosion control requirements and specifications taken into account.

Dewatering well points require permits issued by the Winnebago County Department of Public Health (Health Department). The installation, operation and removal of well points shall conform to the Health Department requirements. The Health Department

shall be notified prior to installing dewatering wells and prior to abandonment of well points so that they may be present if they desire; contact (815) 720-4000.

Any permits required to perform dewatering work on this project shall be secured by the Contractor; it shall be his/her responsibility to provide any bonds, insurance's, guarantees, etc. as required by said permit. Abandonment of dewatering facilities shall be performed in accordance with pertinent State and County requirements.

If generators are required to run on a twenty-four (24) hour basis, equipment supplied shall be equipped to minimize noise to a level of ninety decibels (90 dB) or less.

5.2 Materials – Not used.

5.3 Required Submittals

1. Copy of permits, as applicable.

5.4 Payment

Costs associated with dewatering shall be considered incidental to various bid items that include installation of underground piping and structures.

6 BEDDING, BACKFILL, AND COMPACTION

6.1 General

Pipe Bedding:

Pipe bedding shall be Class IA per ASTM Standard D2321. The trench bottom shall be bedded with six inches (6") minimum crushed stone foundation. Crushed stone shall be placed a minimum of twelve inches (12") above the top of the pipe.

Bedding shall be graded such that it precludes the migration of trench wall material into the bedding; the District shall approve this bedding material after the characteristics of the trench are determined.

In the event the water table is above the bottom of the pipe bedding, or the trench bottom is unstable or unsuitable as determined by the District, a porous granular foundation meeting *IDOT Standard Specifications* of CA 3 shall be installed as necessary below the granular bedding material, extending to the limits of the bedding diagram provided on the *District Standard Detail Sheet* at no additional cost to the District.

Trench Backfill:

The Contractor shall use approved select trench backfill to the level of the base under all roads, shoulders, sidewalks, driveways, parking lots or pavements of any kind and beyond such pavements as set forth in the District's *General Provisions and Technical Specifications T.S. 2:4-c*. Select trench backfill under said structures shall be FA 6, mechanically-compacted in six-inch (6") to eighteen-inch (18") loose lifts to the sub-grade elevation of the road shoulder, sidewalk, driveway, parking lot or other pavement. Materials shall be in accordance with the *Article 1003.04 of IDOT Standard Specifications*.

The Contractor shall exercise care not to disturb any existing utilities during backfilling and compaction operations.

Compaction:

The Contractor shall furnish a backhoe and operator during the testing of the backfill placed during construction. All select trench backfill shall be compacted to ninety-five percent (95%) of Proctor density; all other backfill shall be compacted to ninety percent (90%) minimum of Proctor density. All compaction tests will be performed at the Contractor's expense by an approved, independent geotechnical-testing firm. If the tests do not meet the compaction requirement specified above, the area shall be both re-compacted and re-tested at the Contractor's expense until the test requirements are met.

Use of vibratory rollers will not be permitted.

For granular backfill, a vibratory plate, or other approved equipment-mounted compaction equipment must be used by the Contractor to compact the backfill in lifts not to exceed eighteen inches (18"). Water-jetting, ponding or flooding will not be permitted as a means of trench compaction.

If initial tests indicate compaction requirements are being met, no further lift testing will be required unless method, equipment or material changes. The final lift forming the sub-grade must be tested.

The Contractor shall use reasonable care while backfilling over the sewer. No materials such as rocks or boulders shall be allowed to be dropped directly on the sewer pipe. If these materials are present in the backfill, the Contractor shall bring bedding material to a point 24" above the crown of the pipe. The cost of this additional granular material shall be considered incidental to the sanitary sewer being installed.

Contractor shall properly dispose of all spoil at no additional cost to the District.

The Contractor shall provide a one (1) year guarantee against trench settlement throughout the project area and shall repair any settlement that occurs within the guarantee period.

6.2 Materials

Bedding: Class IA per ASTM Standard D2321; CA 3 as per *Art 1004.01 of IDOT Standard Specifications*.

Select trench backfill: FA 6, as per *Art. 1003.04 of IDOT Standard Specifications*.

6.3 Required Submittals

1. Material gradation certifications for proposed bedding material and select trench backfill.

6.4 Payment

Costs associated with bedding, backfill and compaction shall be considered incidental to sanitary sewer piping and structure bid items.

7 SANITARY SEWERS

7.1 General

The work under this item includes all labor, equipment, and material for furnishing and installing sanitary sewer pipe on grade and in line according to plans and specifications herein. This item shall also include all "Y" or "T" fittings, adapters and risers as required, dewatering, special embedment, power tamping, site restoration, grading and dust control, property restoration, supervision, transportation, and any other item necessary to satisfactorily install and test the new sanitary sewer piping.

Pipe bedding, backfill and compaction shall conform to *Part 6* of these specifications. Sanitary sewer pipe that varies ± 0.02 feet from the proposed grade and/or ± 0.15 feet from the proposed line will not be accepted. More stringent tolerances may be required in the field where directed by the District. The Contractor shall be solely responsible for setting and maintaining proper lines and grades for all work. The District shall not be obligated to establish construction grade or alignment.

The Contractor shall provide at least one laser device for setting lines and grades of sub-grade and pipe inverts during all phases of construction. The device(s) shall be of acceptable design and maintained in good working condition for the duration of the project. The Contractor shall employ workers competent in the setup and operation of said device(s). Said device(s) shall be considered a convenience to the Contractor and shall be operated at no extra cost to the District.

The Contractor shall provide and have available on-site at all times, a calibrated level and level rod. District staff shall be allowed to use the level and rod as deemed necessary. Sanitary sewer pipe and pipe-laying methods must conform to the requirements of District technical specifications and as stated elsewhere herein.

When connecting to existing sanitary sewers, contractor shall connect to sound pipe utilizing a District approved repair transition coupling.

7.2 Materials

24" diameter PVC shall meet the requirements of AWWA C-905, DR 25. Joints shall conform to ASTM D 3139.

6" diameter service piping shall be SDR 26 PVC meeting the requirements of ASTM D2241. Joints shall conform to ASTM D 3139.

Clay to PVC and cast iron or ductile iron to PVC pipe transition couplings shall be Fernco 5000 or LDC series (as required by pipe diameter) or Mission Flex-Seal ARC shear resistant or District approved repair couplings, made of flexible PVC compound with 316 stainless steel clamps and stainless steel rings. Transition couplings shall conform to the applicable parts of ASTM D5926 and C1173.

7.3 Required Submittals

Pipe, fitting, and transition coupling material specifications.

7.4 Measurement and Payment

Measurement for payment shall be horizontal along the centerline of the installed pipe from center-of-manhole to center-of-manhole or center of manhole to center of repair coupling. Payment shall be made at the contract unit price per lineal foot (LF) for **Sanitary Sewer** of the diameter and type indicated.

8 SANITARY SEWER SERVICE WITH CLEANOUT

8.1 General

This work shall consist of replacing existing sanitary sewer services as indicated on the plans. This item shall include all necessary material, labor, and equipment necessary to complete this work.

All work shall be in accordance with state and local plumbing codes, District Standard Details and Technical Specifications.

Material shop drawings for pipe, fittings and any other appurtenances shall be submitted to the District for approval prior to delivery to the site.

Contractor shall be responsible for maintaining the current level of service to all users connected to the existing sanitary sewer.

A cleanout will be required as shown on the plans, and where required by the Illinois State Plumbing Code.

8.2 Materials

From the proposed sanitary main to the proposed cleanout, sanitary service pipe shall be 6" diameter SDR 26 PVC meeting the requirements of ASTM D-2241 with joints conforming to ASTM D-3139. Cleanout construction shall be as specified on the District's Standard Detail Sheet.

For the cleanout and the connection to existing service pipe, sanitary service pipe shall be 6" diameter schedule 40 pipe with glued fittings conforming to ASTM D1785 / D2665.

Clay to PVC and cast iron or ductile iron to PVC pipe transition couplings shall be Fernco 5000 series or Mission Flex-Seal ARC shear resistant or approved equivalent repair coupling, made of flexible PVC compound with 316 stainless steel clamps and stainless steel rings. Transition couplings shall conform to the applicable parts of ASTM D5926 and C1173. Connection shall be made to structurally sound pipe.

8.3 Required Submittals

Pipe and fitting material specifications.
Repair coupling material specifications.

8.4 Payment

Payment for this work shall be made at the contract unit price per each (EA) for **6" Sanitary Sewer Service W/ 6" Dia. Cleanout.**

9 SANITARY FORCE MAIN

9.1 General

This item includes furnishing all labor, materials, and equipment necessary to install proposed sanitary sewer force mains in accordance with the *Technical Specifications*, to the lines and grades shown on the plans and specified herein. The conditions and specifications for force main construction shall be the same as those outlined for sanitary sewer construction in *TS Sections 3:2, 3:3, and 3:4*, except that the force main pipe shall be placed in a flat bottom trench with tamped backfill. Prior to final acceptance, force main shall be pressure tested in accordance with Section T.S. 9:5 of the *Technical Specifications*. Excavation, bedding and backfill are incidental to force main piping installation.

9.2 Materials

Pipe material shall be as indicated on the plans.

PVC force mains shall conform to AWWA Specifications C900/C905, DR 18. Pipe joints shall have push-on joints.

Ductile iron force mains shall be AWWA Class 350 meeting the requirements of ANSI/AWWA C151/A21.51 and ANSI/AWWAC150/A21.50. Joints shall conform to requirements of ANSI/AWWA C111/A21.11.

All force main fittings shall be ductile iron, Class 350, AWWA C-110, latest edition, with mechanical or flanged joints. All fittings shall be furnished and installed with restrained joint retainer glands to prevent movement of the force main and/or fittings while under pressure. Additionally, force main fittings, etc., shall be thrust-blocked using poured-in-place concrete, minimum 1' thick in all dimensions. Concrete used in thrust blocking shall be class "SI" as defined in *IDOT Standard Specifications*.

Force main(s) installed via open-cut methods shall be installed with detectable metallic locator tape (brown in color with "FORCEMAIN BELOW" printed on the tape) to be placed in the trench just above the force main pipe bedding envelope. The locator tape is to be continuous along the entire length of the force main(s) installed via open-cut methods.

9.3 Required Submittals

Force main piping and fitting specifications, including connecting hardware and gaskets. Concrete mix design for thrust blocking.

9.4 Payment

Payment for PVC force main shall be made at the unit price bid per lineal foot (LF) for **Sanitary Force Main Piping** of the size and type specified. Fittings and bends shall be incidental to piping installed.

Payment for ductile iron pipe shall be incidental to the proposed Duplex Submersible Pump Station and Valve Vault pay items

10 SANITARY MANHOLES

10.1 General

This work shall consist of furnishing and installing all labor, equipment, materials, transportation, excavation, accessories, connection to existing sanitary sewers with shear resistant transition couplings, trench backfill, and performance of all operations required to construct pre-cast concrete sanitary manholes as directed by the District, all in accordance with the District *Standard Detail Sheet* and Article 6:3 and 7 of the District's *General Provisions and Technical Specifications*. Work shall also include furnishing and placing a District approved manhole frame and lid (Neenah R-1670 or EJ E-1117) adjusted to grade as indicated on plans.

Eccentric cone sections must be a component of all manholes unless otherwise noted.

District approved manhole steps shall be provided with a maximum spacing of 16". The top of the pre-cast cone section shall be at an elevation to allow for adjustment of frame (12" maximum) without disturbing the cone section.

The Contractor shall field verify all proposed rim elevations and shall construct manholes in accordance with the District Standard Detail Sheet. Manhole frames shall be set at finished grade in paved areas. Concrete adjusting rings shall be standard reinforced concrete pipe pattern. Minimum ring thickness shall be two inches (2"). Maximum ring thickness shall be twelve inches (12"). Adjustment rings shall conform to ASTM C478 and ASTM C139, latest revision. Concrete for adjusting rings shall be Class "A" as specified in T.S. 5:3(a) in the District's *General Provisions and Technical Specifications for Sanitary Sewer Construction*. Absorption shall comply with ACI Specification P-I-C and ASTM C139, latest revision.

All adjusting ring joints shall be sealed watertight by means of EZ Stik, Kent-Seal, or equal (including cast iron frame to concrete adjusting ring). Minimum adjusting ring

placement height is four inches (4"). Maximum adjusting ring placement height is twelve inches (12"). No more than thirty inches (30") from the top of casting to the first step will be allowed. A maximum of one (1) 2" adjusting ring will be allowed. Joint between adjusting rings and casting shall be watertight by means of a butyl material seal (E-Z Stik, Kent-Seal, or equal).

No adjusting rings are required for manholes in turf areas or with roadway having curb and gutter.

In roadways only: metal or plastic shims will be required if the casting in the roadway must be pitched to match the slope of roadway pavement. Shims must be equally spaced with no more than one-inch (1") of total adjustment. If frame is shimmed, no butyl materials seal (E-Z Stik, Kent-Seal, or equal) will be allowed under the casting. The void area between the casting, and masonry shall be grouted from the outside to the inside face of the adjusting ring, filling the entire void. No trench compaction shall take place until the concrete has cured and hardened to the District's satisfaction. Final manhole adjustment shall meet additional requirements of the roadway authority.

The Contractor shall install a District-approved external casting seal on all proposed manholes as indicated on the *Standard Detail Sheet*. The Contractor shall install District approved external seals on all manhole barrel section joints (Cretex, Mac Wrap or CANUSA Wrapid Seal).

The Contractor shall field verify all materials, sizes, and elevations of all existing pipes to be connected. Pipe connections to new manholes shall be made by means of a watertight flexible pipe to manhole connector meeting the requirements of ASTM C923 titled "Resilient Connectors between Reinforced Concrete Manhole Structures and Pipes." Integrally cast and expandable gaskets are acceptable. The design shall be in accordance with the manhole and pipe manufacturer requirements and shall receive prior District approval. All sanitary manholes equal to or greater than twenty-two feet (22') deep shall use pipe to manhole gaskets rated to a minimum of 15 psi hydrostatic pressure (A-LOK model X-CEL or District approved equivalent).

The Contractor shall construct a paved manhole bench in each manhole per the *Standard Detail Sheet* or per the District's direction.

All new manholes shall be vacuum tested per ASTM C1244 *Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test* prior to placing into service.

10.2 Materials

See the District Standard Detail Sheet for requirements for the following items:

Pre-cast concrete structures.

Pre-cast concrete adjustment rings.

Butyl mastic sealant.

Pipe to manhole connectors.

Manhole frame and lid.

Exterior chimney seal.

Manhole Steps.

10.3 Required Submittals

1. Manhole shop drawings including a specified detail for each manhole showing the number and height of barrel sections, height of cone section, number and size of adjusting rings, location and spacing of steps and elevations of all pipes. A plan view shall be provided showing the orientation of pipe openings.
2. Frames and lids material specifications.
3. Chimney seals material specifications.
4. Barrel joint seals material specifications.
5. Manhole to pipe connection seals material specifications.
6. Manhole steps material specifications.
7. Sealant material specifications.

10.4 Payment

This work will be paid for at the contract unit price per each (EA) for **Sanitary Manhole**, of the diameter specified.

11 TEMPORARY PAVEMENT

11.1 General

This work shall consist of placing an 8" thick compacted Aggregate Base Course, Type B, followed by 4" of compacted HMA millings as indicated on the plans. This work shall include subgrade preparation, removal and disposal of excess material, furnishing, placing, installing and compacting course aggregate, and trimming and prepping aggregate base for subsequent temporary pavement placement. This work shall be in conformance with *Section 351 of the IDOT Standard Specifications*.

The Contractor shall compact the aggregate base course and perform a sufficient number of compaction tests as determined by the District and Roadway Authority. Compaction tests must be performed as work progresses. All compaction tests must meet 100% of Standard Proctor density, and be performed by an approved independent geotechnical company.

Prior to aggregate base course placement, subgrade of the entire pavement replacement area shall be proof-rolled and witnessed by the District Inspector. Proof-rolling shall consist of using a fully loaded tandem axle dump truck to identify locations of structurally unsuitable subgrade. Proof-rolling shall be scheduled and completed so as to avoid a rain event between proof-rolling and aggregate base course placement. At the direction of the Inspector, the subgrade may be required a period of time to dry in an attempt to correct areas of structurally unsuitable subgrade before performing a subgrade improvement.

11.2 Materials

Finished aggregate base course shall be 8" thick, compacted. Aggregate shall be of CA-6 gradation. Course Aggregates shall be in accordance with *Article 1004.04* of the *IDOT Standard Specifications*.

Finished lift of HMA millings shall be 4" thick, compacted. Millings shall be of uniform gradation with no aggregates or conglomeration larger than 1" in diameter.

11.3 Required Submittals

1. Material gradation certifications for aggregates.

11.4 Measurement and Payment

This work will be paid for at the contract unit price per square yard (SY) for **Temporary Pavement**.

12 PCC SIDEWALK, 4"

12.1 General

This work shall be in accordance with *Section 424* of *IDOT Standard Specifications*.

The work shall be performed to the satisfaction of the District. District shall be notified a minimum of forty-eight (48) hours prior to placing sidewalk.

12.2 Materials

Portland cement concrete sidewalk shall be 4" thick; concrete shall be class "SI" as defined in *Article 1020* of *IDOT Standard Specifications*.

12.3 Required Submittals

Concrete mix design.

12.4 Measurement and Payment

Sidewalk will be paid for at the contract unit price per square foot (SF) for **PCC Sidewalk, 4"**.

13 RESTORATION AND SEEDING

13.1 General

All restoration of public or private property including, but not limited to, fences, sidewalks, driveways, all other slab work, (concrete and asphalt), drainage channels, riprap, fences, turf areas and dry wells, etc. disturbed or damaged as a result of this construction project shall be promptly completed, equal to or better than the pre-construction conditions, as directed by the District, and guaranteed by the Contractor for a period of one (1) year following satisfactory completion and final acceptance of the work. Topsoil shall be as specified in *T.S. 4:2c*.

All drainage devices shall be cleaned of debris and replaced at original elevations. Pipes which in the estimation of the District have been significantly damaged by the Contractor, shall be replaced with new pipe or structures of the same diameter, length and/or type, at no added expense to the owner. All work shall be to the satisfaction of the District. When necessary, temporary restoration of roads, drives, fences, etc. will be required, all costs incidental to the contract.

NOTE: All work shall be guaranteed against trench subsidence for a period of one (1) year.

Guarantee: All seeded areas shall be maintained for at least thirty (30) days after application. Scattered bare spots no larger than two square feet will be allowed up to a maximum of five percent (5%) of any seeded area.

Seeding and Fertilizing:

Ground surfaces including rights-of-way and easements that were covered with grass previous to construction shall be seeded according to all applicable specifications and as directed by the District. The Contractor shall make certain that all disturbed areas have the same depth (6" minimum) and quality of approved topsoil at the surface as existed prior to construction.

The seeding mixture used shall be compatible with the existing ground cover or as indicated under easement requirements and shall be acceptable to the District. Maintainable lawn areas shall be seeded with IDOT Class I seeding mixture.

Reference is made to the *General Provisions and Technical Specifications for Sanitary Sewer Construction*, T.S. 4:2, for specifications on seeding and sodding and fertilizer, and to *Sections 250 and 251 of IDOT Standard Specifications*.

Seeding shall be placed on six-inch (6") (minimum) topsoil bed. The District shall approve the locations from which the topsoil is to be obtained. When requested by the District, a sample of the proposed topsoil shall be submitted to the District in a one-quart glass container, completely filled, with a chemical and mechanical analysis of the topsoil by an approved testing laboratory.

Seeding Specification:

Seedbed preparation shall be done according to *Article 250.05 of IDOT Standard Specifications*.

Seeding methods shall follow those mentioned in *Article 250.06*. Mowing to discourage weed growth will be completed by the Contractor until the project is accepted by the District.

Fertilizer work shall be done in accordance with *Article 250.04*. Fertilizer shall have an analysis of 10-10-10 and be applied at the rate of 400 lbs./acre. No additional compensation will be allowed.

Straw mulch shall be per Method 2 and done in accordance with the applicable portions of *Section 251 of IDOT Standard Specifications* with the following exceptions:

The rate of application for mulch will be 4,000 lbs./acre using Hydro Tack at a rate of 400 lbs./acre for stabilization. This specification describes mulch for use with the hydraulic application of grass seed which shall consist of specially prepared wood cellulose fiber. It shall be processed in such a manner that it will not contain any growth or germination-inhibiting factors, and shall be dyed in an appropriate color to facilitate metering of the material. It shall be manufactured in such a manner that after additions and agitations in slurry tanks with fertilizers, grass seeds, water and any other approved additives, the fibers in the material will be come uniformly suspended to form a homogenous slurry, and that when hydraulically sprayed on the ground, the material will form a blotter-like cover impregnated uniformly with grass seed, and which after application will allow the absorption of moisture and percolation of rainfall or mechanical watering of the underlying soil.

The mulch material described above shall be supplied in packages having a gross weight not in excess of 55 pounds. The packages shall be adequately wrapped in paper, polyethylene or other suitable material to prevent loss or spillage during handling. Weight specifications of this material from suppliers, and for all applications, shall refer only to air dry weight of the fiber material. Absolute air dry weight is based on the normal weight standard of the Institute of the Pulp and Paper Industry for wood cellulose and is considered equivalent to ten percent (10%) moisture. Each package of the cellulose fiber shall be marked by the manufacturer to show the air-dry weight content.

Suppliers shall be prepared to certify that laboratory and field testing of their product has been accomplished, and that it meets all of the foregoing requirements based upon such testing.

At the direction of the District or other governing agency, the Contractor shall provide steep slope protection over turf areas disturbed by construction in accordance with *Articles 251.03 and 251.04 of IDOT Standard Specifications*.

13.2 Materials

Seed Mixture, Class I in accordance with *Section 250 of IDOT Standard Specifications*.

Fertilizer in accordance with *Section 250 of IDOT Standard Specifications*.

Mulch in accordance with *Section 251 of IDOT Standard Specifications*.

13.3 Required Submittals

Seed mixtures, fertilizer and mulch specifications.

13.4 Payment

Restoration and seeding of all disturbed areas in vicinity of work shall be made at the contract lump sum (LS) price for **Site Restoration and Seeding**.

14 TEMPORARY UTILITIES

14.1 General

Prior to beginning any work contractor shall complete installation of all temporary utilities as shown in plans. Contractor may only proceed with site demolition and proposed work upon written approval from the District that the existing wastewater treatment plant (WWTP) is operational with temporary utilities in service. Contractor shall maintain temporary utilities for the duration of construction. Upon project completion, contractor shall remove temporary utilities from site as noted in plans.

14.2 Materials & Installation

Temporary electric: Contractor shall provide temporary electrical services as indicated in plans. Installation of temporary electric shall conform to NFPA 70 and these specifications.

1. Power for effluent sampling: Contractor shall install two (2) 20 amp convenience receptacles at the existing effluent outfall as shown in plans. Receptacles shall be weather proof with equipment attached. Power source shall be existing light panel LP "A" located in the blower room. Conductor shall be 3 conductor #12 CU THWN and may be installed above or underground, but may not impede access for District personnel.
2. Power for WWTP: Contractor shall re-align the existing electric supply to the existing WWTP as indicated in plans. Work shall include installation of underground conduit and one underground pull/splice box. Load rating of pull/splice box shall be 22,500 lbs. Contractor shall utilize existing conduit and "LB" which exists the east wall of the existing blower building. Additional existing conduit may be used as construction allows. New conduit shall be 4" diameter schedule 40 PVC. Conductors shall be 3 conductor 350 MCM copper cable spliced to existing 3 conductor 350 MCM cable with a Burndy splice kit or equal.

Temporary communication line: Contractor shall install approximately 260' of CAT6 Ethernet cable between the control station in the existing blower building and electrical room located in the east building as indicated in plans. Total length of cable may not exceed 300'. Cable may be installed above or underground so long as cable is protected from construction traffic. District personnel will complete landing of cable and confirm communication link.

Temporary sludge pumping station: Contractor shall supply pump, piping, support, and appurtenances to facilitate the sludge pumping configuration indicated in plans. Proposed temporary sludge pump shall be capable of pumping 100GPM at a total dynamic head of 40'. Pump power source shall be existing MCC 1. Pump shall include simple on/off controls mounted at a location convenient for District personnel. Contractor may utilize existing walk ways and ladders that exist on the existing sludge storage tank for mounting equipment and piping. Piping shall be 4" diameter schedule 80 PVC pipe with solvent welded joints. Contractor may utilize existing perimeter fence to support piping for the duration of construction. Contractor shall maintain access to pump controls and pump loading area indicated in plans for the duration of construction. District will supply the attachment used to load sludge tanker trucks.

Temporary Diesel Driven Generator Set: To ensure consistent wastewater treatment during planned outages for construction or unplanned power outages, contractor shall provide and connect a 100kW diesel driven power generator and automatic transfer switch including all cable and connectors at the location shown on plans (adjacent to existing High-Flow Pump Station). Generator shall be located within 40' of existing exterior junction box. Existing cable for connecting generator is 3 conductor 350 MCM. Splice at existing junction box with 4 conductor burndy splice kits or equal.

Temporary 24" sewer main plug: Contractor shall plug existing 24" diameter sewer at MH 700-001 as noted in plans (Sheet 5). Plug shall be restrained/tethered as required to prevent plug from washing downstream. Contractor shall maintain pressure in plug to ensure no wastewater is released downstream for the duration of construction.

14.3 Required Submittals

1. Temporary electrical conduit and conductors.
2. Underground electric pull/splice box.
3. Temporary weather proof receptacles.
4. Temporary Generator set system and component specifications.
5. CAT6 Ethernet cable.
6. Temporary sludge pump specifications, including performance curves.
7. Sludge piping material specifications, schedule 80 PVC.
8. Temporary 24" diameter sewer plug.

14.4 Payment

Payment for all work under this item shall be made at the contract lump sum (LS) price for **Temporary Utilities, Complete.**

15 SITE DEMOLITION

15.1 General

The Contractor shall remove any and all debris, pavements, concrete, structures, equipment, conduits, conductors, and appurtenances noted for removal in the plans, or as necessary to complete the pump station installation as described in the contract documents. Work

includes but is not limited to excavation, clearing shrubs, saw cutting of existing pavement and concrete structures, electrical and equipment removals, and proper disposal of all materials removed.

No site removals may begin until Contractor receives written approval of temporary site utilities.

Prior to removal of existing wet well, contractor shall pump wastewater that remains in the structure to existing MH 700-001.

15.2 Required Submittals – Not used.

15.3 Payment

Payment for all work under this item shall be made at the contract lump sum (LS) price for **Site Demolition, Complete.**

16 BUILDING RENOVATIONS

16.1 General

Work under this item is limited to improvements made to the proposed control room and removal and replacement of existing doors and windows in the existing blower building.

16.2 Materials and Construction

Proposed Control Room Improvements: Contractor shall remove all equipment and piping that will not remain in service upon project completion from the existing generator room which will become the proposed control room. Contractor shall also remove and dispose of all debris from this room. Any ceiling, wall or floor pipe penetrations not being re-purposed for proposed work shall be grouted flush with adjacent surfaces with an approved non-shrink grout. Ceiling and walls shall be cleaned and painted prior to installation of any proposed equipment. Painted surfaces shall receive two (2) coats of HB Tenem-Tufcoat 114, waterborne acrylic epoxy or District approved equal. All paints, surface preparation, and application methods shall conform to federal requirements for allowable exposure to lead, and other hazardous substances. All materials shall be delivered to site in original containers with labels and seals intact. Contractor shall utilize drop cloths to protect adjacent surfaces. Paint shall be brush or roller applied at a time when environmental conditions are within paint manufacturer specifications. Color of paint will be as chosen by the District.

Windows: Contractor shall remove existing windows, and plywood and/or equipment that has been installed in window openings, and install new windows. Windows shall be aluminum clad, double pane picture windows. Maximum insulating U-factor shall be 0.37. Color of aluminum cladding shall be as selected by the District. Contractor is responsible for measuring existing window openings to ensure a proper fit. Contractor shall install windows per manufacturer's recommendations, including sealing exterior with manufacture's recommended sealant.

Door Panels: Contractor shall remove existing door panels as noted in plans and replace with new, plain insulated steel panel doors. Maximum insulating U-factor of door panel shall be 0.41. Color of door shall be as selected by District. Contractor shall provide new steel hinges and lockable lever door handle. Any preparation work needed on door frames shall be considered incidental to this work.

16.3 Required Submittals

1. Non shrink grout material specifications.
2. Paint material specifications, MSDS sheets, and color chart.
3. Window material specifications and aluminum cladding color chart.
4. Door panel and hardware material specifications, including color chart.

16.4 Payment

Payment for all work under this item shall be made at the contract lump sum (LS) price for **Building Renovations, Complete.**

17 DUPLEX SUBMERSIBLE PUMP STATION, COMPLETE

17.1 General

Contractor shall furnish and install the proposed duplex submersible pump station and all components to the lines and grades shown on the plans. Work under this item includes all excavation, shoring, dewatering, bedding, backfill, concrete structures including wet well, interior lining of wet well, pumps, pump lifting systems, control equipment and wiring, access hatch, ductile iron pipe and fittings, and all components as required to provide a fully functional pump station.

17.2 Wet Well

The proposed wet well shall be of pre-cast reinforced concrete construction. Pre-cast concrete design, components and construction shall conform to ASTM C890 and C913. Shop drawing submittals shall detail location of barrel section joints. All ship lap joints shall include butyl rubber sealant and external joint seal as shown on the District's Standard Detail Sheet. Inside diameter of wet well shall be 12'. Walls shall be 12" thick, minimum.

All pipe penetrations shall be cored in the field. Gravity pipe penetrations shall be sealed water-tight by means of a rubber gasket seal and stainless steel clamp conforming to ASTM C-923, as manufactured by PSX or approved equal. Pressure pipe penetration shall be sealed water tight by means of two (2) link seals.

Contractor shall furnish and install an inside drop bowl assembly as detailed in the plans. Minimum diameter of the drop bowl opening shall be 21". Drop bowl assembly shall be as manufactured by Reliner or District approved equal.

Contractor shall seal the joint between the top barrel section and top slab with a minimum of two (2), 1" beads of butyl rubber sealant as manufactured by E-Z stick, Kent Seal or District approved equal.

Prior to pump installation, Contractor shall place a concrete fillet. Minimum slope of fillet is 1:1. Minimum strength of concrete shall be 3500 psi. Contractor shall submit concrete mix design for District approval.

All interior walls and floor (including fillet) shall be lined with a single coat structural epoxy or polyurethane. Minimum coating thickness shall be 1/8". Minimum tensile strength of cured coating shall be 7,000 psi. Epoxy coating shall be as manufactured by Warren Environmental or District approved equal. Polyurethane coatings shall be as manufactured by Spray Roq or District approved equal.

Wet well shall include an 8" diameter schedule 40 stainless steel "gooseneck" vent pipe. The centerline radius of the gooseneck shall be 18" minimum. Contractor shall confirm final alignment with District. The vent pipe shall not extend beyond the exterior perimeter of the wet well top slab. Pipe penetration shall be sealed with a link seal and grouted flush with adjacent surface with non-shrink grout. Installation shall include a pipe collar/flange installed flush with the surface of the wet well top slab.

Contractor shall provide a cast-in place aluminum access hatch. Dimensions of access hatch shall be 4' x 7' as detailed in plans. Hatch shall be cast integral to the valve vault top slab and shall be constructed of aluminum. Hatch shall be rated for unintended vehicular traffic loading (AASHTO H20). Frame shall include aluminum channel with integral drain. Hatch shall be equipped with slam lock, lift assist, recessed padlock, and safety chains. Hatch shall be as manufactured by East Jordan Iron works or District approved equal.

17.3 Pumps and Pump Accessories

Contractor shall furnish and install two identical submersible pumps. Contractor shall also furnish a third identical pump that will serve as a standby for District Operations at project completion. Pump shall be as manufactured by Vaughan, Flygt, ABS/Sulzer, Homa, or Grundfos. Pump performance requirements are as follows:

1. Design pump rate = 809 GPM
2. Design Head (TDH) = 60.04'
3. Portion of TDH that is static = 35.21'
4. Must pass 3" sphere

Contractor shall submit evidence of at least five (5) installations in which similar sized pumps have provided satisfactory performance for a minimum of five (5) years. No consideration will be made for an individually sized pump that has not been commercially available for at least five (5) years.

Pump motor shall be integral to the pumping unit. The submersible motor shall be 25 Hp designed for continuous duty and meet efficiency standards of IEC 60034-30 level IE3.

Supply voltage shall be 480V, 3ph, 60Hz. Motors shall include integral thermal switches for overload protections set to open at temperatures specified by motor manufacturer.

Mechanical seals shall be per manufacturer's published standard specifications.

Bearings shall be permanently lubricated with a minimum L-10 bearing life of 100,000 hours.

Pump shall be supplied with a cast iron or ductile iron discharge elbow, stainless steel guide rails and stainless steel lifting chains or cable rated for the weight of the pumps plus 50%. Elbow and guide rail dimensions shall conform to the wet well as detailed in the plans. No lifting system requiring entry into the wet well will be allowed.

Pumps shall be supplied with 35' of power and control cable meeting NEC and CSA requirements. Contractor shall supply and install a NEMA 4X stainless steel junction box as indicated in plans. Conduits contained in the wet well shall be sealed water tight at both ends.

Contractor shall coordinate start-up of the new pump station and have a Manufacturer's representative on site for start-up of the new pumping system. Contractor shall assume two (2) days for start-up of the pumping system. Contractor shall submit standard start-up checklists as provided by pump manufacturer for District review and approval.

17.4 Control Components

Contractor shall furnish and install a Versaline VL 2000 series level transducer as manufactured by PMC or District approved equal. The level transducer shall be suspended 1' above the proposed wet well floor. Contractor shall also supply and install a float switch for high water alarm. Float switch shall be Dwyer FSW2 or approved equal.

Both the level transducer and high water alarm float switch shall be attached to a weighted stainless steel cable suspended from the access opening by connection to a $\frac{3}{4}$ " stainless steel eyebolt as shown on the plans. The weight attached to the cable end shall be sufficient to stabilize the instruments and constructed of non corrosive material. Weight shall hang a minimum of 6" above the proposed wet well floor.

Lengths of power and control cables supplied with level transducer and float switch shall be 35'.

17.5 Required Submittals

Wet Well:

1. Pre-cast concrete structure shop drawings. Indicating barrel section heights and pipe penetration locations.
2. Joint sealant. (E-Z stick, Kent, or approved equal)
3. External joint seal. (Mar Mac MacWrap or approved equal)
4. Concrete mix design (fillet)
5. Gravity pipe seal specifications (PSX or approved equal)

6. Link seal specifications.
7. Drop bowl assembly specifications (Reliner or approved equal)
8. Aluminum access hatch (EJIW or approved equal)
9. Sch. 40 SS vent pipe.
10. Wet well liner specifications and MSDS. (Warren Environmental, Spray Roq or equal)

Pumps:

1. Pump manufacturer name and specific model ID.
2. Pump performance curve indicating head capacity, horsepower demand, NPSHR, and pump efficiency over the entire operating range of the pump. As a separate list or on curve, indicate head capacity, horsepower demand, and overall efficiency at the design flow conditions.
3. Motor nameplate data and data including amp draw, power consumed and output at the design flow conditions.
4. Manufacturer's certification of motor rating and L-10 bearing life.
5. Physical address of manufacturer's closest service facility.
6. Assembly and installation drawings including complete parts list and part nomenclature outline dimensions and shipping weights.
7. Factory tests reporting hydraulic test readings between shutoff head and 25% beyond the maximum indicated capacity, recorded on datasheets as defined by the Hydraulic Institute. Test reports shall include pump curves indicating head, flow, bhp, efficiency and NPSHR and certification pump horsepower did not exceed the rated motor horsepower beyond a 1.0 service rating at any point.
 - a. All pumps shall be tested at the factory in accordance with the Test Code for Centrifugal Pumps of the Standards of the Hydraulic Institute.
8. Pump system start-up checklist(s).

Pump Accessories/Control Components

1. Pump lifting system specifications, including all cable/chain load ratings and hardware.
2. SS control component support cable and weight.
3. Level transducer (PMC Versaline or approved equal).
4. High level float switch (Dwyer FSW2 or approved equal)

17.6 Payment

All work under this item shall be paid for at the contract lump sum (LS) price for **Duplex Submersible Pump Station, Complete.**

18 VALVE VAULT, COMPLETE

18.1 General

The following detailed specifications are intended to describe the work necessary to result in a fully-functional valve vault as detailed in plans including all excavation, bedding and backfill, cast-in-place reinforced concrete structure, access hatches, sump pump, blower, ductile iron force main, valves, fittings, pipe supports, flow measuring devices and all appurtenances. The work detailed in this Section does not necessarily include all work items that Contractor is responsible for including in his/her lump sum price for the work.

18.2 Reinforced Concrete Valve Vault

Work and materials shall conform to *Section 3, Article 5, Concrete and Reinforcing Steel* of the District's *General Provisions and Technical Specifications*.

Concrete shall be Class "A" as defined in *TS 5:3.a*. Cement shall be ASTM C150, Type II. Air entraining admixture shall conform to ASTM C260. Water used in mixing concrete shall be potable. Water-cement ratio of mixture shall not exceed 5.25. Required gradation of fine and course aggregates are defined in *TS 5:2.f* and *g*. Reinforcing steel shall be as detailed in plans and conform to ASTM A615, Grade 40.

Minimum compressive strength of concrete at 28 days shall be 3,750 psi.

18.3 Mechanical

Contractor shall install ductile iron force main, fittings and valves as detailed in plans. All ductile iron pipes shall conform to ANSI/AWWA C151/A21.51. Thickness class of pipe shall be 53. Pipe flanges shall be ANSI Class 125 with SBR rubber gaskets conforming to ANSI/AWWA C111/A21.11. Ductile iron fittings shall conform to ANSI/AWWA C110/A21.10. Mechanical joints and restrained flange adapters shall be as manufactured by EBAA Iron or approved equal. Contractor shall verify materials, dimensions, and bolt patterns prior to material submittals.

All pipe penetrations shall be sealed with a double link seal.

Swing check valves shall be as manufactured by Dzurik or approved equal and equipped with a weight and lever closure control device. Body shall be constructed of ductile iron. Valve shall conform to AWWA C508.

Resilient wedge gate valves shall be as manufactured by Nibco, Clow or approved equal. Valves shall be equipped with hand-wheel actuators of same manufacturer. Gate valves shall conform to AWWA C509.

Combination air/vacuum release valves shall be 2" Vent-o-Mat RGX series as manufactured by RF Valve or approved equal. Valves shall include a 2" threaded NPT male connection. Valve shall be connected to 2" piping connected to 6" diameter tapped blind flange, as detailed in plans.

Ventilation piping and shall be 8" diameter welded schedule 40 stainless steel installed as detailed per plans. Contractor shall ensure "gooseneck" vent pipes do not extend beyond the exterior perimeter of the vault. All vent pipe penetrations shall be sealed by means of link seal or approved equal with exterior surface grouted smooth with adjacent concrete.

Blower shall be 115V Fantech model FKD 8XL or approved equal and have minimum capacity of 836 CFM.

Sump pump shall be 115V ABS/Robusta 100 or approved equal with 1.5" discharge. Discharge piping shall be 1.5" schedule 80 PVC piping with solvent welded joints. Pipe penetrations shall be sealed with double link seal.

18.4 Accessories

Contractor shall supply and install the following valve vault accessories in accordance with manufacturer's requirements.

Access Hatches: Dimensions of access hatches shall be as detailed in plans. Hatches shall be cast integral to the valve vault top slab. Access hatches shall be constructed of aluminum and shall be rated for unintended vehicular traffic loading (AASHTO H20). Frames shall include aluminum channel with integral drain. Hatches shall be equipped with slam lock, lift assist, recessed padlocks and safety chains as manufactured by East Jordan Iron works or approved equal.

Aluminum Access Ladder: The proposed ladder shall be anchored to the proposed vault wall in accordance with manufacturer's specifications and extend to the floor of the vault. The top section shall include extendable rails that allow for the access hatch to be closed when rails are retracted, and extend above the rim elevation of the access hatch a minimum of 36" when extended. Access ladder shall be as manufactured by Thompson's Aluminum TUFLadder or District approved equal.

Electrical: Valve vault shall include two (2) LED lights, RAB model VXBRLD26DG or approved equal. Lights shall be located as detailed in the plans. Lighting and blower shall be controlled with a vapor proof plunger-style door switch mounted to the access hatch. Lights and blower shall turn "on" when access hatch is opened. Contractor shall also provide two (2) 120V vapor proof duplex GFI convenience receptacles in the valve vault. Receptacles shall include a cover that is vapor proof when attachment plugs (portable equipment) are removed. All interior conduit shall be 3/4" rigid galvanized steel.

18.5 Required Submittals

1. Concrete mix design, Class "A", *Sect. 3, Art. 5 of General Prov. & Tech. Specifications.*
2. Concrete admixture product specifications, as applicable.
3. Reinforcing steel chemical and physical property test certifications.
4. PVC water stop product specifications.

5. Detailed shop drawings of reinforced concrete structure.
6. 6" diameter ductile iron pipe, AWWA C151, thickness class 53.
7. Ductile iron fittings, ANSI/AWWA C110/A21.10.
8. Gaskets, ANSI/AWWA C111/A21.11.
9. Mechanical joints/flange adapters.
10. Connecting bolts.
11. Sump pump, 115V ABS/Sulzer Robusta 100 or Equal.
12. Swing check valves, AWWA C508.
13. Gate valves, AWWA C509.
14. Combination air release/vacuum release valves, Vent-o-mat RGX or equal.
15. 2" Ball valves.
16. Ventilation piping, schedule 40 SS.
17. Blower; 115V Fantech FGD 8XL or equal.
18. Sump discharge piping, schedule 80 PVC, 1.5" diameter.
19. Aluminum access hatches.
20. Aluminum access ladder.
21. Light fixtures, RAB VXBRLD126dgor approved equal.
22. Convenience receptacle and weather proof enclosure.

18.6 Payment

All work under this item shall be included in the lump sum (LS) bid price for **Valve Vault, Complete.**

19 Electrical

19.1 General

This section covers the furnishing and installation of all equipment and materials needed for the electrical requirements of this Contract.

All electrical gear, service and equipment panels shall be rated for the available fault current. Available fault current, as reported by the utility is included in these specifications as **SECTION II, PART 21 - Exhibit A.**

This section covers the installation and interconnection of electrical equipment furnished under other sections, except electrical items designated to be installed under those sections.

Electrical apparatus for all equipment shall be installed complete and placed in readiness for proper operation.

Electrical materials furnished and installed under this section shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with the Drawings, Specifications, engineering data, instructions, and recommendations of the equipment manufacturer, unless exceptions are noted by the District.

Electrical work shall conform to the construction schedule and progress of other trades.

Supplementing this section, the Drawings indicate locations of equipment and enclosures and provide one-line and schematic diagrams regarding the connection and interaction with other equipment.

CODES AND PERMITS. All work shall be performed and materials shall be furnished in accordance with the NEC - National Electrical Code, the NESC - National Electrical Safety Code, and the following standards where applicable:

ANSI	American National Standards Institute.
ASTM	American Society for Testing and Materials.
AWG	American Wire Gauge.
Fed Spec	Federal Specification.
ICEA	Insulated Cable Engineers Association.
IEEE	Institute of Electrical and Electronics Engineers.
IESNA	Illuminating Engineering Society of North America.
NEIS	National Electrical Installation Standards
NEMA	National Electrical Manufacturers Association.
NFPA	National Fire Protection Association.
UL	Underwriters' Laboratories.

Equipment covered by this section shall be listed by UL, or by a nationally recognized third party testing laboratory. All costs associated with obtaining the listing shall be the responsibility of Contractor. If no third-party testing laboratory provides the required listing, an independent test shall be performed at Contractor's expense. Before the test is conducted, Contractor shall submit a copy of the testing procedure to be used.

19.2 Identification

19.2.1 Conductors

All conductors in power, control, and instrumentation circuits shall be identified and color coded as described herein.

Except for lighting and receptacle circuits, each individual conductor in power, control, and instrumentation circuits shall be provided with wire identification markers at the point of termination.

The wire markers shall be of the heat-shrinkable tube type, with custom typed identification numbers.

Power conductors shall be color coded as indicated below. For conductors 6 AWG and smaller, the color coding shall be the insulation finish color. Equipment grounding conductors shall be green or green with one or more yellow stripes if the conductor is insulated.

The following color coding system shall be used:

24VDC - blue

120/240V single-phase — black, red, and white

480V three phase – brown, orange, and yellow

19.2.2 Circuit Breakers

Circuit breakers shall contain a visual trip indicator. Circuit breakers shall be provided with nameplates identifying related equipment. Nameplates shall be laminated black-over-white plastic, with 1/8 inch engraved letters, and shall be securely fastened to the circuit breakers. Any breaker 40 amps or larger shall be adjustable for LSIG.

19.3 Protection and Storage

During construction, the insulation on all electrical equipment shall be protected against absorption of moisture, and metallic components shall be protected against corrosion by strip heaters, lamps, or other suitable means. This protection shall be provided immediately upon receipt of the equipment and shall be maintained continuously.

19.4 Products

19.4.1 Cable & Conductors

All cables of each type shall be from the same manufacturer.

Cable for electronic circuits to instrumentation, metering, and other signalling and control equipment shall be two- or three-conductor instrument cable twisted for magnetic noise rejection and protected from electrostatic noise by a total coverage shield. Control cable shall be Belden 89418 or District approved equal.

Conductors for power circuits shall be stranded, uncoated copper with max operating temperature of 90°C dry and 75°C wet. Conductor insulation shall be polyvinyl chloride, UL 83, type THWN or THHN.

19.4.2 Conduit

Conduit and raceways shall be as described in the following paragraphs:

Interior locations shall be rigid steel conduit shall be heavy wall, hot-dip galvanized, shall conform to ANSI C80.1, and shall be manufactured in accordance with UL 6.

Exposed exterior locations and inside proposed wet well and valve vault shall be PVC coated metal conduit and shall conform to NEMA RN1, ANSI C80.1.

Buried locations shall be nonmetallic (PVC) conduit - concrete encased, PVC conduit shall be heavy wall, Schedule 40, UL labelled for aboveground and underground uses, and shall conform to NEMA TC-2 and UL 651. Concrete encasement shall have a minimum thickness of six (6") around exterior wall of conduit(s).

19.4.3 Junction Boxes and Pull Boxes

Unless noted otherwise in plans, indoor boxes (larger than switch, receptacle, or fixture type) and outdoor boxes shall be NEMA Type 12 and shall be rigidly supported by PVC-coated or stainless steel framing materials. All exterior boxes shall be NEMA 4X stainless steel and rigidly supported with stainless steel framing materials. Mounting hardware, which includes nuts, bolts, and anchors, shall be stainless steel. All damaged coatings shall be repaired according to the manufacturer's instructions.

Bolt-on junction box covers 3 feet square or larger, or heavier than 25 lbs, shall have rigid handles. Covers larger than 3 by 4 feet shall be split.

Where indicated on the Drawings, junction and pull boxes with a removable side opposite the underground conduits shall be provided over building ends of underground conduit banks. Boxes shall be sized in accordance with the National Electrical Code, including space for full size continuations of all underground conduits not originally continued.

19.4.4 Variable Frequency Drives

Contractor shall supply a variable frequency drive for each pump installed. Drive shall be sized to accommodate 30HP constant torque, 480V as manufactured by ABB, Danfoss with MCB-105 output cards, or approved equal. Enclosure shall be NEMA 12. Supplied drives shall be identical.

19.5 Submittals

Contractor shall submit material and installation specifications for the following:

1. Rigid steel conduit, including mounting hardware.
2. Rigid non metallic conduit.
3. Concrete mix designs
4. Conduit sealing compound.
5. Junction boxes.
6. Conductors.
7. Control Cable.
8. VFD specifications and four (4) copies of operation and maintenance manuals.

19.6 Execution

All material, equipment, and components specified herein shall be installed, tested, and commissioned for operation in compliance with NECA 1000 – NEIS Specification

System. Where required in NECA 1000, testing and commissioning procedures shall be followed prior to energizing equipment.

19.6.2 Cable/Conductor Installation

Except as otherwise specified or indicated on the Drawings, cable shall be installed according to the following procedures, taking care to protect the cable and to avoid kinking the conductors, cutting or puncturing the jacket, contamination by oil or grease, or any other damage. Circuits to supply electric power and control to equipment and devices, communication and signal circuits as indicated on the one-line diagrams shall be installed continuous and may not be spliced unless approved by the Engineer.

- a. Stranded conductor cable shall be terminated by lugs or pressure type connectors. Wrapping stranded cables around screw type terminals is not acceptable.
- b. Stranded conductor cable shall be spliced by crimp type connectors. Twist-on wire connectors may be used for splicing solid cable and for terminations at lighting fixtures.
- c. Splices may be made only at readily accessible locations.
- d. Cable terminations and splices shall be made as recommended by the cable manufacturer for the particular cable and service conditions. All shielded cable stress cone terminations shall be IEEE Class 1 molded rubber type. Shielded cable splices shall be tape or molded rubber type as required. Shielded cable splices and stress cone terminations shall be made by qualified splicers. Materials shall be by 3M Company, Plymouth/Bishop, or equal.
- e. Cable shall not be pulled tight against bushings nor pressed heavily against enclosures.
- f. Cable-pulling lubricant shall be compatible with all cable jackets; shall not contain wax, grease, or silicone; and shall be Polywater "Type J".
- g. Where necessary to prevent heavy loading on cable connections, in vertical risers, the cable shall be supported by Kellems, or equal, woven grips.
- h. Spare cable ends shall be taped, coiled, and identified.
- i. Cables shall not be bent to a radius less than the minimum recommended by the manufacturer.
- j. All cables in one conduit, over 1 foot long, or with any bends, shall be pulled in or out simultaneously.

- k. Circuits to supply electric power and control to equipment and devices are indicated on the one-line diagrams and shall be in separate conduits. Conductors in designated numbers and sizes shall be installed in conduit of designated size. Circuits shall not be combined to reduce conduit requirements unless acceptable to Engineer.

19.6.3 Conduit Installation

Contractor shall be responsible for routing all conduits. This shall include all conduits indicated or shown on the plan Drawings. Conduits shall be routed as defined in these Specifications. Where conduit routing is shown on plans, it shall be considered a general guideline and shall be field verified to avoid interferences.

Except as otherwise specified or indicated on the Drawings, conduit installation and identification shall be completed according to the following procedures.

19.6.3.1 Installation of Interior and Exposed Exterior Conduit

This section covers the installation of conduit inside structures, above and below grade, and in exposed outdoor locations.

Unless otherwise indicated on the Drawings, Contractor shall be responsible for routing the conduit to meet the following installation requirements:

- a. Conduit installed in all exposed indoor locations, except corrosive areas indicated on the Drawings, and in floor slabs, walls, and ceilings of hazardous (classified) locations, shall be rigid steel metal. Exposed conduit shall be rigidly supported by hot-dip galvanized hardware and framing materials, including nuts and bolts.
- b. Conduit installed in all exposed outdoor locations and in proposed wet well and valve vault shall be PVC-coated rigid steel, rigidly supported by PVC-coated framing materials. Mounting hardware, which includes nuts, bolts, and anchors, shall be stainless steel. All damaged coatings shall be repaired according to the manufacturer's instructions.
- c. Terminations and connections of rigid steel and intermediate metal conduit shall be taper threaded. Conduits shall be reamed free of burrs and shall be terminated with conduit bushings.
- d. Exposed conduit shall be installed either parallel or perpendicular to structural members and surfaces.
- e. Two or more conduits in the same general routing shall be parallel, with symmetrical bends.
- f. Conduits shall be located at least 6 inches away from high temperature piping, ducts, and flues.

- g. Rigid Schedule 40 PVC conduit shall have supports and provisions for expansion as required by NEC Article 352.
- h. Metallic conduit connections to sheet metal enclosures shall be securely fastened by locknuts inside and outside.
- i. Rigid Schedule 40 PVC conduit shall be secured to sheet metal device boxes using a male terminal adapter with a locknut inside or by using a box adapter inserted through the knockout and cemented into a coupling.
- j. Conduit shall be clear of structural openings and indicated future openings.
- k. Conduit installed through any openings cut into non-fire rated concrete or masonry structure elements shall be neatly grouted.
- l. Conduits shall be capped during construction to prevent entrance of dirt, trash, and water.
- m. Horizontal conduit shall be installed to allow at least 7 feet of headroom, except along structures, piping, and equipment or in other areas where headroom cannot be maintained.
- n. Conduit shall not be routed across the surface of a floor, roof, or walkway unless approved by Engineer.
- o. PVC-coated rigid steel conduit shall be threaded and installed as recommended by the conduit manufacturer's installation procedure using appropriate tools.
- p. All conduits that enter enclosures shall be terminated with acceptable fittings that will not affect the NEMA rating of the enclosure.

19.6.3.2 Underground Conduit Installation

All excavation, backfilling, and concrete work shall conform to the respective sections of these Specifications. Underground conduit shall conform to the following requirements:

- a. All underground conduits shall be concrete encased unless indicated otherwise on the Drawings. Minimum concrete cover around conduit shall be 6".
- b. Concrete encased conduit shall be PVC utility schedule 40 PVC. Conduits shall have PVC-coated rigid steel coupling embedded a minimum of 3 inches when emerging from walls and the coupling shall extend 2 inches from the wall. All PVC joints shall be solvent welded in accordance with the recommendations of the manufacturer.
- c. Underground conduit bend radius shall be at least 2 feet at vertical risers and at least 3 feet elsewhere.

- d. Conduits encased in concrete and passing through walls, which have one side in contact with earth, shall be sealed watertight with special rubber-gasketed sleeve and joint assemblies or with sleeves and modular rubber sealing elements.
- e. Underground conduits shall be sloped to drain from buildings to manholes.
- f. Control/instrument cables shall not be installed in raceways, conduits, boxes, manholes, or handholes containing other types of circuits.
- g. Control/instrument cables shall be separated the maximum possible distance from all power wiring in pull-boxes, manholes, and handholes.

19.6.3.3 Sealing of Conduits

After cable has been installed and connected, conduit ends shall be sealed by forcing non-hardening sealing compound into the conduits to a depth at least equal to the conduit diameter. This method shall be used for sealing all conduits at handholes, manholes, and building entrance junction boxes, and for 1 inch and larger conduit connections to equipment.

19.7 Equipment Installation

Except as otherwise specified or indicated on the Drawings, the following procedures shall be used in performing electrical work.

19.7.1 Setting of Equipment

All equipment and boxes shall be installed level and plumb. Boxes, equipment enclosures, metal raceways, and similar items mounted on water- or earth-bearing walls shall be separated from the wall by at least 1/4 inch thick corrosion-resistant spacers. Where boxes, enclosures, and raceways are installed at locations where walls are not suitable or available for mounting, concrete equipment pads, framing material, and associated hardware shall be provided.

19.8 Grounding

The electrical grounding system materials, equipment and installation shall comply with the National Electrical Code, UL 467 and the following requirements:

- a. All ground conductors shall be at least 12 AWG soft drawn copper cable or bar, bare or green-insulated in accordance with the National Electrical Code.
- b. Ground cable splices and joints, ground rod connections, and equipment bonding connections shall meet the requirements of IEEE 142, and shall be exothermic weld connections or irreversible high-compression connections, Cadweld "Exothermic" or Burndy "Hyground". Mechanical connectors will not be acceptable. Cable connections to bus bars shall be made with high-compression two-hole lugs.

- c. All powered equipment, including lighting fixtures and receptacles, shall be grounded by a copper ground conductor in addition to the conduit connection.
- d. Ground connections to equipment and ground buses shall be made with copper or high conductivity copper alloy ground lugs or clamps. Connections to enclosures not provided with ground buses or ground terminals shall be made with irreversible high-compression type lugs inserted under permanent assembly bolts or under new bolts drilled and inserted through enclosures, other than explosion proof enclosures, or by grounding locknuts or bushings. Ground cable connections to anchor bolts; against gaskets, paint, or varnish; or on bolts holding removable access covers will not be acceptable.
- e. Ground conductors shall be solid for No. 8AWG or smaller and stranded for #6 AWG or larger. Conductors shall be routed as directly as possible, avoiding unnecessary bends. Ground conductor installations for equipment ground connections to the grounding system shall have turns with minimum bend radii of 12 inches.

19.9 Modifications to Existing Equipment

Modifications to existing equipment shall be completed as specified herein and indicated on the Drawings. All existing facilities shall be kept in service during construction. Temporary power or relocation of existing power and control wiring, equipment, and devices shall be provided as required during construction. Coordination and timing of outages shall be as specified in other sections of these Specifications. Electrical power interruptions will only be allowed where agreed upon in advance with the District.

19.9.1 Demolition

Unless otherwise specified or indicated on the Drawings, all cable and all exposed conduit for power and control signals of equipment indicated to be removed shall be demolished. Conduit supports and electrical equipment mounting hardware shall be removed, and holes or damage remaining shall be grouted or sealed flush. Conduit partially concealed shall be removed where exposed, and plugged with expanding grout flush with the floor or wall. Repairs shall be refinished to match the existing surrounding surfaces. Demolished equipment shall be discarded or salvaged as indicated on the Drawings and as specified in other sections of these Specifications.

19.10 Payment

Payment for all work under this item shall be made at the contract lump sum (LS) price for **General Electrical, Complete.**

20 STANDBY POWER GENERATOR

20.1 General

Each size of engine-generator shall be a current production model and shall be as manufactured by Cummins, Kohler, MTU, or a District approved equal.

It is the intent of this specification to secure a generator set that has been tested during design, verification, production, and at the final job site. The generator set shall be of the latest commercial design and shall be complete with all of the necessary accessories as specified herein.

Contractor will be responsible for providing all coolant and oil for the initial start up of the unit. Generator shall be connected to the gas service for the existing generator being removed as part of this project. Start up services will be required.

The equipment supplied shall meet the requirements of the National Electrical Code, along with all applicable local codes and regulations. All equipment shall be new and of current production of a national firm that shall be responsible for warranty, parts, and service through a local representative. Any and all exceptions to the published specifications shall be submitted in writing at least 5 business days prior to bid opening and shall be subject to the approval of the District via addendum.

The generator set shall conform to the requirements of the following codes and standards:

- CSA C22.2, No. 14 – M91 Industrial Control Equipment.
- EN50082-2, Electromagnetic Compatibility – Generic Immunity Requirements, Part 2: Industrial.
- EN55011, Limits and Methods of Measurement of Radio Interference Characteristics of Industrial, Scientific and Medical Equipment.
- IEC8528 part 4. Control Systems for Generator Sets
- IEC Std 801.2, 801.3, and 801.5 for Susceptibility, Conducted, and Radiated Electromagnetic Emissions.
- IEEE446 – Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications
- Mil Std 461D –1993. Military Standard, Electromagnetic Interference Characteristics.
- Mil Std 462D - 1993. Measurement of Electromagnetic Interference Characteristics.
- NFPA70 – National Electrical Code. Equipment shall be suitable for use in systems in compliance to Article 700, 701, and 702.
- NFPA110 – Emergency and Standby Power Systems. The generator set shall meet all requirements for Level 1 systems. Level 1 prototype tests required by this standard shall have been performed on a complete and functional unit; component level type tests will not substitute for this requirement.

20.2 Scope

The successful bidder shall provide, and install an engine driven generator set that has been factory built and tested, together with all accessories necessary for a complete installation as specified herein. All equipment and materials supplied as part of this contract shall be new and of current production by a firm which manufactures the generator set and controls. It is the intent of this document to specify the minimum requirements that the generator set must meet.

20.3 Natural Gas Driven Generator Set Requirements

20.3.1 Operating Conditions

The generator set shall be of the size required to start two pump motors while all other indicated station features are active, while staying within the maximum indicated voltage dip. The generator set shall be capable of this rating while operating in an ambient temperature range of -20°F to 104°F and an elevation of 700 feet above sea level. The generator set shall be capable of handling the load inrush when starting one pump motor across the line along with all additional phase loads below active, with a maximum voltage dip of 16%.

<u>Station Name</u>	<u>Voltage</u>	<u>Pump Motor HP</u>	<u>Motors Operating</u>	<u>Other Loads</u>
Soper Street	480, 3 ph	25	2	see below

The existing motor starters and electrical equipment are well used and their condition needs to be considered when sizing the generators. The station is equipped with the following equipment that should be spread over the phases and shall be considered energized during pump motor start-up for generator sizing and voltage dip testing:

Load	Description	Voltage	Est Load (A)	Load (kVA)	OCPD	Termination
1	P-1 Submersible Pump, 25 HP	480V-3f	50	54.0	100A	VFD
2	P-2 Submersible Pump, 25 HP	480V-3f	50	54.0	100A	VFD
3	LIGHT PANEL NQ (Lighting Recept, etc)	208V-3f	50	18.0	100A	IPC2
		Total Load	150	126		

20.3.2 Engine

Each generator shall be provided with a natural gas driven engine sized to meet the operating conditions previously stated. All engines shall be 1800 rpm maximum speed and equipped with the following:

- Electronic isochronous governor capable of +0.25% steady-state frequency regulation.
- 12 or 24 volt positive engagement solenoid shift-starting motor.
- Automatic battery charging alternator with solid-state voltage regulation suitable for outdoor installation or installation within the engine generator set enclosure.
- Positive displacement, full pressure lubrication oil pump, cartridge oil filters, dipstick, and oil drain.
- Dry-type replaceable air cleaner elements.
- Replaceable natural gas filters Kohler part number 343302 or equivalent.
- Gas pressure regulator Sensus part number 243-8-2 or equivalent.

The naturally aspirated engine shall be fueled with natural gas and be supplied with a unit-mounted electric solenoid fuel shut-off valve, flexible fuel line, and secondary fuel pressure regulator. The engine shall have at least 4 cylinders, and be liquid-cooled by a unit-mounted radiator, blower fan, water pump, and thermostats. This system shall properly cool the engine with up to 0.5 inches H₂O static pressure on the fan in an ambient temperature up to 122°F/50°C.

20.3.3 Alternator

Each generator shall be provided with an alternator that meets the following requirements:

- The alternator shall be salient-pole, brushless, 12-lead reconnectable, self-ventilated of drip-proof construction with amortisseur rotor windings and skewed stator for smooth voltage waveform. The insulation shall meet the NEMA standard (MG1-32.40) for Class H and be insulated with epoxy varnish to be fungus resistant per MIL 1-24092. Temperature rise of the rotor and stator shall be limited to 130°C. The excitation system shall be of brushless construction controlled by a solid-state voltage regulator capable of maintaining voltage within +/- 0.50% at any constant load from 0% to 100% of rating. The regulator must be isolated to prevent tracking when connected to SCR loads, and provide individual adjustments for voltage range, stability, and volts-per-hertz operations; and be protected from the environment by conformal coating.
- The alternator shall be a wound field, brushless type alternator with an auxiliary power brushless exciter design. The exciter field shall include a permanent magnet. The magnet is incorporated to assure positive field flashing at startup. The excitation system shall be powered by an auxiliary stator winding that is independent of the main output winding and dedicated solely for field excitation. In one step load and short circuit fault conditions, the power to the field shall be boosted to provide strong recovery or sustained short circuit current support to clean downstream circuit breakers.
- The generator set shall meet ISO 8528-5, level G-2 transient performance requirements.
- The generator shall be inherently capable of sustaining at least 250% of rated current for at least 10 seconds under a 3-phase symmetrical short circuit without the addition of separate current support devices.

- The alternator shall have a single maintenance-free bearing directly connected to the flywheel housing with a semi-flexible coupling between the rotor and the flywheel.

20.3.4 Controller

Each generator set shall be provided with a controller that is mounted on the alternator enclosure with vibration isolation. The controller shall be capable of being remote mounted. The controller shall be capable of facing right, left, or to the rear. The microprocessor control board shall be moisture proof and capable of operation from -40°C to 85°C. Relays will only be acceptable in high-current circuits. The controller shall meet the requirements of NFPA 110, Level 1. It shall be equipped with all accessories to provide all functions and faults required to meet this standard.

All circuitry shall be of plug-in design for quick replacement. The controller shall be equipped to accept a plug-in device capable of allowing maintenance personnel to test the controller performance without operating the engine. The controller shall include the following features as a minimum:

- Fused DC circuit.
- Complete 2-wire start/stop control, which shall operate on closure of a remote contact.
- Speed sensing and a second independent starter motor disengagement system, shall protect against starter engagement with a moving flywheel. Battery charging alternator voltage will not be acceptable for this purpose.
- The starting system shall be designed for restarting in the event of a false engine start, by permitting the engine to completely stop and then re-engage the starter.
- Cranking cyler with 15-second ON and OFF cranking periods.
- Overcrank protection designed to open the cranking circuit after adjustable time, factory set at 75 seconds, if the engine fails to start.
- Circuitry to shut down the engine when signal for high coolant temperature, low oil pressure, or overspeed is received.
- Engine cool-down timer factory set at 5 minutes to permit unloaded running of the standby set after transfer of the load to normal.
- 3-position (Automatic-OFF-TEST) selector switch. In the TEST position, the engine shall start and run regardless of the position of the remote starting contacts. In the Automatic position, the engine shall start when contacts in the remote control circuit close and stop 5 minutes after those contacts open. In the OFF position, the engine shall not start even though the remote start contacts close. This position shall also provide for immediate shutdown in case of an emergency. Reset of any fault shall also be accomplished by putting the switch to the OFF position.
- Alarm horn with silencer switch per NFPA 110.
- Software for the controller and a copy of the factory programming for each generator. One copy of the program shall be provided on CD, which is suitable for all of the engine generators to allow District adjustment of settings.

Indicating lights shall be provided to signal the following. A test button shall be provided for testing the indicating lights. Terminals shall be provided for each indicating light, plus additional terminals for common fault and common pre-alarm.

- Not-in-Auto (flashing red)
- Overcrank (red)
- Emergency Stop (red)
- High Engine Temperature (red)
- Overspeed (red)
- Low Oil Pressure (red)
- Battery Charger Malfunction (red)
- Low Battery Voltage (red)
- Low Fuel (red)
- Auxiliary Pre-alarm (yellow)
- Auxiliary Fault (red)
- System Ready (green)

20.3.5 Instrument Panel

Each generator set shall be provided with an instrument panel that includes the following:

- Dual range voltmeter 3 1/2-inch, +/- 2% accuracy
- Dual range ammeter 3 1/2-inch, +/- 2% accuracy.
- Voltmeter-ammeter phase selector switch.
- Lights to indicate high or low meter scale.
- Direct reading pointer-type frequency meter 3 1/2-inch, 0.5% accuracy, 45 to 65 Hz scale.
- Panel illuminating lights.
- Battery charging voltmeter.
- Coolant temperature gauge.
- Oil pressure gauge.
- Running-time meter.
- Voltage-adjust rheostat

20.3.6 Accessories

The generator shall be provided with the following accessories:

- An 80% rated line circuit breaker rated for 600 volts shall be provided. The breaker shall be a molded case type and shall be mounted on the generator. The breaker shall be properly sized for the amperage draw stated previously for each station, and provided with an amp sensor.
- A sound attenuated weather housing. The housing shall be constructed of pre-painted galvanized steel to resist corrosion. **The maximum sound level shall not exceed 70 dBA at a distance of 23 feet.** The housings shall be cleaned, phosphated, and electrocoat painted inside and out with rust inhibiting primer and exterior coating. The exterior coating shall be the manufacturer's standard color. The side panels will be lockable and easily removed for servicing.
- A heavy-duty steel base for mounting all components. The base shall be designed to handle all loads applied by the generator over the entire operating range. The

steel base shall be painted with the same system specified previously for the weather housing.

- Engine block heater. Thermostatically controlled and sized to maintain manufacturers recommended engine coolant temperature to meet the start-up requirements of NFPA-99 and NFPA-110, Level 1.
- Battery rack and battery cables, capable of holding the manufacturer's recommended batteries, shall be supplied.
- 12-volt lead-antimony battery(ies) capable of delivering the manufacturer's recommended minimum cold-cranking Amps required at 0°F, per SAE Standard J-537.
- Automatic float and equalize battery charger with +/- 1% constant voltage regulation from no load to full load over +/-10% AC input line variation, current limited during engine cranking and short circuit conditions, temperature compensated for ambient temperatures from -40°C to +60°C, fused, reverse polarity and transient protected, rated at least 6 amps output.
- The engine exhaust silencer shall be coated to be temperature and rust resistance, and shall be rated for critical applications.
- Two stainless steel flexible fuel lines rated at a minimum of 257°F and 100 psi ending in pipe thread.
- Air cleaner restriction indicator to indicate the need for maintenance of the air cleaners.
- Run relay to provide a three-pole, double-throw relay with 10 amps at 250 VAC contacts for indicating that the generator is running.
- Common failure relay to remotely signal auxiliary faults, emergency stop, high engine temperature, low oil pressure, overcrank, and overspeed via one single-pole, double-throw relay with 10 amps at 120 VAC contacts.
- Generator pre-alarm senders to provide signals for local and/or remote annunciation for engine conditions approaching critical/shutdown parameters.
- Generator rodent guards.
- Vibration isolators between the engine-alternator and the steel base.
- Cast in place concrete support pad; sized appropriately to support the generator and sound attenuating enclosure. **For bidding purposes contractor shall assume support pad dimensions of 8' X 12' X 10" thick.** Concrete shall be class SI as defined in *IDOT Standard Specifications*.

20.4 Automatic Transfer Switch

An automatic transfer switch shall be provided and installed in the control room as indicated in plans. The switches shall be manufactured by ASCO or approved equal.

The switches shall be an ASCO Series 300, 3-pole with a solid neutral and a standard controller or approved equal. Each switch shall be provided in a NEMA 3R enclosure. The switch shall be rated 480V, 400Amps.

20.5 Testing

To assure that the equipment has been designed and built to the highest reliability and quality standards, Contractor shall submit the following separate performance tests: design prototype tests, final production tests, and site tests.

20.5.1 Design Prototype Tests

Components of the standby system, such as the engine/generator set and accessories, shall not be subjected to prototype tests because the tests are potentially damaging. Rather, similar design prototypes and preproduction models shall be subject to the following tests:

- Maximum power (KW).
- Maximum motor starting (kVA) at 15% instantaneous voltage dip.
- Alternator temperature rise by embedded thermocouple and/or by resistance method per NEMA MG1-32.6.
- Governor speed regulation under steady-state and transient conditions.
- Voltage regulation and generator transient response.
- Harmonic analysis, voltage waveform deviation, and telephone influence factor.
- Three-phase short circuit tests.
- Alternator cooling air flow.
- Torsional analysis to verify that the generator set is free of harmful torsional stresses.
- Endurance testing.

The prototype test information shall be submitted for District approval prior to ordering equipment.

20.5.2 Production Tests

The generator set shall be factory tested under varying loads with guards and exhaust system in place. Contractor shall provide the District with a certified test report prior to shipping the units. The production test shall include:

- Single-step load pickup.
- Transient and steady—state governing.
- Safety shutdown device testing.
- Voltage regulation.
- Rated Power @ 0.8 PF
- Maximum Power.

20.5.3 Site Tests

An installation check and start-up test shall be performed by a qualified representative of the generator manufacturer. The test shall include:

- Fuel, lubricating oil, and antifreeze shall be checked for conformity to the manufacturer's recommendations, under the environmental conditions present and expected.
- Accessories that normally function while the set is standing by shall be checked prior to cranking the engine. These shall include: block heaters, battery charger, remote annunciator/contacts, etc.

- Start-up under test mode to check for exhaust leaks, path of exhaust gases outside the housing, cooling air flow, movement during starting and stopping, vibration during running, normal and emergency line-to-line voltage and frequency, and phase rotation.
- The generator shall be tested by starting the load items in the station, and operating continuously for 30 minutes without any alarm conditions. This start up procedure shall be performed a minimum of 4 times with all equipment operating within normal operating conditions. Voltage dip shall be recorded and reported to the District on each engine generator set's start up report.
- Automatic start-up by means of simulated power outage to test remote-automatic starting, transfer of the load, and automatic shutdown. The District will be responsible for providing and setting up the automatic transfer switch. Engine coolant temperature, oil pressure, and battery charge level along with generator set voltage, amperes, and frequency shall be monitored throughout the test. An external load bank shall be connected to the system to load the generator set to the nameplate KW rating. The load bank test on each generator shall be for a minimum of 4 hours. The generator shall operate alarm free during the 4 hour load test. If any alarms are encountered, the alarm shall be corrected and a new 4 hour load bank test started. District will provide fuel.
- All generators shall be given a sound level test. Maximum measured sound levels outside the as-installed enclosure shall not exceed the specified noise level at the specified distance when operating at full capacity. Any retesting or modifications to the equipment or enclosure to meet the above requirements shall be approved by the District. All costs of modifications and retesting shall be at no cost to the District. Test reports shall verify that the specified tests have been performed and shall state results. Test results shall be submitted to the District for installation in the Operation and Maintenance manual.

20.6 Submittals

Prior to shipment:

1. Detailed technical data sheets for the generator assembly and enclosure.
2. Dimensional drawings for the generator and enclosure.
3. The prototype testing data and certification.
4. Factory test results.
5. Concrete mix designs for concrete support pad.

At start-up:

1. Four (4) copies of operation and maintenance manuals including the following:
 - a. Step by step procedures for initial start up, emergency operation procedures, and complete troubleshooting guides.
 - b. Maintenance instructions shall be provided for all components. Instructions shall include details for disassembling and reassembling components, instructions for ordering spare parts including schematic diagrams, and complete preventative maintenance

- instructions required to insure satisfactory performance and longevity of the equipment.
- c. Electrical drawings and electronic schematics shall be provided for all components. The drawings should include terminal numbers required for interconnection with a District provided automatic transfer switch.

20.7 Payment

Payment for all work under this item shall be made at the contract lump sum (LS) price for **Standby Power Generating System, Complete.**

21 ELECTRICAL COORDINATION STUDY

21.1 General

21.1.1 SUMMARY

- A. The electrical contractor shall retain the services of an independent third party firm to perform an arc flash hazard study as described herein.

REFERENCES

- A. Institute of Electrical and Electronics Engineers:
1. IEEE 1584 – Arc Flash Hazard Calculations Standards
 2. IEEE 242 – Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems (Buff Book).
 3. IEEE 399 – Recommended Practice for Power Systems Analysis (Brown Book)
 4. IEEE 141 – Recommended Practice for Electric Power Distribution for Industrial Plants (Red Book)
- B. National Fire Protection Association:
1. NFPA 70 – National Electrical Code.
 2. NFPA 70E – Standard for Electrical Safety in the Workplace

21.1.3 COMPUTER SOFTWARE

- A. Computer Software Developers: All electrical studies shall be performed using the following:
1. ESA Inc, Easy Power

21.1.4 DESIGN REQUIREMENTS

- A. Complete Arc Flash Study to meet requirements of NFPA 70E (2015).

B. The study shall be performed, stamped, and signed by a registered professional engineer in the State of Illinois.

C. Report Preparation:

1. Prepare study prior to project completion.
2. Perform study with aid of computer software program.
3. Calculate the available incident energy in calories per square centimeter (cal/cm^2) at a working distance of 18 inches for the following equipment:

- a. Integrated power
- b. Pump #1 Variable Frequency Drive
- c. Pump #2 Variable Frequency Drive
- d. New Automatic Transfer Switch
- e. Pump #1 Disconnect
- f. Pump #2 Disconnect

D. Report Contents:

1. Include the following:
 - a. Calculation methods and assumptions.
 - b. Partial One-line diagram.
 - c. List of components in the partial one-line diagram and their characteristics (manufacturer, catalog number, size, etc.)
 - d. Tabulations of calculation quantities and results.
 - e. State conclusions and recommendations.
 - f. NFPA 70E compliant labels for the listed equipment that include the following:
 - 1) Bus Name
 - 2) Upstream protective device
 - 3) Nominal System Voltage
 - 4) Arc Flash Boundary
 - 5) Available incident energy and the corresponding working distance
 - 6) Required PPE
 - 7) The minimum arc rating of the required PPE.

21.1.5 SUBMITTALS

A. Third Party Qualifications Data: Submit the following for review prior to starting study.

1. Submit qualifications and background of firm.
2. Submit qualifications of the Professional Engineer performing study.

B. Software: Submit for review information on software proposed to be used in performing study.

- C. Submit copies of final report signed by professional engineer. Make additions or changes required by review comments.

21.2 PRODUCTS

21.2.1 SAMPLE LABEL

- A. The labels shall be approximately 3.75" H x 5" W printed on self-adhesive vinyl.
- B. The labels shall be similar in nature to the following label:



Arc Flash and Shock Risk Assessment Appropriate PPE Required

0' - 8"	Arc Flash Boundary
0.4	cal/cm2 at 18 Inches - Arc Flash Incident Energy
#1	Arc-rated shirt and arc-rated pants or arc-rated coverall
0.48	kV Shock Hazard when cover is removed
3' - 6"	Limited Approach
1' - 0"	Restricted Approach - Class 00 Voltage Gloves

Equipment Name: MCC-1 (Fed by: MCC-1 MAIN)



21.3 EXECUTION

21.3.1 EXAMINATION

- A. Examine Project overcurrent protective device submittals for compliance with electrical distribution system coordination requirements and other conditions affecting performance. Proceed with coordination study only after relevant equipment submittals have been assembled. Overcurrent protective devices that have not been submitted and approved prior to coordination study may not be used in study.

21.3.2 POWER SYSTEM DATA

A. Gather and tabulate the following input data to support coordination study:

1. Product Data for overcurrent protective devices specified in other Division 26 Sections and involved in overcurrent protective device coordination studies. Use equipment designation tags that are consistent with electrical distribution system diagrams, overcurrent protective device submittals, input and output data, and recommended device settings.
2. Impedance of utility service entrance.
3. Electrical Distribution System Diagram: In hard-copy and electronic-copy formats, showing the following:
 - a. Circuit-breaker and fuse-current ratings and types.
 - b. Relays and associated power and current transformer ratings and ratios.
 - c. Transformer kilovolt amperes, primary and secondary voltages, connection type, impedance, and X/R ratios.
 - d. Generator kilovolt amperes, size, voltage, and source impedance.
 - e. Cables: Indicate conduit material, sizes of conductors, conductor material, insulation, and length.
 - f. Busway ampacity and impedance.
 - g. Motor horsepower and code letter designation according to NEMA MG 1.
4. Data sheets to supplement electrical distribution system diagram cross-referenced with tag numbers on diagram, showing the following:
 - a. Special load considerations, including starting inrush currents and frequent starting and stopping.
 - b. Transformer characteristics, including primary protective device, magnetic inrush current, and overload capability.
 - c. Motor full-load current, locked rotor current, service factor, starting time, type of start, and thermal-damage curve.
 - d. Generator thermal-damage curve.
 - e. Ratings, types, and settings of utility company's overcurrent protective devices.
 - f. Special overcurrent protective device settings or types stipulated by utility company.
 - g. Time-current-characteristic curves of devices indicated to be coordinated.
 - h. Manufacturer, frame size, interrupting rating in amperes rms symmetrical, ampere or current sensor rating, long-time adjustment range, short-time adjustment range, and instantaneous adjustment range for circuit breakers.

- i. Manufacturer and type, ampere-tap adjustment range, time-delay adjustment range, instantaneous attachment adjustment range, and current transformer ratio for overcurrent relays.
- j. Panelboards, switchboards, motor-control center ampacity and interrupting rating in amperes rms symmetrical.

21.3.3 FAULT-CURRENT STUDY

- A. Calculate the maximum available short-circuit current in amperes rms symmetrical at circuit-breaker positions of the electrical power distribution system. REFER TO SECTION II, PART 21 – EXHIBIT A FOR AVAILABLE FAULT CURRENT. The calculation shall be for a current immediately after initiation and for a three-phase bolted short circuit at each of the following:
 1. Switchgear and switchboard bus.
 2. Distribution panelboard.
 3. Branch circuit panelboard
- B. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for Project. Include studies of system-switching configurations and alternate operations that could result in maximum fault conditions.
- C. Calculate momentary and interrupting duties on the basis of maximum available fault current.
- D. Calculations to verify interrupting ratings of overcurrent protective devices shall comply with and IEEE 242.
 1. Low-Voltage Circuit Breakers: IEEE 1015 and IEEE C37.20.1.
 2. Low-Voltage Fuses: IEEE C37.46.
- E. Study Report: Show calculated X/R ratios and equipment interrupting rating (1/2-cycle) fault currents on electrical distribution system diagram.
- F. Equipment Evaluation Report:
 1. For 600-V overcurrent protective devices, ensure that interrupting ratings are equal to or higher than calculated 1/2-cycle symmetrical fault current.
 2. For devices and equipment rated for asymmetrical fault current, apply multiplication factors listed in the standards to 1/2-cycle symmetrical fault current.
 3. Verify adequacy of phase conductors at maximum three-phase bolted fault currents; verify adequacy of equipment grounding conductors and grounding electrode conductors at maximum ground-fault currents. Ensure that short-circuit withstand ratings are equal to or higher than calculated fault current.

21.3.4 COORDINATION STUDY

- A. Perform coordination study using approved computer software program. Prepare a written report using results of fault-current study. Comply with IEEE 399.

1. Calculate the maximum and minimum 1/2-cycle short-circuit currents.
 2. Calculate the maximum and minimum ground-fault currents.
- B. Comply with IEEE 242 recommendations for fault currents and time intervals.
- C. Transformer Primary Overcurrent Protective Devices:
1. Device shall not operate in response to the following:
 - a. Inrush current when first energized.
 - b. Self-cooled, full-load current or forced-air-cooled, full-load current, whichever is specified for that transformer.
 - c. Permissible transformer overloads according to IEEE C57.96 if required by unusual loading or emergency conditions.
 2. Device settings shall protect transformers according to IEEE C57.12.00, for fault currents.
- D. Conductor Protection: Protect cables against damage from fault currents according to ICEA P-32-382, ICEA P-45-482, and conductor melting curves in IEEE 242. Demonstrate that equipment withstands the maximum short-circuit current for a time equivalent to the tripping time of the primary relay protection or total clearing time of the fuse. To determine temperatures that damage insulation, use curves from cable manufacturers or from listed standards indicating conductor size and short-circuit current.
- E. Coordination-Study Report: Prepare a written report indicating the following results of coordination study:
1. Tabular Format of Settings Selected for Overcurrent Protective Devices:
 - a. Device tag.
 - b. Relay-current transformer ratios; and tap, time-dial, and instantaneous-pickup values.
 - c. Circuit-breaker sensor rating; and long-time, short-time, and instantaneous settings.
 - d. Fuse-current rating and type.
 - e. Ground-fault relay-pickup and time-delay settings.
 2. Coordination Curves: Prepared to determine settings of overcurrent protective devices to achieve selective coordination. Graphically illustrate that adequate time separation exists between devices installed in series, including power utility company's upstream devices. Prepare separate sets of curves for the switching schemes and for emergency periods where the power source is local generation. Show the following information:
 - a. Device tag.
 - b. Voltage and current ratio for curves.
 - c. Three-phase and single-phase damage points for each transformer.
 - d. No damage, melting, and clearing curves for fuses.
 - e. Cable damage curves.

- f. Transformer inrush points.
- g. Maximum fault-current cutoff point.

F. Completed data sheets for setting of overcurrent protective devices.

21.4 Payment

This work shall be incidental to General Electrical Work.

Not to be used for bidding purposes

SECTION II, PART 21
EXHIBIT A

AVAILABLE FAULT CURRENT
AS REPORTED BY UTILITY

Not to be used for bidding purposes

Date: January 31, 2018

Subject: Fault Duty
 Winnebago Treatment Plant
 600 W Soper St
 Village of Winnebago, IL 610088

The following fault current information is provided to assist in your electrical system studies for the facility identified above. The data below was obtained solely from a review of ComEd plant records and is specific to the customer's location. ComEd has not field verified the accuracy of the information

☒ Secondary Service Customer (includes contribution of distribution system parameters)

Service Transformer: ComEd Transformer Location No.: 298084A9

	High	Low
KVA: <u>3-75kVA</u>	3- Ø Fault Current(A): <u>15,300</u> to <u>5,800</u>	
Tr. Type: <u>Overhead</u>	Ø- Ø Fault Current(A): <u>13,300</u> to <u>5,000</u>	
Voltages <u>12470V</u> to <u>277/480V</u>	1- Ø Fault Current(A): <u>14,800</u> to <u>5,600</u>	

NOTE: Actual fault current can vary widely depending on fault conditions and system configuration at the time of a fault, including outside the range provided.

Estimated Maximum X/R Ratio 1.58

☐ Primary Service Customer

Utility Primary: ComEd Line/Feeder No. _____

Primary Fault Current Range: Maximum: _____ Amps (symmetrical) at a maximum X/R ratio of _____

Minimum: Minimum fault current can vary widely depending on fault conditions and system configuration at the time of a fault. It is recommended that the customer run the analysis for a wide range of primary fault currents to determine the impact on the results.

Upstream Utility Interrupting Device: The upstream utility interrupting device is designed to protect the utility system from damage. The customer should not rely upon the upstream utility interrupting device to interrupt a fault on the customer's equipment.

Disclaimer: ComEd does not warrant the information provided above. The information provided is ComEd's estimate of system values at the point of service between ComEd's and the customer's electric system. It includes only the contributions from ComEd's system. ComEd does not guarantee to hold the system parameters represented by this information constant. ComEd reserves the right to make improvements, upgrades, or other changes to the electric system without notice. Such changes may invalidate the provided information. ComEd does not have any duty to provide updated information to its customers or to the user of this information. By making this data available, ComEd does not assume any responsibility relating to its use; the user assumes full responsibility for correct application of this information.

Information Provided By: Brandy Gobert Date: 1/31/18

Section III

Geotechnical Engineering Report

Terracon Project No. 19175019A

Dated October 27, 2017

Geotechnical Engineering Report

Soper Street and Falconer Road Sanitary Sewer Reroute

Winnebago, Illinois

Capital Project #1566

October 27, 2017

Terracon Project No. 19175019A

Prepared for:

Rock River Water Reclamation District

Rockford, Illinois

Prepared by:

Terracon Consultants, Inc.

Rockford, Illinois

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Terracon

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities



October 27, 2017

Rock River Water Reclamation District
3501 Kishwaukee Street
P.O. Box 7480
Rockford, Illinois 61126

Attn: Mr. Christopher Baer, P.E.

Re: Geotechnical Engineering Report
Soper Street and Falconer Road Sanitary Sewer Reroute
Capital Project #1566
Machesney Park, Illinois
Terracon Project No. 19165019A


Dear Mr. Baer:

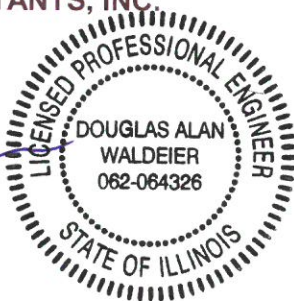
Terracon Consultants, Inc. (Terracon) has completed the geotechnical engineering services for the above referenced project. These services were performed in general accordance with our Proposal No. P19175019 dated June 23, 2017 and RRWRD Purchase Order No. 77562 dated June 26, 2017. Originally we drilled 8 borings for the project, the results of which were discussed in our geotechnical engineering report dated September 1, 2017. An additional boring, B-9, was performed in general accordance with our Proposal No. P19175019A dated October 11, 2017 and RRWRD Purchase Order No. 77766 dated October 16, 2017. This updated report presents the results of the combined subsurface exploration and provides recommendations regarding excavation and backfilling for the proposed sanitary sewer reroute.


We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service to you, please contact us.

Sincerely,

TERRACON CONSULTANTS, INC.


Doug Waldeier, P.E.
Illinois No. 062-064326
Renews 11/30/2017




Paul A. Tarvin, P.E.
Illinois No. 062-068341
Renews 11/30/2017

Terracon Consultants, Inc. 4836 Colt Road Rockford, Illinois 61109
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Geotechnical



Environmental



Construction Materials



Facilities

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GEOTECHNICAL ENGINEERING REPORT
SOPER STREET AND FALCONER ROAD SANITARY SEWER
REROUTE
CAPITAL PROJECT #1566
WINNEBAGO, ILLINOIS
Terracon Project No. 19175019A
October 27, 2017

1.0 INTRODUCTION

Terracon has completed a subsurface exploration for the proposed Soper Street and Falconer Road Sanitary Sewer Reroute project in Winnebago, Illinois. Nine (9) borings extending to depths ranging from about 7½ to 24 feet below existing grade were performed along the proposed project alignment. Boring logs and a soil boring location diagram are included in Appendix A of the report. This report describes the subsurface conditions encountered at the boring locations, presents the test data, and provides recommendations regarding excavation and backfilling for the proposed sanitary sewer reroute.

2.0 PROJECT INFORMATION

2.1 Project Description

ITEM	DESCRIPTION
Site layout	See Boring Location Diagram (Exhibit A-2)
Proposed Improvements	Sanitary sewer reroutes
Grading	No changes to existing surface grades are planned.
General Construction	It is anticipated that the sanitary sewer will be constructed by open cut excavations.

2.2 Site Location and Description

ITEM	DESCRIPTION
Location	Six (6) borings located along Soper Street between Pecatonica Street and Westfield Road; one (1) boring at the existing RRWRD facility at the west end of Soper Street; and two (2) borings along Falconer Road from Cunningham Road to Pecatonica Prairie Path in Winnebago, Illinois.
Existing Improvements	The site consists of existing residential and county roadways.

ITEM	DESCRIPTION
Existing topography	Based upon the estimated surface elevations provided, the elevation of Soper Street ranges from about 849 to 877 feet, and the elevation of Falconer Road ranges from about 818.5 to 828 feet.

3.0 SUBSURFACE CONDITIONS

3.1 Typical Profile

Subsurface conditions encountered at the boring locations are described on the boring logs. The stratification boundaries shown on the boring logs represent the approximate depth where changes in material types occur. In-situ, transitions between materials may be gradual. Based on the conditions observed at the boring locations, the stratigraphy can generally be described as follows. Please refer to the attached boring logs for further information.

Description	Approximate Depth to Bottom of Stratum	Material Encountered	Consistency/Density
Surface 1 ¹	5½ to 13 inches	Existing pavement: 2 to 5½ inches of asphalt over up to 8 inches of crushed stone aggregate	N/A
Surface 2 ²	3 feet	Fill: Lean clay or clayey topsoil	N/A
Stratum 1 ³	3 to 5 feet	Fill: Crushed stone aggregate or lean clay with variable amounts of silt	N/A
Stratum 2	6½ to 12 feet	Native cohesive soils: Lean clay with variable amounts of silt, sand, and gravel	Soft to stiff
Stratum 3 ⁴	Termination depths of about 15 to 18½ feet	Native granular soils: Sand with variable amounts of clay, silt, and gravel	Loose to medium dense
Stratum 4 ⁵	Termination depths of 7½ to 24 feet	Highly to moderately weathered limestone	N/A

- Existing pavement encountered in borings B-1 through B-6 drilled on Soper Road and B-9.
- Encountered in borings B-7 and B-8 drilled along Falconer Road.
- Stratum 1 was encountered in Borings B-1 through B-3, B-6, and B-9.
- Stratum 3 was encountered to the termination depth of 15 feet in Boring B-6, the termination depth of 18½ feet in Boring B-7, and the auger refusal depth of about 17 feet in Boring B-8.
- Stratum 4 (weathered limestone) was encountered to the auger refusal depths of 7½ to 14½ feet in Borings B-1 through B-5 and to 24 feet in Boring B-9.

Select soil samples were screened with a photo-ionization detector (PID) to estimate the presence of volatile organic compounds (VOCs). These test results are summarized on the boring logs in Appendix A. VOC levels ranging from “non-detect” (below the detection level of the equipment) to 3.0 parts per million (ppm) were measured.

3.2 Water Level Observations

The borings were observed during and after the completion of drilling for the presence and level of water. The subsurface water levels observed at these times are indicated on the boring logs in Appendix A. A summary of the boreholes where water levels were observed is presented in the following table.

Boring Number	Observed Water Depth (ft) ¹			
	While Drilling	Elevation	After Drilling	Elevation
1	13½	854.5	N/E	<854
2	N/E	<862.5	N/E	<862.5
3	6½	870.5	6	871
4	N/E	<863.5	N/E	<863.5
5	N/E	<849.5	N/E	<849.5
6	13	836	N/E	<834
7	13	817.5	N/E	<812
8	N/E	<803.5	N/E	<803.5
9	16½	843.1	16½	843.1

1. Below existing grade

2. N/E = not encountered.

Because the water was encountered at different depths and some while drilling but not after drilling, the water encountered may be perched water conditions. Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. Therefore, groundwater levels during construction or at other times in the life of the project may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

4.1 Geotechnical Considerations

The soil boring data and laboratory test results were evaluated to develop recommendations for the sanitary sewer excavations.

Excavation of rock will likely be required for the trench excavations in certain areas of the alignment, particularly along Soper Street, if the utilities are to extend beyond a depth of 6 feet. At Borings B-1 to B-5, the depth to highly weathered limestone ranged from about 6½ to 12 feet. At Boring B-9, the depth to highly weathered limestone was about 16 feet. Elevations and depths of bedrock along the alignment are likely to vary.

Based on the subsurface conditions encountered in the borings and the anticipated excavation depths, the soils encountered at the boring locations appear to be suitable for the proposed sewer construction. Where soft clay soils or loose sands are present or where sufficient lateral distance does not exist to properly slope open cuts, the use of trench boxes, temporary sheeting or other means of shoring will likely be required to support the sides of the excavations.

4.2 Sanitary Sewer Construction

4.2.1 Sanitary Sewer Trench Excavation Recommendations

Excavation of rock will likely be required for the trench excavations in certain areas of the alignment, particularly along Soper Street, if the utilities are to extend beyond a depth of 6 feet. At Borings B-1 to B-5, the depth to highly weathered limestone ranged from about 6½ to 12 feet. At Boring B-9, the depth to highly weathered limestone was about 16 feet. In our experience, conventional heavy duty excavation equipment such as track-mounted excavators equipped with rock teeth can sometimes excavate rock materials that were penetrated with flight augers in the exploratory borings. Excavation of rock formations that cannot be penetrated with flight augers is usually much more difficult and often requires the use of pneumatic breakers or other rock excavation techniques. Excavation of rock in confined excavations such as utility trenches is generally difficult, even above the level of auger refusal.

The use of temporary sheeting/shoring or trench boxes will likely be needed where soft clay soils or loose sands are present or where space or cost limitations will not permit safe slopes for an open cut excavation. Careful planning and execution of the trench excavations, dewatering and sheeting/shoring installation (if required) will be important to reduce the potential for subgrade instability and ground loss due to granular soils flowing into the excavations.

All excavations for the proposed sanitary sewer should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, as well as other applicable codes, and in accordance with any applicable local, state, and federal safety regulations. The

contractor should be aware that excavation depths and slope inclination should in no instance exceed those specified by these regulations. Flatter slopes than those indicated by these regulations may be required depending upon the soil conditions encountered and other external factors. These regulations are strictly enforced and, if not followed, the owner, and contractor could be liable and subjected to substantial penalties. Under no circumstances should the information provided below be interpreted to mean that Terracon is assuming responsibility for construction site safety or the contractor's activities. Construction site safety is the sole responsibility of the contractor, who should also be solely responsible for the means, methods, and sequencing of construction operations.

The OSHA Occupational Safety and Health Standards-Excavations classify soils into three basic types (e.g., Type A, B, and C). Depending upon the soil type, OSHA requirements for excavation slopes range from $\frac{3}{4}H$ to 1V (horizontal to vertical) for Type A soils, 1H to 1V for Type B soils, and $1\frac{1}{2}H$ to 1V for Type C soils. OSHA dictates that any excavation extending to a depth of more than 20 feet shall be designed by a licensed professional engineer. Based upon the subsurface conditions encountered at the boring locations, it appears that excavations will extend into soft to stiff clay soils. Based on the unconfined compressive strengths tested for the samples obtained, the cohesive (clay) soils encountered would classify as either Type B or C soil according to OSHA regulations. OSHA recommends a maximum slope inclination of $1\frac{1}{2}$ horizontal to 1 vertical for excavation in Type C soils and a maximum slope inclination of 1 horizontal to 1 vertical for excavation in Type B soils. Based upon the subsurface conditions encountered at the boring locations, it appears that excavations near Borings B-6 through B-8 will extend into granular soils. Granular soils classify as Type C soil according to OSHA regulations. OSHA recommends a maximum slope inclination of $1\frac{1}{2}$ horizontal to 1 vertical for excavation in granular soils. It should be noted that whenever a lower strength material underlies a higher strength material, the lower strength material must be utilized for trench design. Consideration should be given to the allowable construction easement when developing the excavation plan.

In lieu of trench slopes as defined by OSHA, trench shoring or a shield (trench boxes) may be utilized to reduce overall excavation widths. The contractor or the specialty subcontractor should be responsible for the design, installation, and maintenance of the temporary shoring. These designs should be performed in accordance with applicable regulatory requirements.

Since groundwater was encountered in some of the borings, groundwater seepage into the excavations should be expected. Seepage into the excavations should be controlled. Low volumes of seepage into excavations could probably be controlled using sump pits and pumps from within the excavations. However, for high volumes of seepage, more extensive dewatering measures, such as well points, may be necessary. In this case, temporary sheeting may be necessary, particularly in granular soils. Shoring, if driven to sufficient depths, could also help reduce the inflow of groundwater into the excavation. However, groundwater inflows through the sheeting interlocks and underlying sands should still be anticipated.

Care should be taken during excavation to protect the structural integrity of any existing structures, pavements, or adjacent underground utilities that are to remain in-place. The settlement tolerances of adjacent structures or improvements should be considered when determining the excavation methods. Depending upon factors such as the depth of excavation, the location of the existing improvements, groundwater and soil conditions, temporary sheeting, shoring, and underpinning may be required. Particular caution should be exercised if excavations are performed near existing utility lines. Existing backfill for utility lines is often poorly compacted and the limits of the old excavation form a ready failure surface. The OSHA trench safety guidelines for adequate side slopes based on soil types may not apply in these situations. Existing underground utilities should be shored and braced as required to maintain their integrity and appropriately designed trench boxes or sheeting and bracing should be used to provide for worker safety.

All vehicles, equipment and soil piles should be kept a sufficient lateral distance from the crest of the trench slope to maintain safe working conditions. Vehicles, equipment and soil piles located adjacent to trenches could significantly reduce the stability of the slopes as outlined by the OSHA regulations. A more detailed stability analysis would be required to better evaluate these conditions. Additionally, vibrations from heavy traffic or similar sources can negatively influence slope stability. The exposed slope faces should be protected from the elements. Surface water should be diverted away from all excavations. The length of open trench should be held to a minimum. Where possible, construction of sanitary sewer lines should start at the lowest point along the proposed line and proceed upgradient. Trench excavation, pipe installation, and backfilling should be completed as quickly as possible.

The generalized discussion provided above is based solely upon the materials encountered in the exploratory borings. The materials encountered in the excavations along the proposed alignment may vary significantly. The boring logs represent soil conditions at a discrete location and are not necessarily representative of conditions along the entire alignment. Thus, the stability of the excavation slope should be reviewed continuously by qualified personnel during construction.

4.2.2 Pipe and Structure Support Recommendations

Settlement of any manhole structures supported on undisturbed native soils is generally not a major concern due to the small increase of net load at the bearing elevation. However, settlement can occur due to recompression of soils beneath structures or pipelines that were disturbed or loosened in the construction process. If loosening or disturbance of foundation soils occurs, the affected soils should be recompact in-place or overexcavated and replaced. A clean and well-graded granular material, such as crushed stone meeting the criteria of IDOT gradation CA-8, CA-11, or other similar material, could be used as replacement material. An appropriately selected engineering geotextile could also be considered below the stone to provide filtering characteristics and increase the stability of the excavation base.

4.2.3 Trench Backfill Recommendations

Trench backfill materials should be free of organic matter and debris and consist of material meeting the requirements of the Agency with jurisdiction. If no jurisdictional specific requirements exist, we recommend that trench backfill consist of approved materials free of organic matter and debris. Well-graded granular materials (i.e., sands and gravels) should be used as backfill for portions of the sanitary sewer trenches below or adjacent to streets or other structures. Compaction of the granular backfill materials is typically less sensitive to moisture variations and is usually more readily accomplished in confined excavations where granular soils are used.

Due to silt and clay mixed with the granular materials, the on-site materials would not be considered suitable for use as trench backfill.

4.2.4 Compaction Requirements

Item	Description
Fill Lift Thickness	9 inches or less in loose thickness when heavy, self-propelled compaction equipment is used. 4 to 6 inches in loose thickness when hand-guided equipment (i.e., a jumping jack or plate compactor) is used.
Compaction of Granular Material and Cohesive Soil ^{1, 2}	Fill placed in the upper 12 inches of design subgrade below pavements should be compacted to at least 98 percent of the material's standard Proctor maximum dry density (ASTM D 698). Fill placed more than 12 inches below final grade for support of pavements should be compacted to at least 95 percent of the above specified density.
Moisture Content of Granular Material ³	Workable moisture levels
Moisture Content of Cohesive Soil	Within 2% below to 3% above the standard Proctor optimum moisture content at the time of placement and compaction

1. We recommend that engineered fill be tested for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.
2. If the granular material is a coarse sand or gravel, is of a uniform size, or has a low fines content, compaction comparison to relative density (ASTM D 4253 and D 4254) may be more appropriate. In this case, granular materials should be compacted to at least 60% of the material's maximum relative density.
3. Specifically, moisture levels should be maintained to achieve compaction without the subgrade pumping when proofrolled.

5.0 GENERAL COMMENTS

Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide observation and testing services during excavation, sanitary sewer construction, backfilling, and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated location and from other information discussed in this report. This report does not reflect variations that may occur across the site or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

With the exception of the photo-ionization detector screening discussed above, the scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either expressed or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A

FIELD EXPLORATION

Not to be used for bidding purposes

Geotechnical Engineering Report

Soper Street and Falconer Road Sanitary Sewer Reroute ■ Winnebago, Illinois

October 27, 2017 ■ Terracon Project No. 19175019A



Field Exploration Description

The borings were performed near the locations shown on the attached Boring Location Diagram (Exhibit A-2). The boring locations were marked in the field by the client and elevations at the boring locations were provided by the client. For access and utility purposes, the Falconer Road borings (B-7 & B-8) were performed along the existing pavements instead of in the ditch area adjacent to the roadway as marked.

The borings were drilled with a truck-mounted, rotary drill rig using continuous flight, hollow-stemmed augers to advance the borehole. Soil samples were obtained using split-barrel sampling procedures, in which a standard 2-inch (outside diameter) split-barrel sampling spoon is driven into the ground with a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. These values, also referred to as SPT N-values, are an indication of soil strength/relative density and are provided on the boring logs at the depths of occurrence. The samples were sealed and transported to the laboratory for testing and classification.

The drill crew prepared field logs of the borings. The logs included visual classifications of the materials encountered during drilling and the driller's interpretation of the subsurface conditions between samples. The boring logs included with this report represent the engineer's interpretation of the field logs and include modifications based on laboratory observation and tests of the samples.

Not to be used for bidding purposes

BORING LOG NO. B-1

Page 1 of 1



PROJECT: Soper Street & Falconer Road

CLIENT: Rock River Water Reclamation District
Rockford, IL

SITE: Soper Street & Falconer Road
Winnebago, IL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. 19175019 SOPER ST AND FALC - RECOVERED.GPJ TERRACON_DATATEMPLATE.GDT 10/27/17

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 42.265153° Longitude: -89.243855°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	HP (psf)	P.I.D. (ppm)	WATER CONTENT (%)
	Surface Elev.: 868 (Ft.)							
	DEPTH	ELEVATION (Ft.)						
0.3	ASPHALT, Approximately 5"	867.5						
0.9	CRUSHED STONE AGGREGATE, Approximately 8"	867						
	FILL - LEAN CLAY, brown							
3.0		865		X	6-4-4 N=8		ND	9
	SILTY CLAY (CL-ML), brown, medium stiff							
5.5		862.5		X	4-3-5 N=8	3000	ND	25
	SANDY LEAN CLAY (CL), reddish-brown, stiff							
				X	5-5-7 N=12	4000	0.2	15
				X	4-4-6 N=10	2000	0.1	23
12.0		856						
	HIGHLY WEATHERED LIMESTONE, light brown							
14.0		854		X	16-50/1"		ND	17
	BOTTOM OF BORING <i>Auger Refusal at 14 Feet</i>							
Stratification lines are approximate. In-situ, the transition may be gradual.			Hammer Type: Automatic					

Advancement Method: Hollow Stem Auger	See Exhibit A-1 for description of field procedures See Appendix B for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Auger Cuttings	See Appendix C for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS		Boring Started: 07-12-2017	Boring Completed: 07-12-2017
 13½', While Drilling		Drill Rig: D-50	Driller: TK
None, After Boring		Project No.: 19175019	Exhibit: A-3

BORING LOG NO. B-2

Page 1 of 1

PROJECT: Soper Street & Falconer Road

CLIENT: Rock River Water Reclamation District
Rockford, IL

SITE: Soper Street & Falconer Road
Winnebago, IL

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 42.265169° Longitude: -89.241033°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	HP (psf)	P.I.D. (ppm)	WATER CONTENT (%)
	Surface Elev.: 872.5 (Ft.) ELEVATION (Ft.)							
	0.4 ASPHALT , Approximately 5"	872						
	1.1 CRUSHED STONE AGGREGATE , Approximately 8"	871.5						
	FILL - LEAN CLAY , with silt, dark brown and dark gray			X	6-4-4 N=8		ND	18
	3.0 SILTY CLAY (CL-ML) , brown, medium stiff to stiff	869.5						
	5.5 LEAN CLAY (CL) , with sand, trace silt, reddish-brown, stiff	867		X	4-3-4 N=7	3000	0.1	25
	8.0 LEAN CLAY (CL) , with sand, trace silt, reddish-brown, stiff			X	4-3-5 N=8	3000	ND	25
	10.0 HIGHLY WEATHERED LIMESTONE , light brown	864.5						
		862.5		X	7-11-16 N=27		ND	10
	BOTTOM OF BORING <i>Auger Refusal at 10 Feet</i>	10						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-1 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

Abandonment Method:
Auger Cuttings

WATER LEVEL OBSERVATIONS

None, While Drilling
None, After Boring

Terracon
4836 Colt Rd
Rockford, IL

Boring Started: 07-12-2017

Boring Completed: 07-12-2017

Drill Rig: D-50

Driller: TK

Project No.: 19175019

Exhibit: A-4

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. 19175019 SOPER ST AND FALC - RECOVERED.GPJ TERRACON DATATEMPLATE.GDT 10/27/17

BORING LOG NO. B-3

Page 1 of 1

PROJECT: Soper Street & Falconer Road

CLIENT: Rock River Water Reclamation District
Rockford, IL

SITE: Soper Street & Falconer Road
Winnebago, IL

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 42.265185° Longitude: -89.238448°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	HP (psf)	P.I.D. (ppm)	WATER CONTENT (%)
	Surface Elev.: 877 (Ft.) ELEVATION (Ft.)							
	0.5 ASPHALT , Approximately 5½"	876.5						
	FILL - CRUSHED STONE AGGREGATE , light brown							
				X	5-6-4 N=10		ND	8
				X	4-3-2 N=5		ND	12
	5.0	872						
	SANDY LEAN CLAY (CL) , reddish-brown, medium stiff to stiff							
				X	1-2-4 N=6	2000	ND	18
				X	2-2-3 N=5	4000	0.8	23
	12.0	865						
	HIGHLY WEATHERED LIMESTONE , light brown	864.5						
	MODERATELY WEATHERED LIMESTONE , light brown							
	Auger Refusal at 12.5 Feet							
				X	50/5"		ND	13
	14.5	862.5						
	BOTTOM OF BORING							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method: Hollow Stem Auger	See Exhibit A-1 for description of field procedures See Appendix B for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Auger Cuttings	See Appendix C for explanation of symbols and abbreviations.		
WATER LEVEL OBSERVATIONS	 4836 Colt Rd Rockford, IL	Boring Started: 07-12-2017	Boring Completed: 07-12-2017
▽ 6½', While Drilling		Drill Rig: D-50	Driller: TK
▽ 6', After Boring		Project No.: 19175019	Exhibit: A-5

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. 19175019 SOPER ST AND FALC - RECOVERED GPU TERRACON DATATEMPLATE.GDT 10/27/17

BORING LOG NO. B-4

Page 1 of 1

PROJECT: Soper Street & Falconer Road

CLIENT: Rock River Water Reclamation District
Rockford, IL

SITE: Soper Street & Falconer Road
Winnebago, IL

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 42.265209° Longitude: -89.236914°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	HP (psf)	P.I.D. (ppm)	WATER CONTENT (%)
	Surface Elev.: 876 (Ft.)							
	ELEVATION (Ft.)							
	DEPTH							
	0.4 ASPHALT , Approximately 5"	875.5						
	1.0 CRUSHED STONE AGGREGATE , Approximately 7"	875						
	LEAN CLAY (CL) , trace silt, brown, medium stiff to stiff			X	4-2-3 N=5	4000	ND	25
	3.0 LEAN CLAY (CL) , with sand, trace gravel, reddish-brown, stiff	873						
				X	3-2-6 N=8	4000	ND	15
				X	3-3-5 N=8	4000	0.8	18
				X	4-5-4 N=9	3000	ND	27
	12.0	864						
	12.5 MODERATELY WEATHERED LIMESTONE , light brown	863.5						
	BOTTOM OF BORING <i>Auger Refusal at 12.5 Feet</i>				50/1"		ND	

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-1 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

Abandonment Method:
Auger Cuttings

WATER LEVEL OBSERVATIONS

None, While Drilling
None, After Boring

Terracon
4836 Colt Rd
Rockford, IL

Boring Started: 07-12-2017

Boring Completed: 07-12-2017

Drill Rig: D-50

Driller: TK

Project No.: 19175019

Exhibit: A-7

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. 19175019 SOPER ST AND FALC - RECOVERED.GPJ TERRACON.DAT\TEMPLATE.GDT 10/27/17



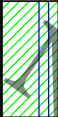
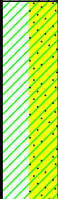

BORING LOG NO. B-5

Page 1 of 1

PROJECT: Soper Street & Falconer Road

CLIENT: Rock River Water Reclamation District
Rockford, IL

SITE: Soper Street & Falconer Road
Winnebago, IL

GRAPHIC LOG	LOCATION See Exhibit A-2		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	HP (psf)	P.I.D. (ppm)	WATER CONTENT (%)
	Latitude: 42.265209° Longitude: -89.234618°								
	DEPTH	Surface Elev.: 857 (Ft.) ELEVATION (Ft.)							
	0.4	ASPHALT , Approximately 4½"	856.5						
	1.0	CRUSHED STONE AGGREGATE , Approximately 8"	856						
		LEAN CLAY (CL) , with silt, brown, medium stiff			X	2-2-2 N=4	2000	0.3	25
	3.0		854						
		LEAN CLAY (CL) , trace sand, reddish-brown, medium stiff to stiff			X	2-2-5 N=7	4000	2.0	25
	6.5		850.5						
		MODERATELY WEATHERED LIMESTONE , light brown			X	35-50/1"		ND	8
	7.5		849.5						
	BOTTOM OF BORING <i>Auger Refusal at 7.5 Feet</i>								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-1 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

Abandonment Method:
Auger Cuttings

WATER LEVEL OBSERVATIONS

None, While Drilling
None, After Boring

Terracon
4836 Colt Rd
Rockford, IL

Boring Started: 07-12-2017

Boring Completed: 07-12-2017

Drill Rig: D-50

Driller: TK

Project No.: 19175019

Exhibit: A-8

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. 19175019 SOPER ST AND FALC. - RECOVERED.GPJ TERRACON DATATEMPLATE.GDT 10/27/17

BORING LOG NO. B-6

Page 1 of 1

PROJECT: Soper Street & Falconer Road

CLIENT: Rock River Water Reclamation District
Rockford, IL

SITE: Soper Street & Falconer Road
Winnebago, IL

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 42.265257° Longitude: -89.231796°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	HP (psf)	P.I.D. (ppm)	WATER CONTENT (%)
	Surface Elev.: 849 (Ft.) ELEVATION (Ft.)							
	0.5 ASPHALT , Approximately 5½"	848.5						
	1.0 CRUSHED STONE AGGREGATE , Approximately 7"	848						
	FILL - LEAN CLAY TOPSOIL , trace organics, black							
	3.0	846			4-3-4 N=7		3.0	26
	LEAN CLAY (CL) , trace organics, dark brown and dark gray, medium stiff							
	5.0	844			3-2-2 N=4	1500	ND	31
	LEAN CLAY (CL) , trace to with silt, brown and gray, soft to medium stiff							
					3-2-3 N=5	3000	ND	30
					2-1-2 N=3	1000	ND	31
	12.0	837						
	FINE TO COARSE SAND (SW) , trace silt and gravel, reddish-brown, medium dense							
	15.0	834			7-13-15 N=28		ND	25
	BOTTOM OR BORING <i>Boring Terminated at 15 Feet</i>							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-1 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

Abandonment Method:
Auger Cuttings

WATER LEVEL OBSERVATIONS

13', While Drilling
None, After Boring

Terracon
4836 Colt Rd
Rockford, IL

Boring Started: 07-12-2017

Boring Completed: 07-12-2017

Drill Rig: D-50

Driller: TK

Project No.: 19175019

Exhibit: A-9

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. 19175019 SOPER ST AND FALC - RECOVERED.GPJ TERRACON_DATATEMPLATE.GDT 10/27/17

Page 1 of 1

**CLIENT: Rock River Water Reclamation District
Rockford, IL**

SITE: Soper Street & Falconer Road
Winnebago, IL

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 42.265162° Longitude: -89.21218° DEPTH ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	HP (psf)	P.I.D. (ppm)	WATER CONTENT (%)
	FILL - LEAN CLAY (TOPSOIL FILL) , with silt, trace organics, black							
	3.0 827.5			X	4-2-2 N=4		ND	39
	LEAN CLAY (CL) , with silt, dark brown and gray, medium stiff to stiff							
	8.0 822.5	5		X	2-3-9 N=12	3000	ND	29
				X	3-2-3 N=5	3000	ND	28
	SILTY CLAY (CL-ML) , light gray, medium stiff to stiff							
	12.0 818.5	10		X	3-2-4 N=6	4000	ND	23
	SILTY FINE TO MEDIUM SAND (SM) , brown, medium dense							
	15.0 815.5	15		X	3-7-3 N=10		ND	18
	CLAYEY FINE TO MEDIUM SAND (SC) , trace silt and gravel, brown, loose							
	18.5 812			X	3-4-5 N=9		ND	11
	BOTTOM OF BORING <i>Boring Terminated at 18.5 Feet</i>							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic


Advancement Method:	Hollow Stem Auger
---------------------	-------------------

See Exhibit A-1 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

Abandonment Method:
Auger Cuttings

WATER LEVEL OBSERVATIONS

	13', While Drilling
	None, After Boring

Terracon
4836 Colt Rd
Rockford, IL

Boring Started: 07-12-2017

Boring Completed: 07-12-2017

Drill Rig: D-50

Driller: TK

Project No.: 19175019

Exhibit: A-10

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 19175019 SOPER ST AND FALC - RECOVERED.GPJ TERRACON_DATATEMPLATE.GDT 10/27/17

BORING LOG NO. B-8

Page 1 of 1

PROJECT: Soper Street & Falconer Road

CLIENT: Rock River Water Reclamation District
Rockford, IL

SITE: Soper Street & Falconer Road
Winnebago, IL

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 42.264186° Longitude: -89.212158° Surface Elev.: 820.5 (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	HP (psf)	P.I.D. (ppm)	WATER CONTENT (%)
DEPTH	ELEVATION (Ft.)							
	FILL - LEAN CLAY , trace silt, dark brown and brown							
3.0	817.5			X	2-2-2 N=4	1500	ND	30
	SANDY LEAN CLAY (CL) , trace silt, reddish-brown, soft to medium stiff							
6.0	814.5	5		X	2-3-3 N=6	500	ND	18
	SANDY LEAN CLAY (CL) , trace silt and gravel, light brown, soft to medium stiff							
8.0	812.5			X	2-2-4 N=6	1000	0.1	13
	CLAYEY FINE TO MEDIUM SAND (SC) , trace gravel, light brown, medium dense to very dense							
		10		X	8-9-11 N=20		ND	8
		15		X	17-38-50 N=88		ND	7
17.0	803.5							
	BOTTOM OF BORING Auger Refusal at 17 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-1 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:
Rock fragments below 13'

Abandonment Method:
Auger Cuttings

WATER LEVEL OBSERVATIONS

None, While Drilling
None, After Boring

Terracon
4836 Colt Rd
Rockford, IL

Boring Started: 07-12-2017

Boring Completed: 07-12-2017

Drill Rig: D-50

Driller: TK

Project No.: 19175019

Exhibit: A-11

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. 19175019 SOPER ST AND FALC - RECOVERED.GPJ TERRACON.DAT\TEMPLATE.GDT 10/27/17

BORING LOG NO. B-9

Page 1 of 2

PROJECT: Soper Street & Falconer Road

CLIENT: Rock River Water Reclamation District
Rockford, IL

SITE: Soper Street & Falconer Road
Winnebago, IL

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL - 19175019 SOPER ST AND FALC - RECOVERED.GPJ TERRACON.DAT\TEMPLATE.GDT 10/27/17

GRAPHIC LOG	LOCATION See Exhibit A-2 Latitude: 42.264872° Longitude: -89.250425°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	HP (psf)	P.I.D. (ppm)	WATER CONTENT (%)
	Surface Elev.: 859.6 (Ft.)							
	DEPTH	ELEVATION (Ft.)						
0.2	ASPHALT, Approximately 2"	859.5						
0.5	CRUSHED STONE AGGREGATE, Approximately 4"	859						
	FILL - CLAY, trace sand and gravel, dark brown and brown							
6.0	CLAYEY FINE TO MEDIUM SAND (SC), trace gravel, light brown, loose	853.5			2-2-2 N=4		ND	20
12.0	SILTY CLAY (CL), tan, medium stiff	847.5			2-2-5 N=7		ND	8
16.0	HIGHLY WEATHERED LIMESTONE, tan	843.5			3-2-2 N=4	2000	ND	20
19.0	MODERATELY WEATHERED LIMESTONE, light brown	840.5			23-82/2"		ND	15
20								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

See Exhibit A-1 for description of field procedures
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

Abandonment Method:
Auger Cuttings

WATER LEVEL OBSERVATIONS

16½', While Drilling
16½', After Boring

Terracon
4836 Colt Rd
Rockford, IL

Boring Started: 10-23-2017

Drill Rig: D-50

Project No.: 19175019

Boring Completed: 10-23-2017

Driller: RT

Exhibit: A-12

APPENDIX B

LABORATORY TESTING

Not to be used for bidding purposes

Geotechnical Engineering Report

Soper Street and Falconer Road Sanitary Sewer Reroute ■ Winnebago, Illinois
October 27, 2017 ■ Terracon Project No. 19175019A



Laboratory Testing

The soil samples obtained from the borings were tested in the laboratory to measure their natural water contents. A pocket penetrometer was used to help estimate the approximate unconfined compressive strength of native cohesive samples. The test results are provided on the boring logs in Appendix A.

The soil samples were classified in the laboratory based on visual observation, texture, plasticity, and the limited laboratory testing described above. The soil descriptions presented on the boring logs for native soils are in accordance with the enclosed General Notes (Exhibit C-1) and Unified Soil Classification System (USCS). The estimated USCS group symbols for native soils are shown on the boring logs, and a brief description of the USCS is included in this report (Exhibit C-2).

Not to be used for bidding purposes












APPENDIX C

SUPPORTING DOCUMENTS

Not to be used for bidding purposes

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING			WATER LEVEL		Water Initially Encountered	FIELD TESTS	(HP) Hand Penetrometer
					Water Level After a Specified Period of Time		(T) Torvane
					Water Level After a Specified Period of Time		(b/f) Standard Penetration Test (blows per foot)
							(PID) Photo-Ionization Detector
							(OVA) Organic Vapor Analyzer

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS	RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
	Descriptive Term (Density)	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.	Descriptive Term (Consistency)	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.
	Very Loose	0 - 3	0 - 6	Very Soft	less than 500	< 3
	Loose	4 - 9	7 - 18	Soft	500 to 1,000	3 - 4
	Medium Dense	10 - 29	19 - 58	Medium-Stiff	1,000 to 2,000	5 - 9
	Dense	30 - 50	59 - 98	Stiff	2,000 to 4,000	10 - 18
	Very Dense	> 50	≥ 99	Very Stiff	4,000 to 8,000	19 - 42
				Hard	> 8,000	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

<u>Major Component of Sample</u>	<u>Particle Size</u>
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

<u>Descriptive Term(s) of other constituents</u>	<u>Percent of Dry Weight</u>
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

<u>Term</u>	<u>Plasticity Index</u>
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A					Soil Classification	
					Group Symbol	Group Name ^B
Coarse Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	Cu ≥ 4 and 1 ≤ Cc ≤ 3 ^E		GW	Well-graded gravel ^F
			Cu < 4 and/or 1 > Cc > 3 ^E		GP	Poorly graded gravel ^F
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH		GM	Silty gravel ^{F,G,H}
			Fines classify as CL or CH		GC	Clayey gravel ^{F,G,H}
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	Cu ≥ 6 and 1 ≤ Cc ≤ 3 ^E		SW	Well-graded sand ^I
			Cu < 6 and/or 1 > Cc > 3 ^E		SP	Poorly graded sand ^I
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH		SM	Silty sand ^{G,H,I}
			Fines classify as CL or CH		SC	Clayey sand ^{G,H,I}
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	PI > 7 and plots on or above “A” line ^J		CL	Lean clay ^{K,L,M}
			PI < 4 or plots below “A” line ^J		ML	Silt ^{K,L,M}
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K,L,M,N}
			Liquid limit - not dried			Organic silt ^{K,L,M,O}
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above “A” line		CH	Fat clay ^{K,L,M}
			PI plots below “A” line		MH	Elastic Silt ^{K,L,M}
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K,L,M,P}
			Liquid limit - not dried			Organic silt ^{K,L,M,Q}
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

^A Based on the material passing the 3-inch (75-mm) sieve

^B If field sample contained cobbles or boulders or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

$$^E Cu = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

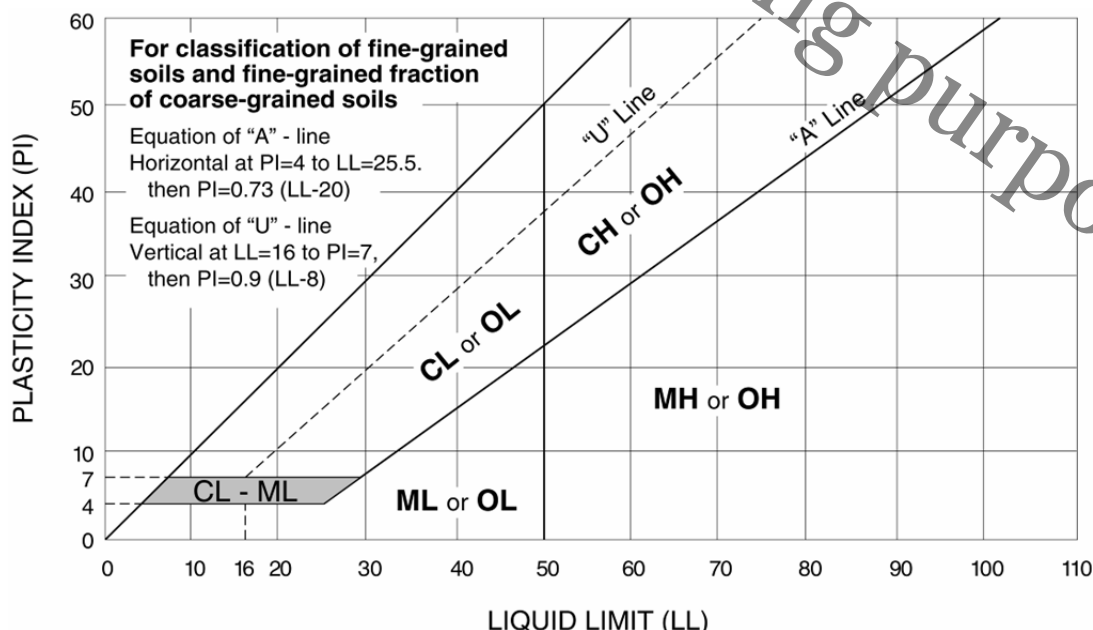
^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



Section IV
Structural Detail Drawings

Section V

General Provisions & Technical Specifications for Sanitary Sewer Construction

(Separate document incorporated by reference)