



Purchasing Division

Invitation for Bid

IFB-4355-17-DH
Persigo Wastewater Treatment Plant
Raw Sewage Wet Well Rehabilitation Project

Responses Due:

April 28, 2017 prior to 3:30 pm MDT

Accepting Electronic Responses Only

Responses Only Submitted Through the Rocky Mountain E-Purchasing System (RMEPS)

<https://www.rockymountainbidsystem.com/default.asp>

(Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. 800-835-4603)

Purchasing Representative:

Duane Hoff, Senior Buyer

duaneh@gjcity.org

(970)244-1545

This document has been developed specifically to solicit competitive responses for this solicitation, and may not be the same as previous City of Grand Junction solicitations. All vendors are urged to thoroughly review this solicitation prior to responding. Submittal by **FAX, EMAIL or HARD COPY IS NOT ACCEPTABLE** for this solicitation.

Invitation for Bids

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1. Instructions to Bidders

- 1.1. **Purpose:** The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required for the **Persigo WWTP – Raw Sewage Wet Well Rehabilitation Project**. All dimensions and scope of work should be verified by Contractors prior to submission of bids.

IFB Questions:

Duane Hoff, Senior Buyer

970-244-1545

duaneh@gjcity.org

- 1.2. **Mandatory Pre-Bid Meeting:** **Prospective bidders are required to attend the mandatory pre-bid meeting on April 18, 2017 at 10:00 am.** Meeting location will be at the Persigo Wastewater Treatment Plant in the Conference Room, located at 2145 River Road, Grand Junction, CO. This meeting also allows the Owner to know who is planning on submitting a bid for the project. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).
- 1.3. **The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout this Solicitation. The term Owner means the Owner or his authorized representative.
- 1.4. **Submission:** **Each bid shall be submitted in electronic format only, and only through the Rocky Mountain E-Purchasing website (<https://www.rockymountainbidsystem.com/default.asp>).** *This site offers both “free” and “paying” registration options that allow for full access of the Owner’s documents and for electronic submission of proposals. (Note: “free” registration may take up to 24 hours to process. Please Plan accordingly.)* Please view our “**Electronic Vendor Registration Guide**” at <http://www.gjcity.org/BidOpenings.aspx> for details. (Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. **800-835-4603**)
- 1.5. **Modification and Withdrawal of Bids Before Opening:** Bids may be modified or withdrawn by an appropriate document stating such, duly executed and submitted to the place where Bids are to be submitted at any time prior to Bid Opening.
- 1.6. **Printed Form for Price Bid:** All Price Bids must be made upon the Price Bid Schedule attached, and should give the amounts both in words and in figures, and must be signed and acknowledged by the bidder.

The Offeror shall specify a unit price in figures for each pay item for which a quantity is given and shall provide the products (in numbers) of the respective unit prices and quantities in the Extended Amount column. The total Bid price shall be equal to the sum of all extended amount prices. When an item in the Price Bid Schedule provides a choice to be made by the Offeror, Offeror's choice shall be indicated in accordance with the specifications for that particular item and thereafter no further choice shall be permitted.

Where the unit of a pay item is lump sum, the lump sum amount shall be shown in the "extended amount" column and included in the summation of the total Bid.

All blank spaces in the Price Bid Schedule must be properly filled out.

Bids by corporations must be executed in the corporate name by the president or vice president or other corporate office accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown below the signature.

Bids by partnerships must be executed in the partnership name and signed by a partner whose title must appear under the signature and the official address of the partnership must be shown below the signature.

All names must be typed or printed below the signature.

The Offeror's Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Contractor's Bid Form.

The contact information to which communications regarding the Bid are to be directed must be shown.

- 1.7. **Exclusions:** No oral, telephonic, emailed, or facsimile bid will be considered
- 1.8. **Contract Documents:** The complete IFB and bidder's response compose the Contract Documents. Copies of bid documents can be obtained from the City Purchasing website, <http://www.gjcity.org/BidOpenings.aspx>.
- 1.9. **Additional Documents:** The July 2010 edition of the "City Standard Contract Documents for Capital Improvements Construction", Plans, Specifications and other Bid Documents are available for review or download on the Engineering page within Manuals/Permits at www.gjcity.org. Electronic copies may be obtained on a CD format at the Department of Public Works and Utilities at City Hall.
- 1.10. **Definitions and Terms:** See Article I, Section 3 of the General Contract Conditions in the *Standard Contract Documents for Capital Improvements Construction*.
- 1.11. **Examination of Specifications:** Bidders shall thoroughly examine and be familiar with the project Statement of Work. The failure or omission of any Offeror to receive or examine any form, addendum, or other document shall in no way relieve any Offeror from any obligation with respect to his bid. The submission of a bid shall be taken as evidence of compliance with this section. Prior to submitting a bid, each Offeror shall, at a minimum:
 - a. Examine the *Contract Documents* thoroughly;
 - b. Visit the site to familiarize themselves with local conditions that may in any manner affect cost, progress, or performance of the Work;

- c. Become familiar with federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress or performance of the Work;
- d. Study and carefully correlate Bidder's observations with the *Contract Documents*, and;
- e. Notify the Engineer of all conflicts, errors, ambiguities or discrepancies in or among the *Contract Documents*

On request, the Owner will provide each Offeror access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of a Bid. It shall be the Offeror's responsibility to make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (including without limitation, surface, subsurface and underground utilities) at or contiguous to the site or otherwise which may affect cost, progress or performance of the work and which the Offeror deems necessary to determine its Bid for performing the work in accordance with the time, price and other terms and conditions of the Contract Documents. Location of any excavation or boring made by Offeror shall be subject to prior approval of Owner and applicable agencies. Offeror shall fill all holes, restore all pavements to match the existing structural section and shall clean up and restore the site to its former condition upon completion of such exploration. The Owner reserves the right to require the Offeror to execute an access agreement with the Owner prior to accessing the site.

The lands upon which the Work is to be performed, rights of way, and access thereto, and other lands designated for use by Contractor in performing the Work, are identified on the Drawings.

Information and data reflected in the *Contract Documents* with respect to underground utilities at or contiguous to the site are based upon information and data furnished to the Owner and the Engineer by the owners of such underground utilities or others, and the Owner does not assume responsibility for the accuracy or completeness thereof, unless it is expressly provided otherwise in the *Contract Documents*.

By submission of a Bid, the Offeror shall be conclusively presumed to represent that the Offeror has complied with every requirement of these Instructions to Bidders, that the *Contract Documents* are not ambiguous and are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

- 1.12. Questions Regarding Statement of Work:** Any information relative to interpretation of Scope of Work or specifications shall be requested of the Purchasing Representative, in writing, in ample time prior to the response time.
- 1.13. Addenda & Interpretations:** If it becomes necessary to revise any part of this solicitation, a written addendum will be posted electronically on the City's website at <http://www.gjcity.org/BidOpenings.aspx>. The Owner is not bound by any oral representations, clarifications, or changes made in the written specifications by Owner,

unless such clarification or change is provided in written addendum form from the City Purchasing Representative.

- 1.14. **Taxes:** The Owner is exempt from State retail and Federal tax. The bid price must be net, exclusive of taxes.
- 1.15. **Sales and Use Taxes:** The Contractor and all Subcontractors are required to obtain exemption certificates from the Colorado Department of Revenue for sales and use taxes in accordance with the provisions of the General Contract Conditions. Bids shall reflect this method of accounting for sales and use taxes on materials, fixtures and equipment.
- 1.16. **Offers Binding 60 Days:** Unless additional time is required by the Owner, or otherwise specified, all formal offers submitted shall be binding for sixty (60) calendar days following opening date, unless the Bidder, upon request of the Purchasing Representative, agrees to an extension.
- 1.17. **Collusion Clause:** Each bidder by submitting a bid certifies that it is not party to any collusive action or any action that may be in violation of the Sherman Antitrust Act. Any and all bids shall be rejected if there is evidence or reason for believing that collusion exists among bidders. The Owner may, or may not, accept future bids for the same services or commodities from participants in such collusion.
- 1.18. **Disqualification of Bidders:** A Bid will not be accepted from, nor shall a Contract be awarded to, any person, firm, or corporation that is in arrears to the Owner, upon debt or contract, or that has defaulted, as surety or otherwise, upon any obligation to the Owner, or that is deemed irresponsible or unreliable.

Bidders may be required to submit satisfactory evidence that they are responsible, have a practical knowledge of the project bid upon and that they have the necessary financial and other resources to complete the proposed Work.

Either of the following reasons, without limitation, shall be considered sufficient to disqualify a Bidder and Bid:

- a. More than one Bid is submitted for the same Work from an individual, firm, or corporation under the same or different name; and
 - b. Evidence of collusion among Bidders. Any participant in such collusion shall not receive recognition as a Bidder for any future work of the Owner until such participant has been reinstated as a qualified bidder.
- 1.19. **Public Disclosure Record:** If the bidder has knowledge of their employee(s) or sub-contractors having an immediate family relationship with a City/County employee or elected official, the bidder must provide the Purchasing Representative with the name(s) of these individuals. These individuals are required to file an acceptable "Public Disclosure Record", a statement of financial interest, before conducting business with the City/County.

2. General Contract Conditions for Construction Projects

- 2.1. The Contract:** This Invitation for Bid, submitted documents, and any negotiations, when properly accepted by the City/County, shall constitute a contract equally binding between the City/County and Contractor. The contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The contract may be amended or modified with Change Orders, Field Orders, or Addendums.
- 2.2. The Work:** The term Work includes all labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.
- 2.3. Execution, Correlation, Intent, and Interpretations:** The Contract Documents shall be signed in not less than triplicate by the Owner (City/County) and Contractor. City/County will provide the contract. By executing the contract, the Contractor represents that he/she has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents. The Contract Documents are complementary, and what is required by any one, shall be as binding as if required by all. The intention of the documents is to include all labor, materials, equipment and other items necessary for the proper execution and completion of the scope of work as defined in the technical specifications and drawings contained herein. All drawings, specifications and copies furnished by the City/County are, and shall remain, City/County property. They are not to be used on any other project, and with the exception of one contract set for each party to the contract, are to be returned to the owner on request at the completion of the work.
- 2.4. The Owner:** The Owner is the City of Grand Junction and/or Mesa County, Colorado and is referred to throughout the Contract Documents. The term Owner means the Owner or his authorized representative. The Owner shall, at all times, have access to the work wherever it is in preparation and progress. The Contractor shall provide facilities for such access. The Owner will make periodic visits to the site to familiarize himself generally with the progress and quality of work and to determine, in general, if the work is proceeding in accordance with the contract documents. Based on such observations and the Contractor's Application for Payment, the Owner will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided in the contract. The Owner will have authority to reject work which does not conform to the Contract documents. Whenever, in his reasonable opinion, he considers it necessary or advisable to insure the proper implementation of the intent of the Contract Documents, he will have authority to require the Contractor to stop the work or any portion, or to require special inspection or testing of the work, whether or not such work can be then be fabricated, installed, or completed. The Owner will not be responsible for the acts or omissions of the Contractor, and sub-Contractor, or any of their agents or employees, or any other persons performing any of the work.
- 2.5. Contractor:** The Contractor is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents. The term Contractor means the Contractor or his authorized representative. The Contractor shall carefully study and compare the General Contract Conditions of the Contract, Specification and Drawings, Scope of Work, Addenda and Modifications and shall at once report to the

Owner any error, inconsistency or omission he may discover. Contractor shall not be liable to the Owner for any damage resulting from such errors, inconsistencies or omissions. The Contractor shall not commence work without clarifying Drawings, Specifications, or Interpretations.

- 2.6. Sub-Contractors:** A sub-contractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. The term sub-contractor is referred to throughout the contract documents and means a sub-contractor or his authorized representative.
- 2.7. Award of Sub-Contractors & Other Contracts for Portions of the Work:** As soon as practicable after bids are received and prior to the award of the contract, the successful Contractor shall furnish to the Owner, in writing for acceptance, a list of the names of the sub-contractors or other persons or organizations proposed for such portions of the work as may be designated in the proposal requirements, or, if none is so designated, the names of the sub-contractors proposed for the principal portions of the work. Prior to the award of the contract, the Owner shall notify the successful Contractor in writing if, after due investigation, has reasonable objection to any person or organization on such list. If, prior to the award of the contract, the Owner has a reasonable and substantial objection to any person or organization on such list, and refuses in writing to accept such person or organization, the successful Contractor may, prior to the award, withdraw their proposal without forfeiture of proposal security. If the successful Contractor submits an acceptable substitute with an increase in the proposed price to cover the difference in cost occasioned by the substitution, the Owner may, at their discretion, accept the increased proposal or may disqualify the Contractor. If, after the award, the Owner refuses to accept any person or organization on such list, the Contractor shall submit an acceptable substitute and the contract sum shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued. However, no increase in the contract sum shall be allowed for any such substitution unless the Contractor has acted promptly and responsively in submitting a name with respect thereto prior to the award.
- 2.8. Quantities of Work and Unit Price:** Materials or quantities stated as unit price items in the Bid are supplied only to give an indication of the general scope of the Work, and are as such, estimates only. The Owner does not expressly or by implication agree that the actual amount of Work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit item of the Work without a change in the unit price except as set forth in Article VIII, Section 70 of the *General Contract Conditions*. The City also reserves the right to make changes in the Work (including the right to delete any bid item in its entirety or add additional bid items) as set forth in Article VIII, Sections 69 through 71 of the *General Contract Conditions*.
- 2.9. Substitutions:** The materials, products and equipment described in the *Solicitation Documents* shall be regarded as establishing a standard of required performance, function, dimension, appearance, or quality to be met by any proposed substitution. No substitution will be considered prior to receipt of Bids unless the Offeror submits a written request for approval to the City Purchasing Division at least ten (10) days prior to the date for receipt of Bids. Such requests for approval shall include the name of the material or equipment for which substitution is sought and a complete description of the proposed

substitution including drawings, performance and test data, and other information necessary for evaluation, including samples if requested. The Offeror shall set forth changes in other materials, equipment, or other portions of the Work including changes of the work of other contracts, which incorporation of the proposed substitution would require to be included. The Owner's decision of approval or disapproval of a proposed substitution shall be final. If the Owner approves a proposed substitution before receipt of Bids, such approval will be set forth in an Addendum. Offerors shall not rely upon approvals made in any other manner.

- 2.10. Supervision and Construction Procedures:** The Contractor shall supervise and direct the work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the contract.
- 2.11. Warranty:** The Contractor warrants to the Owner that all materials and equipment furnished under this contract will be new unless otherwise specified, and that all work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All work not so conforming to these standards may be considered defective. If required by Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If within ten (10) days after written notice to the Contractor requesting such repairs or replacement, the Contractor should neglect to make or undertake with due diligence to the same, the City may make such repairs or replacements. All indirect and direct costs of such correction or removal or replacement shall be at the Contractor's expense. The Contractor will also bear the expenses of making good all work of others destroyed or damaged by the correction, removal or replacement of his defective work.
- 2.12. Permits, Fees, & Notices:** The Contractor shall secure and pay for all permits, governmental fees and licenses necessary for the proper execution and completion of the work. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority bearing on the performance of the work. If the Contractor observes that any of the Contract Documents are at variance in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be adjusted by approximate modification. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility and shall bear all costs attributable.
- 2.13. Responsibility for Those Performing the Work:** The Contractor shall be responsible to the Owner for the acts and omissions of all his employees and all sub-contractors, their agents and employees, and all other persons performing any of the work under a contract with the Contractor.
- 2.14. Use of the Site:** The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents, and shall not unreasonably encumber the site with any materials or equipment.
- 2.15. Cleanup:** The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of work he shall

remove all his waste materials and rubbish from and about the project, as well as all his tools, construction equipment, machinery and surplus materials.

- 2.16. Insurance:** The Contractor shall secure and maintain such insurance policies as will provide the coverage and contain other provisions specified in the General Contract Conditions, or as modified in the Special Contract Conditions.

The Contractor shall file a copy of the policies or Certificates of Insurance acceptable to the City with the Engineer within ten (10) Calendar Days after issuance of the Notice of Award. These Certificates of Insurance shall contain a provision that coverage afforded under the policies shall not be canceled unless at least thirty (30) Calendar Days prior written notice has been given to the City.

- 2.17. Indemnification:** The Contractor shall defend, indemnify and save harmless the Owner, and all its officers, employees, insurers, and self-insurance pool, from and against all liability, suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the Contractor, or of any Contractor's agent, employee, sub-contractor or supplier in the execution of, or performance under, any contract which may result from proposal award. Contractor shall pay any judgment with cost which may be obtained against the Owner growing out of such injury or damages.

- 2.18. Miscellaneous Conditions:** Material Availability: Contractors must accept responsibility for verification of material availability, production schedules, and other pertinent data prior to submission of bid. It is the responsibility of the bidder to notify the Owner immediately if materials specified are discontinued, replaced, or not available for an extended period of time. OSHA Standards: All bidders agree and warrant that services performed in response to this invitation shall conform to the standards declared by the US Department of Labor under the Occupational Safety and Health Act of 1970 (OSHA). In the event the services do not conform to OSHA standards, the Owner may require the services to be redone at no additional expense to the Owner.

- 2.19. Time:** Time is of the essence with respect to the time of completion of the Project and any other milestones or deadline which are part of the Contract. It will be necessary for each Bidder to satisfy the City of its ability to complete the Work within the Contract Time set forth in the Contract Documents. The Contract Time is the period of time allotted in the Contract Documents for completion of the work. The date of commencement of the work is the date established in a Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Contract or such other date as may be established therein, or as established as entered on the Bid Form. The Date of Substantial Completion of the work or designated portions thereof is the date certified by the Owner when construction is sufficiently complete, in accordance with the Contract Documents.

- 2.20. Progress & Completion:** The Contractor shall begin work on the date of commencement as defined in the Contract, and shall carry the work forward expeditiously with adequate forces and shall complete it within the contract time.

2.21. Payment & Completion: The Contract Sum is stated in the Contract and is the total amount payable by the Owner to the Contractor for the performance of the work under the Contract Documents. Upon receipt of written notice that the work is ready for final inspection and acceptance and upon receipt of application for payment, the Owner's Project Manager will promptly make such inspection and, when he finds the work acceptable under the Contract Documents and the Contract fully performed, the Owner shall make payment in the manner provided in the Contract Documents.

2.22. Bid Bond: Each Bid shall as a guaranty of good faith on the part of the Bidder be accompanied by a Bid Guaranty consisting of: a certified or cashier's check drawn on an approved national bank or trust company in the state of Colorado, and made payable without condition to the City; or a **Bid Bond** written by an approved corporate surety in favor of the City. The amount of the Bid Guaranty shall not be less than 5% of the total Bid amount. Once a Bid is accepted and a Contract is awarded, the apparent successful bidder has ten calendar days to enter into a contract in the form prescribed and to furnish the bonds with a legally responsible and approved surety. Failure to do so will result in forfeiture of the Bid Guaranty to the City as Liquidated Damages.

Each bidder shall guaranty its total bid price for a period of sixty (60) Calendar Days from the date of the bid opening.

2.23. Performance & Payment Bonds: Contractor shall furnish a Performance and a Payment Bond, each in an amount at least equal to that specified for the contract amount as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents. These bonds shall remain in effect for the duration of the Warranty Period (as specified in the Special Conditions). Contractor shall also furnish other bonds that may be required by the Special Conditions. All bonds shall be in the forms prescribed by the Contract Documents and be executed by such sureties as (1) are licensed to conduct business in the State of Colorado and (2) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the Authority Act. If the surety on any bond furnished by the Contractor is declared bankrupt, or becomes insolvent, or its rights to do business in Colorado are terminated, or it ceases to meet the requirements of clauses (1) and (2) of this section, Contractor shall within five (5) days thereafter substitute another bond and surety, both of which shall be acceptable to the City.

2.24. Retention: The Owner will deduct money from the partial payments in amounts considered necessary to protect the interest of the Owner and will retain this money until after completion of the entire contract. The amount to be retained from partial payments will be five (5) percent of the value of the completed work, and not greater than five (5) percent of the amount of the Contract. When the retainage has reached five (5) percent of the amount of the Contract no further retainage will be made and this amount will be retained until such time as final payment is made.

2.25. Liquidated Damages for Failure to Enter Into Contract: (CITY ONLY) Should the Successful Bidder fail or refuse to enter into the Contract within ten Calendar Days from

the issuance of the Notice of Award, the City shall be entitled to collect the amount of such Bidder's Bid Guaranty as Liquidated Damages, not as a penalty but in consideration of the mutual release by the City and the Successful Bidder of all claims arising from the City's issuance of the Notice of Award and the Successful Bidder's failure to enter into the Contract and the costs to award the Contract to any other Bidder, to readvertise, or otherwise dispose of the Work as the City may determine best serves its interest.

2.26. Liquidated Damages for Failure to Meet Project Completion Schedule: (CITY ONLY) If the Contractor does not achieve Final Completion by the required date, whether by neglect, refusal or any other reason, the parties agree and stipulate that the Contractor shall pay liquidated damages to the City for each such day that final completion is late. As provided elsewhere, this provision does not apply for delays caused by the City. The date for Final Completion may be extended in writing by the Owner.

The Contractor agrees that as a part of the consideration for the City's awarding of this Contract liquidated damages in the daily amount of **\$1,000.00** is reasonable and necessary to pay for the actual damages resulting from such delay. The parties agree that the real costs and injury to the City for such delay include hard to quantify items such as: additional engineering, inspection and oversight by the City and its agents; additional contract administration; inability to apply the efforts of those employees to the other work of the City; perceived inefficiency of the City; citizens having to deal with the construction and the Work, rather than having the benefit of a completed Work, on time; inconvenience to the public; loss of reputation and community standing for the City during times when such things are very important and very difficult to maintain.

The Contractor must complete the Work and achieve final completion included under the Bid Schedule in the number of consecutive calendar days after the City gives its written Notice to Proceed. When the Contractor considers the entire Work ready for its intended use, Contractor shall certify in writing that the Work is substantially complete. In addition to the Work being substantially complete, Final Completion date is the date by which the Contractor shall have fully completed all clean-up, and all items that were identified by the City in the inspection for final completion. Unless otherwise stated in the Special Conditions, for purposes of this liquidated damages clause, the Work shall not be finished and the Contract time shall continue to accrue until the City gives its written Final Acceptance.

If the Contractor shall fail to pay said liquidated damages promptly upon demand thereof after having failed to achieve Final Completion on time, the City shall first look to any retainage or other funds from which to pay said liquidated damages; if retainage or other liquid funds are not available to pay said liquidated damages amounts, the Surety on the Contractor's Performance Bond and Payment Bond shall pay such liquidated damages. In addition, the City may withhold all, or any part of, such liquidated damages from any payment otherwise due the Contractor.

Liquidated damages as provided do not include any sums to reimburse the City for extra costs which the City may become obligated to pay on other contracts which were delayed or extended because of the Contractor's failure to complete the Work within the Contract Time. Should the City incur additional costs because of delays or extensions to other contracts resulting from the Contractor's failure of timely performance, the Contractor

agrees to pay these costs that the City incurs because of the Contractor's delay, and these payments are separate from and in addition to any liquidated damages.

The Contractor agrees that the City may use its own forces or hire other parties to obtain Substantial or Final Completion of the work if the time of completion has elapsed and the Contractor is not diligently pursuing completion. In addition to the Liquidated Damages provided for, the Contractor agrees to reimburse the City for all expenses thus incurred.

- 2.27. Contingency/Force Account:** Contingency/Force Account work will be authorized by the Owner's Project Manager and is defined as minor expenses to cover miscellaneous or unforeseen expenses related to the project. The expenses are not included in the Drawings, Specifications, or Scope of Work and are necessary to accomplish the scope of this contract. Contingency/Force Account Authorization will be directed by the Owner through an approved form. Contingency/Force Account funds are the property of the Owner and any Contingency/Force Account funds, not required for project completion, shall remain the property of the Owner. Contractor is not entitled to any Contingency/Force Account funds, that are not authorized by Owner or Owner's Project Manager.
- 2.28. Protection of Persons & Property:** The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain, as required by existing safeguards for safety and protection, and all reasonable precautions, including posting danger signs or other warnings against hazards promulgating safety regulations and notifying owners and users of adjacent utilities. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct by the Contractor in the execution of the work, or in consequence of the non-execution thereof by the Contractor, he shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or it shall make good such damage or injury in an acceptable manner.
- 2.29. Changes in the Work:** The Owner, without invalidating the contract, may order changes in the work within the general scope of the contract consisting of additions, deletions or other revisions, the contract sum and the contract time being adjusted accordingly. All such changes in the work shall be authorized by Change Order and shall be executed under the applicable conditions of the contract documents. A Change Order is a written order to the Contractor signed by the Owner issued after the execution of the contract, authorizing a change in the work or an adjustment in the contract sum or the contract time. The contract sum and the contract time may be changed only by Change Order.
- 2.30. Claims for Additional Cost or Time:** If the Contractor wishes to make a claim for an increase in the contract sum or an extension in the contract time, he shall give the Owner written notice thereof within a reasonable time after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the work, except in an emergency endangering life or property in which case the Contractor shall precede in accordance with the regulations on safety. No such claim

shall be valid unless so made. Any change in the contract sum or contract time resulting from such claim shall be authorized by Change Order.

- 2.31. Minor Changes in the Work:** The Owner shall have authority to order minor changes in the work not involving an adjustment in the contract sum or an extension of the contract time and not inconsistent with the intent of the contract documents.
- 2.32. Field Orders:** The Owner may issue written Field Orders which interpret the Contract Documents in accordance with the specifications, or which order minor changes in the work in accordance with the agreement, without change in the contract sum or time. The Contractor shall carry out such Field Orders promptly.
- 2.33. Uncovering & Correction of Work:** The Contractor shall promptly correct all work rejected by the Owner as defective or as failing to conform to the contract documents whether observed before or after substantial completion and whether or not fabricated installed or completed. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Owner's additional services thereby made necessary. If within one (1) year after the date of completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the contract documents, any of the work found to be defective or not in accordance with the contract documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discover of condition. All such defective or non-conforming work under the above paragraphs shall be removed from the site where necessary and the work shall be corrected to comply with the contract documents without cost to the Owner. The Contractor shall bear the cost of making good all work of separate Contractors destroyed or damaged by such removal or correction. If the Owner prefers to accept defective or non-conforming work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect an appropriate reduction in the payment or contract sum, or, if the amount is determined after final payment, it shall be paid by the Contractor.
- 2.30. Amendment:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All amendments to the contract shall be made in writing by the Owner.
- 2.31. Assignment:** The Contractor shall not sell, assign, transfer or convey any contract resulting from this IFB, in whole or in part, without the prior written approval from the Owner.
- 2.32. Compliance with Laws:** Bids must comply with all Federal, State, County and local laws governing or covering this type of service and the fulfillment of all ADA (Americans with Disabilities Act) requirements.
- 2.33. Confidentiality:** All information disclosed by the Owner to the Contractor for the purpose of the work to be done or information that comes to the attention of the Contractor during the course of performing such work is to be kept strictly confidential.

- 2.34. Conflict of Interest:** No public official and/or City/County employee shall have interest in any contract resulting from this IFB.
- 2.35. Contract Termination:** This contract shall remain in effect until any of the following occurs: (1) contract expires; (2) completion of services; (3) acceptance of services or, (4) for convenience terminated by either party with a written *Notice of Cancellation* stating therein the reasons for such cancellation and the effective date of cancellation.
- 2.36. Employment Discrimination:** During the performance of any services per agreement with the Owner, the Contractor, by submitting a Bid, agrees to the following conditions:
- 2.36.1.** The Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap, or national origin except when such condition is a legitimate occupational qualification reasonably necessary for the normal operations of the Contractor. The Contractor agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- 2.36.2.** The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, shall state that such Contractor is an Equal Opportunity Employer.
- 2.36.3.** Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- 2.37. Affirmative Action:** In executing a Contract with the City, the Contractor agrees to comply with Affirmative Action and Equal Employment Opportunity regulations presented in the General Contract Conditions.
- 2.38. Immigration Reform and Control Act of 1986 and Immigration Compliance:** The Offeror certifies that it does not and will not during the performance of the contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986 and/or the immigration compliance requirements of State of Colorado C.R.S. § 8-17.5-101, *et.seq.* (House Bill 06-1343).
- 2.39. Ethics:** The Contractor shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official, or agent of the Owner.
- 2.40. Failure to Deliver:** In the event of failure of the Contractor to deliver services in accordance with the contract terms and conditions, the Owner, after due oral or written notice, may procure the services from other sources and hold the Contractor responsible for any costs resulting in additional purchase and administrative services. This remedy shall be in addition to any other remedies that the Owner may have.
- 2.41. Failure to Enforce:** Failure by the Owner at any time to enforce the provisions of the contract shall not be construed as a waiver of any such provisions. Such failure to

enforce shall not affect the validity of the contract or any part thereof or the right of the Owner to enforce any provision at any time in accordance with its terms.

- 2.42. Force Majeure:** The Contractor shall not be held responsible for failure to perform the duties and responsibilities imposed by the contract due to legal strikes, fires, riots, rebellions, and acts of God beyond the control of the Contractor, unless otherwise specified in the contract.
- 2.43. Independent Contractor:** The Contractor shall be legally considered an Independent Contractor and neither the Contractor nor its employees shall, under any circumstances, be considered servants or agents of the Owner. The Owner shall be at no time legally responsible for any negligence or other wrongdoing by the Contractor, its servants, or agents. The Owner shall not withhold from the contract payments to the Contractor any federal or state unemployment taxes, federal or state income taxes, Social Security Tax or any other amounts for benefits to the Contractor. Further, the Owner shall not provide to the Contractor any insurance coverage or other benefits, including Workers' Compensation, normally provided by the Owner for its employees.
- 2.44. Nonconforming Terms and Conditions:** A bid that includes terms and conditions that do not conform to the terms and conditions of this Invitation for Bid is subject to rejection as non-responsive. The Owner reserves the right to permit the Contractor to withdraw nonconforming terms and conditions from its bid prior to a determination by the Owner of non-responsiveness based on the submission of nonconforming terms and conditions.

Items for non-responsiveness may include, but not be limited to:

- a. Submission of the Bid on forms other than those supplied by the City;
- b. Alteration, interlineation, erasure, or partial detachment of any part of the forms which are supplied herein;
- c. Inclusion of unauthorized additions conditional or alternate Bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous as to its meaning;
- d. Failure to acknowledge receipt of any or all issued Addenda;
- e. Failure to provide a unit price or a lump sum price, as appropriate, for each pay item listed except in the case of authorized alternative pay items;
- f. Failure to list the names of Subcontractors used in the Bid preparation as may be required in the Solicitation Documents;
- g. Submission of a Bid that, in the opinion of the Owner, is unbalanced so that each item does not reasonably carry its own proportion of cost or which contains inadequate or unreasonable prices for any item;
- h. Tying of the Bid with any other bid or contract; and

- i. Failure to calculate Bid prices as described herein.

2.45. Evaluation of Bids and Offerors: The Owner reserves the right to:

- reject any and all Bids,
- waive any and all informalities,
- negotiate final terms with the Successful Bidder, and
- disregard any and all nonconforming, nonresponsive or conditional Bids.

Discrepancies between words and figures will be resolved in favor of words. Discrepancies between Unit Prices and Extended Prices will be resolved in favor of the Unit Prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. The corrected extensions and totals will be shown in the tabulation of Bids.

The Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the work as to which the identity of Subcontractors and other persons and organizations must be submitted. Operating costs, maintenance considerations performance data, and guarantees of materials and equipment may also be considered by the Owner.

The Owner will conduct such investigations as deemed necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Offeror, proposed Subcontractors and other persons and organizations to do the Work in accordance with the *Contract Documents* to the City's satisfaction within the Contract Time.

The Offeror shall furnish the Owner all information and data requested by the Owner to determine the ability of the Offeror to perform the Work. The Owner reserves the right to reject the Bid if the evidence submitted by, or investigation of such Offeror fails to satisfy the Owner that such Offeror is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.

By submitting a Bid, each Offeror authorizes the Owner to perform such investigation of the Offeror as the Owner deems necessary to establish the responsibility, qualifications and financial ability of the Offeror and, by its signature thereon, authorizes the Owner to obtain reference information concerning the Offeror and releases the party providing such information and the Owner from any and all liability to the Offeror as a result of such reference information so provided.

The Owner reserves the right to reject the Bid of any Offeror who does not pass any evaluation to the Owner's satisfaction.

If the Contract is to be awarded, it will be awarded to the Offeror who, by evaluation, the Owner determines will best meet the Owner's interests.

The Owner reserves the right to accept or reject the Work contained in any of the Price Bid Schedules or alternates, either in whole or in part.

2.46. Award of Contract: Unless otherwise indicated, a single award will be made for all the bid items in an individual bid schedule. In the event that the Work is contained in more than one Bid Schedule, the City may award Schedules individually or in combination. In the case of two Bid Schedules which are alternative to each other, only one of such alternative Schedules will be awarded. Within forty-five (45) Calendar Days of Bid Opening, the City will issue a Notice of Award to the Successful Bidder which will be accompanied by four (4) unsigned copies of the Contract and the Performance and Payment Bond forms. Within ten (10) Calendar Days thereafter, the Successful Bidder shall sign and deliver four (4) copies of the Contract, Performance Bond, Payment Bond and Certificates of Insurance to the City. Within ten (10) Calendar Days thereafter, the City will deliver two (2) fully executed counterparts of the Contract to the Contractor. No contract shall exist between the Successful Bidder and the City and the Successful Bidder shall have no rights at law or in equity until the Contract has been duly executed by the City.

The Successful Bidder's failure to sign and submit a Contract and other documents set forth in this Paragraph within the prescribed time shall be just cause of annulment of the award, and forfeiture of the Bid Guaranty. The award of Contract may then be made to the next qualified Bidder in the same manner as previously prescribed.

2.47. Ownership: All plans, prints, designs, concepts, etc., shall become the property of the Owner.

2.48. Oral Statements: No oral statement of any person shall modify or otherwise affect the terms, conditions, or specifications stated in this document and/or resulting agreement. All modifications to this request and any agreement must be made in writing by the Owner.

2.49. Patents/Copyrights: The Contractor agrees to protect the Owner from any claims involving infringements of patents and/or copyrights. In no event shall the Owner be liable to the Contractor for any/all suits arising on the grounds of patent(s)/copyright(s) infringement. Patent/copyright infringement shall null and void any agreement resulting from response to this IFB.

2.50. Remedies: The Contractor and Owner agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

2.51. Venue: Any agreement as a result of responding to this IFB shall be deemed to have been made in, and shall be construed and interpreted in accordance with, the laws of the City of Grand Junction, Mesa County, Colorado.

2.52. Expenses: Expenses incurred in preparation, submission and presentation of this IFB are the responsibility of the company and cannot be charged to the Owner.

2.53. Sovereign Immunity: The Owner specifically reserves its right to sovereign immunity pursuant to Colorado State Law as a defense to any action arising in conjunction to this agreement.

2.54. Non-Appropriation of Funds: The contractual obligation of the Owner under this contract is contingent upon the availability of appropriated funds from this fiscal year budget as approved by the City Council or Board of County Commissioners from this fiscal year only. State of Colorado Statutes prohibit obligation of public funds beyond the fiscal year for which the budget was approved. Anticipated expenditures/obligations beyond the end of the current Owner's fiscal year budget shall be subject to budget approval. Any contract will be subject to and must contain a governmental non-appropriation of funds clause.

2.55. Cooperative Purchasing: Purchases as a result of this solicitation are primarily for the City/County. Other governmental entities may be extended the opportunity to utilize the resultant contract award with the agreement of the successful provider and the participating agencies. All participating entities will be required to abide by the specifications, terms, conditions and pricings established in this Bid. The quantities furnished in this bid document are for only the City/County. It does not include quantities for any other jurisdiction. The City or County will be responsible only for the award for its jurisdiction. Other participating entities will place their own awards on their respective Purchase Orders through their purchasing office or use their purchasing card for purchase/payment as authorized or agreed upon between the provider and the individual entity. The City/County accepts no liability for payment of orders placed by other participating jurisdictions that choose to piggy-back on our solicitation. Orders placed by participating jurisdictions under the terms of this solicitation will indicate their specific delivery and invoicing instructions.

2.56. Keep Jobs in Colorado Act: Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a). If Contractor claims it is entitled to a waiver pursuant to C.R.S. §8-17-101(1), Contractor shall state that there is insufficient Colorado labor to perform the work such that compliance with Article 17 would create an undue burden that would substantially prevent a project from proceeding to completion, and shall include evidence demonstrating the insufficiency and undue burden in its response.

Unless expressly granted a waiver by the Owner pursuant to C.R.S. §8-17-101(1), Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a).

2.56.1. "Public project" is defined as:

- (a) any construction, alteration, repair, demolition, or improvement of any land, building, structure, facility, road, highway, bridge, or other public improvement suitable for and intended for use in the promotion of the public health, welfare, or safety and any maintenance programs for the upkeep of such projects

- (b) for which appropriate or expenditure of moneys may be reasonably expected to be \$500,000.00 or more in the aggregate for any fiscal year
- (c) except any project that receives federal moneys.

3. Statement of Work

3.1. GENERAL: The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required for the **Persigo WWTP – Raw Sewage Wet Well Rehabilitation Project**. All dimensions and scope of work should be verified by Contractors prior to submission of bids.

3.2. PROJECT DESCRIPTION: The Project generally consists of rehabilitating the following influent wastewater structures: one headworks slide gate chamber, one grit chamber splitter box, 26-feet of 48-inch RCP pipe, one manhole, one influent chamber, and two wet wells. Rehabilitation shall include the removal of existing liners in the manhole, influent chamber and both wet wells, thorough surface preparation of all existing concrete surfaces and recoating of all surfaces using a two-part coating system. The two-part coating system shall consist of a cementitious first coat, followed by an epoxy coating applied directly to the cementitious coating. Contractor is required to provide all confined space entry equipment and safety equipment.

3.3. SPECIAL CONDITIONS:

3.3.1 Mandatory Pre-Bid Meeting: Prospective bidders are required to attend the mandatory pre-bid meeting on April 18, 2017 at 10:00 am. Meeting location will be at the Persigo Wastewater Treatment Plant in the Conference Room, located at 2145 River Road, Grand Junction, CO. This meeting also allows the Owner to know who is planning on submitting a bid for the project. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).

3.3.2 QUESTIONS REGARDING SOLICIATION PROCESS/SCOPE OF WORK:

Duane Hoff Jr., Senior Buyer
City of Grand Junction
duaneh@gjcity.org

3.3.3 Project Manager: The Project Manager for the Project is Lee Cooper, Project Engineer, who can be reached at (970) 256-4155. During Construction, all notices, letters, submittals, and other communications directed to the City shall be addressed and mailed or delivered to:

City of Grand Junction
Department of Public Works and Utilities
Attn: Lee Cooper, Project Manager
2145 River Road
Grand Junction, CO 81505

3.3.4 Affirmative Action: The Contractor is not required to submit a written Affirmative Action Program for the Project.

3.3.5 Pricing: Pricing shall be all inclusive to include but not be limited to: all labor, equipment, supplies, materials, freight (F.O.B. Destination – Freight Pre-paid and Allowed to each site), travel, mobilization costs, fuel, set-up and take down costs, and full-time inspection costs, and all other costs related to the successful completion of the project.

The Owner shall not pay nor be liable for any other additional costs including but not limited to: taxes, shipping charges, insurance, interest, penalties, termination payments, attorney fees, liquidated damages, etc.

3.3.6 Freight/Shipping: All freight/shipping shall be F.O.B. Destination – Freight Pre-Paid and Allowed to the project site(s), Grand Junction, CO.

3.3.7 Contractor must meet all federal, state, and local rules, regulations, and requirements for providing such services.

3.3.8 Contract: A binding contract shall consist of: (1) the IFB and any amendments thereto, (2) the bidder's response (bid) to the IFB, (3) clarification of the bid, if any, and (4) the City's Purchasing Department's acceptance of the bid by "Notice of Award" or by "Purchase Order". All Exhibits and Attachments included In the IFB shall be incorporated into the contract by reference.

A. The contract expresses the complete agreement of the parties and, performance shall be governed solely by the specifications and requirements contained therein.

B. Any change to the contract, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of the bidder and the City Purchasing Division or by a modified Purchase Order prior to the effective date of such modification. The bidder expressly and explicitly understands and agrees that no other method and/or no other document, including acts and oral communications by or from any person, shall be used or construed as an amendment or modification to the contract.

3.3.9 Time of Completion: The scheduled time of Completion for the Project is **42 Calendar Days** from the starting date specified in the Notice to Proceed.

Completion is achieved when site cleanup and all punch list items (resulting from the final inspection) have been completed. Completion shall have the meaning set forth in Article I, Section 3 (Definitions and Terms) of the General Contract Conditions.

3.3.10 Working Days and Hours: The Contractor is permitted to work five (5) days per week, Monday through Friday, up to 12 hours per day 6:00 am to 6:00 pm. Saturday and Sunday work will be allowed by the City if no critical inspections (i.e. surface preparation verification prior to coating, in between coatings and final inspection) are required on the weekends. Other work hours and days will be allowed by the City and Engineer upon 48 hours written notice.

Emergency work may be done without prior consent provided the Contractor notifies the Project Engineer prior to beginning the work.

3.3.11 Licenses and Permits: Contractor is responsible for obtaining all necessary licenses and permits required for Construction, at Contractors expense. See Section 2.12. Contractor shall supply to Owner all copies of finalized permits.

3.3.12 Permits: The following permits are required for the Project and will be obtained by the City at no cost to the Contractor:

- None

The following permits are required for the Project and shall be obtained and paid for by the Contractor, with the costs included in the total bid price for the Project:

- None

3.3.13 City Furnished Materials: The City will furnish the following materials for the Project:

- Drying beds for Contractor to use for disposal of Waterblasting/Hydrodemolition fluid.
- Contractor will be allowed to use Persigo's electrical wall outlets as a power source for tools and equipment.
- Contractor has option of using 3-phase, 480-volt power that is available in the Raw Sewage Pump Station.

3.3.14 Project Newsletters: Not applicable to Project.

3.3.15 Project Sign: Project signs, if any, will be furnished and installed by the City.

3.3.16 Authorized Representatives of the City: Those authorized to represent the City shall include Purchasing Agent, Engineers, and Inspectors employed by the City, only.

3.3.17 Stockpiling Materials and Equipment: When approved by the Project Engineer, the Contractor may stockpile and store materials and equipment within public right-of-way.

3.3.18 Traffic Control: Not applicable to Project.

2.3.19 Traffic Detector Loops: Not applicable to Project.

3.3.20 Clean-Up: The Contractor shall clear the construction site of all trash and on-site waste daily, including scrap from construction materials. The costs for all clean-up work shall be considered incidental and will not be paid for separately.

3.3.21 Quality Control Testing: See Project Manual in Appendix for information.

- 3.3.22 Uranium Mill Tailings:** It is anticipated that radioactive mill tailings will not be encountered on this Project.
- 3.3.23 Fugitive Petroleum or Other Contamination:** It is anticipated that soil contamination from fugitive petroleum or other contaminants will not be encountered with the Project.
- 3.3.24 Excess Material:** All excess materials shall be disposed in accordance with General Contract Condition Section 50.
- 3.3.25 Construction Equipment Storage:** See Project Manual in Appendix for information.
- 3.3.26 Asphalt Removal and Temporary Asphalt Millings:** Not applicable to Project.
- 3.3.27 Schedule of Submittals:** The Contractor at a minimum shall deliver these submittals at the pre-construction:
- Construction schedule submitted at or prior to the pre-construction meeting and updated as necessary to reflect actual conditions.
 - List of contacts for contractor and any subcontractors
 - Hourly rate table for labor and equipment to be used on this project
 - Bypass pumping plan and emergency contact list
 - Contractor's means and methods for cleaning and prepping concrete
 - Contractor's means and methods for coring concrete floor for suction pipes
 - Corrosion Barrier Liner (Resurfacing Mortar and Protective Top Coat)
 - Foam Injection (If Necessary)
 - Water Blasting/Hydro-demolition Solution
- 3.3.28 Existing Utilities and Structures:** The location of existing utilities and structures shown on the Plans are approximate. It is the responsibility of the Contractor to locate and protect all structures and utilities in accordance with General Contract Condition Section 37. The Contractor shall coordinate with the utility companies any necessary relocation of utilities and schedule his work accordingly. See Project Special Provisions.
- 3.3.29 Incidental Items:** Any item of work not specifically identified or paid for directly, but which is necessary for the satisfactory completion of any paid items of work, will be considered as incidental to those items, and will be included in the cost of those items.
- 3.3.30 Confined Space Entry:** The Contractor is responsible for providing any and all confined space entry safety equipment; including, but not limited to: air testing equipment, fresh air blowers, tripods, harnesses, and SCBA equipment. The Contractor's air monitoring devices shall be calibrated and certified. The cost for all confined space entry equipment shall be incidental to the project cost, and will not be paid for separately.
- 3.3.31 Domestic (Potable) Water:** The Contractor will be responsible for supplying all potable water that will be used on the project for construction purposes.

3.3.32 Bypass Pumping: Full-time bypass pumping of the wastewater treatment plants influent flows is required. The Contractor will be required to provide onsite monitoring of the bypass pumping 24 hours a day, seven days a week. Contractor will be required to provide backup controls, power equipment, diesel fuel, pumps and all required equipment for continuous operations of the bypass pumping system.

Historic influent flows from the past three years for the months of May, June, and July are provided in Appendix C.

The contractor is responsible for coring two holes into the concrete floor in the Headworks Building to access the channels downstream of the bar screens for the suction pipes. The bypass pumping discharge pipes shall discharge into the west chambers of Control Structure #1 which is immediately upstream of the plants primary clarifiers. The bypass pumping flows shall be split as evenly as possible between the two primary clarifiers.

The contractor is responsible for all calculations in properly sizing the suction and discharge pipes, and sizing the pump(s) for bypassing the sewage around the project area. The contractor shall account for rainfall events within the Persigo WWTP service area for sizing the pumps and pipe. These rainfall events could potentially increase the influent flows at the plant.

Rain events can produce up to 20 MGD instantaneous flows coming into the WWTP. These spikes in influent flow can last anywhere from 15 minutes to 1 hour. At flows higher than 20 MGD, the WWTP will divert excess flows into the flow equalization basins. The Contractor will not be compensated for increased influent flows due to a rain event.

The Contractor has a maximum of 30 calendar days for bypass pumping that is paid for Lump Sum.

The City will be responsible for dismantling the aluminum safety railing at Control Structure #1 so it doesn't interfere with the bypass discharge piping.

3.3.33 Manufacturer's Certificate of Authorization: Contractor shall provide certificate stating they are licensed and approved by the manufacturer to install the specified equipment/products.

3.3.34 References: Contractor shall provide a minimum of 3 references of projects for completed restoration and corrosion barrier liner installation of similar scope and size, to include project name and location; contact information of Owner/Engineer; and description of project and products used, substrates, and application procedures.

3.4. SCOPE OF WORK & SPECIFICATIONS: See Project Manual and Construction Plans.

3.5. Attachments:

Appendix A: Project Submittal Form

Appendix B: Project Manual

Appendix C: Persigo WWTP - Historical Influent Flows

Appendix D: Construction Drawings

3.6. Contractor Bid Documents: For Contractor's convenience, the following is a list of forms/items to be submitted with the Contractor's bid response. However, should a form/item not be listed in this section, but required in the solicitation documents, it is the Contractor's responsibility to ensure all forms/items are submitted.

- **Contractor's Bid Form**
- **Price Bid Schedule**
- **References**
- **Manufacturer's Certificate of Authorizing for Contractor**

3.7. IFB TENTATIVE TIME SCHEDULE:

Invitation for Bids available:	March 31, 2017
Mandatory Pre-Bid Meeting:	April 18, 2017
Inquiry deadline, no questions after this date:	April 21, 2017
Addendum Posted:	April 25, 2017
Submittal deadline for proposals (Bid Opening):	April 28, 2017
City Council or Board of Commissioners Approval:	May 17, 2017
Notice of Award & Contract execution:	May 18, 2017
Bonding & Insurance Cert. due:	May 30, 2017
Preconstruction meeting:	May 31, 2017
Work begins:	June 5, 2017
Final Completion:	42 Calendar Days from Notice to Proceed (July 16, 2017)

4. Contractor's Bid Form

Bid Date: _____

Project: IFB-4355-17-DH "Persigo Wastewater Treatment Plant Raw Sewage Wet Well Rehabilitation Project"

Bidding Company: _____

Name of Authorized Agent: _____

Email _____

Telephone _____ **Address** _____

City _____ **State** _____ **Zip** _____

The undersigned Bidder, in compliance with the Invitation for Bids, having examined the Instruction to Bidders, General Contract Conditions, Statement of Work, Specifications, and any and all Addenda thereto, having investigated the location of, and conditions affecting the proposed work, hereby proposes to furnish all labor, materials and supplies, and to perform all work for the Project in accordance with Contract Documents, within the time set forth and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Contractor's Bid Form is a part.

The undersigned Contractor does hereby declare and stipulate that this offer is made in good faith without collusion or connection to any person(s) providing an offer for the same work, and that it is made in pursuance of, and subject to, all terms and conditions of the Instructions to Bidders, the Specifications, and all other Solicitation Documents, all of which have been examined by the undersigned.

The Contractor also agrees that if awarded the Contract, to provide insurance certificates within ten (10) working days of the date of Notification of Award. Submittal of this offer will be taken by the Owner as a binding covenant that the Contractor will be prepared to complete the project in its entirety.

The Owner reserves the right to make the award on the basis of the offer deemed most favorable, to waive any formalities or technicalities and to reject any or all offers. It is further agreed that this offer may not be withdrawn for a period of sixty (60) calendar days after closing time. Submission of clarifications and revised offers automatically establish a new thirty day (30) period.

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents.

State number of Addenda received: _____.

It is the responsibility of the Bidder to ensure all Addenda have been received and acknowledged.

Authorized Signature: _____

Title: _____

Bid Schedule: Persigo WWTP - Raw Sewage Wet Well Rehab Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price	
1	02220	Removal of Existing Liner	1.	Lump Sum	\$ _____	\$ _____	
2	09985	Protective Coating	7,722.	Sq. Ft.	\$ _____	\$ _____	
3	01010	Bypass Pumping (30-Calendar Days)	1.	Lump Sum	\$ _____	\$ _____	
4	01200	Mobilization & Demobilization	1.	Lump Sum	\$ _____	\$ _____	
5	<u>Bid Alternatives:</u>						
6	01200	Bypass Pumping (Additional bypass pumping as required for Foam Injection operations, if necessary)	5.	Day	\$ _____	\$ _____	
7	03936	Foam Injection	50.	Lin. Ft.	\$ _____	\$ _____	
MCR		Minor Contract Revisions	---	---	---	\$ 25,000.00	

Bid Amount: \$ _____

Bid Amount: _____ **dollars**

Contractor Name: _____

Contractor Address: _____

Contractor Phone #: _____

The undersigned Bidder proposes to subcontract the following portion of Work:

<u>Name & address of Sub-Contractor</u>	<u>Description of work to be performed</u>	<u>% of Contract</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The undersigned Bidder acknowledges the right of the City to reject any and all Bids submitted and to waive informalities and irregularities therein in the City's sole discretion.

By submission of the Bid, each Bidder certifies, and in the case of a joint Bid each party thereto certifies as to his own organization, that this Bid has been arrived at independently, without collusion, consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

Appendix A

Project Submittal Form

PROJECT SUBMITTAL FORM

PROJECT: **Persigo WWTP – Raw Sewage Wet Well Rehabilitation Project**

CONTRACTOR:

PROJECT ENGINEER: Lee Cooper

Description	Date Received	Resubmittal Requested	Resubmittal Received	Date Accepted
-------------	---------------	-----------------------	----------------------	---------------

WET WELL REHAB CONSTRUCTION

Corrosion Barrier Liner (Resurfacing Mortar & Epoxy Liner)				
Foam Injection Material per Section 03936				
Waterblasting/Hydro-demolition Solution				
Bypass pumping plan and emergency contact list				
Construction Schedule				

APPENDIX B

Project Manual



SET NO. _____

PROJECT MANUAL

BID SET

PERSIGO WWTP RAW SEWAGE WET WELL REHABILITATION

FOR THE

CITY OF GRAND JUNCTION, COLORADO



FEBRUARY 2017

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FOR THE

CITY OF GRAND JUNCTION, COLORADO

JVA, Inc.
817 Colorado Ave, Suite 301
Glenwood Springs, CO 81601

JVA Job No. 2538.1c

February 2017

PROJECT MANUAL

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SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Work covered by contract documents
- B. Work by others
- C. Contractor use of site and premises
- D. Work sequence
- E. Easements and right-of-way
- F. Protection of public and private property
- G. Maintenance of traffic
- H. Barricades and lights
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- J. Regulatory requirements
- K. Cutting and patching

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of this Contract consists of all necessary labor, supervision, equipment, tools, and materials for rehabilitating the following influent wastewater structures: one (1) headworks slide gate chamber, one (1) grit chamber splitter box, 26-feet of 48-inch RCP pipe, one (1) manhole, one (1) influent chamber and two (2) wet wells. Rehabilitation shall include the removal of existing liners in the manhole, influent chamber and both wet wells, thorough surface preparation of all existing concrete surfaces and recoating of all surfaces using a two-part coating system. The two-part coating system shall consist of a cementitious first coat, followed by an epoxy coating applied directly to the cementitious coating. The influent wastewater structure rehabilitation will require bypass pumping of all WWTP influent flows from the headworks to the control structure #1 for the duration of the project. Flow shall be split evenly between the two primary clarifiers.
- B. Contractor shall be responsible for all bypass pumping for the duration of the project. The Contractor will be required to provide onsite monitoring of the bypass pumping 24 hours a day seven days a week. Contractor will be required to provide backup controls, power, diesel fuel, pumps and all required equipment for continuous operation of the bypass

pumping system. Operator has option to use either diesel or electrical power for pumps. 3 phase, 480 volt power is available in the raw water pump station.

- C. Contractor has a maximum of 30 continuous days for bypass pumping
- D. Historical daily flows for the past 3 years from May to July are provided in the Appendix.
- E. The two (2) wet wells, one (1) influent chamber and manhole #2 have existing PVC liners that must be completely removed.
- F. The surface of all structures must be properly prepared in accordance with coating Manufacturer's written recommendations. Manufacturer shall inspect and approve the existing surface before applying the coatings.
- G. Prior to applying the primary cementitious coating, the pH of the surface of each structure shall be tested by both the Contractor and Owner/Owner's representative. If the pH of the prepared concrete is lower than 8, additional cleaning or hydrodemolition may be necessary. In the event that cleaning and preparation of the surface does not meet the pH requirement an approved mixture/product shall be applied until the pH is at the acceptable level for coating.
- H. A resurfacing cementitious coating shall be applied to all surfaces and allowed adequate setting/drying time as recommended by Manufacturer.
- I. An epoxy coating shall be applied to all surfaces after the cementitious coating has cured for a period of time as recommended by the Manufacturer. The epoxy coating shall be allowed to cure as recommended by the Manufacturer before returning the structures to service.
- J. Furnish and pay for all materials, equipment, supplies, appurtenances; provide all construction equipment and tools; and perform all necessary labor and supervision
- K. Coordinate the progress of the Work including coordination between trades, subcontractors, suppliers and public utilities performing work on site and City to insure the progress of Work
- L. It is the intent of this contract that Work proceed in the most expeditious manner possible.
- M. Construct the Work under contract indicated in the Bid Form

1.3 WORK BY OTHERS

- A. Manned plant operating times
 - 1. 6:00 am to 4:00 pm, 5 days per week

- B. The Owner will replace sluice gates in Control Structure Number 1 during bypass pumping of this project. Contractor will be required to coordinate this work with the Owner.

1.4 CONTRACTOR USE OF SITE AND PREMISES

- A. Contractor shall limit use of the premises for Work and will use the designated staging area for field offices, equipment, and material storage. Areas have been designated for contractor's use.
- B. Coordinate use of premises under direction of Engineer and/or City
- C. Assume full responsibility for the protection and safekeeping of equipment and products stored on site under this Contract
- D. Contractor may use only those areas indicated on the Drawings for storage and such additional areas as Owner/Engineer may designate
- E. Contractor is permitted to work five (5) days per week, Monday through Friday, up to 12 hours per day 6:00 am to 6:00 pm. Saturday and Sunday work will be allowed by the City if no critical inspections (i.e. surface preparation verification prior to coating, in between coatings and final inspection) are required on the weekends. Other work hours and days will be allowed by the City and Engineer upon 48 hours written notice.

1.5 WORK SEQUENCE

- A. Provide open access for Owner to property at all times during construction. Maintain minimum width clearance for access of City and Contractor personnel and emergency vehicles at all times
- B. Existing wastewater treatment plant is an operating treatment plant and must remain in operation during the contract period.
- C. The Contractor shall submit a bypass pumping plan for review and acceptance by the City and Engineer before the start of any rehabilitation work. The City shall witness the bypass pumping and verify the method is acceptable. The Contractor shall ensure that flow is evenly split between the two primary clarifiers. Contractor is responsible for sizing all pumps, pipes, valves, etc. required for bypass pumping.
- D. The bypass pumping plan shall include but is not limited to pumps, pipe, contingency plan, capacity, emergency protocol, alarms and spill clean-up protocols.
- E. The Contractor shall work with the City to ensure the flow is evenly split between the two primary clarifiers.
- F. Influent flow shall be bypassed downstream of the existing bar screens, but prior to the slide gate chamber. As previously discussed all flow shall be evenly split to the primary clarifiers. All structures that have live flow on the upstream side must be sealed to

prohibit influent flow from entering structures during the rehabilitation process in the event of a gate failure.

- G. There are no restrictions to the number of structures that can be worked on at any one time.
- H. The Contractor will be required to maintain temperatures, humidity, etc. per Manufacturer's recommendation for the duration of the recoating process. This data shall be documented and verified by a third party inspector.
- I. A third party will inspect and test each step of the recoating process in all structures. This includes verifying surface preparation, the pH of the prepared concrete surfaces, and application and thicknesses of all new coatings. The Contractor will not be allowed to move to the next step of the coating process until the third party has verified the work meets the intent of the Contract Documents. The third party shall be certified in accordance with specification 09985.
- J. All third party inspection and tests required shall be scheduled for Monday through Friday during normal work hours.
- K. Sequences other than those specified will be considered by Engineer, provided they afford equivalent continuity of operations

1.6 EASEMENTS AND RIGHT-OF-WAY

- A. All Work will be performed on City's property.
- B. Confine construction operations to the immediate vicinity of the location indicated on drawings and use due care in placing construction tools, equipment, excavated materials, and pipeline materials and supplies, so as to cause the least possible damage to property
- C. On Private Property
 - 1. Do not enter for material delivery or occupy for any purpose with personnel, tools, equipment, construction materials, or excavated materials, any private property outside the designated construction easement without written permission of the owner and tenant
- D. Within Street Right-of-Way
 - 1. Perform all work and conduct all operations of Contractor, his employees, and his subcontractors in accordance with the requirements of City of Grand Junction

1.7 PROTECTION OF PUBLIC AND PRIVATE PROPERTY

- A. Protect, shore, brace, support, and maintain underground conduits, drains, and other underground construction uncovered or otherwise affected by construction operations
- B. Contractor shall be responsible for all damage to streets, roads, highways, shoulders, street lighting and/or signage, embankments, culverts, location or character, which may

be caused by transporting equipment, materials, or personnel to or from the Work or any part or site thereof, whether by him or his subcontractors

- C. Make satisfactory and acceptable arrangements with the Owner of any damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage

1.8 MAINTENANCE OF TRAFFIC

- A. Conduct Work to interfere as little as possible with City and public travel, whether vehicular or pedestrian
 - 1. Whenever it is necessary to cross, close, or obstruct private roads, driveways and walks, provide and maintain suitable and safe detours, or other temporary expedients for accommodation of private travel

1.9 BARRICADES AND LIGHTS

- A. Provide lights and barricades as necessary to adequately protect and complete the work.

1.10 LINES, GRADES AND SURVEY

- A. Elevations and grades shown on the drawings are approximate. Contractor shall verify all elevations and report any differences to the Owner.

1.11 REGULATORY REQUIREMENTS

- A. Comply with all federal, state, and local laws, regulations, codes, and ordinances applicable to the Work. This includes confined space, OSHA, PPE and permit entry.
- B. Contractor is responsible for all confined space entry safety equipment and gas detection devices.
- C. Contractor's personnel shall be certified to work in the area of their prospective work.
- D. References in the Contract Document to local codes shall mean the codes in effect in the City of Grand Junction and Mesa County according to the jurisdiction in which the Work is performed.
- E. Other standards and codes which apply to the Work are designated in the specific technical specifications

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01039

COORDINATION AND MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General requirements
- B. Coordination
- C. Field engineering
- D. Alteration project procedures
- E. Preconstruction conference
- F. Progress meetings
- G. Requests for information

1.2 RELATED SECTIONS

- A. Section 01010 - Summary of Work
- B. Section 01340 - Shop Drawings and Product Data
- C. Section 01700 - Contract Closeout

1.3 GENERAL REQUIREMENTS

- A. Refer to General Conditions for Owner meetings and other requirements
- B. Engineer will schedule and administer pre-construction meeting according to agenda
 1. Prepare agenda for meetings including items required by Owner and Contractor
 2. Notify Contractor and Owner 4 days in advance of meeting date
 3. Preside at meeting
- C. Contractor will schedule and administer site mobilization and weekly progress meetings. Contractor will also be responsible for coordination, field engineering, alteration, project procedures, cutting and patching procedures outlined herein. If work progress does not warrant a meeting, all parties can mutually agree to postpone meeting.
 1. Arrange for the attendance of Contractor's agents, employees, subcontractors, and suppliers as appropriate to the agenda
 2. Record the minutes; include all significant proceedings and decisions
 3. Reproduce and distribute copies of minutes within one week after each meeting
 - a. To all participants in the meetings

- b. To Engineer
 - c. To Owner
 - 4. Owner and other inspecting parties such as plant operators may attend meetings
 - 5. Engineer will attend weekly meetings either via phone or on site
- D. Representatives of contractors, subcontractors, and suppliers attending the meetings shall be qualified and authorized to act on behalf of the entity each represents

1.4 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various Sections of specifications to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later by others.
- B. Verify that utility requirement characteristics of operating equipment are compatible with available utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment, and coordinate preparation of grading and other requirements for installation utility work by others.
- C. Coordinate completion and clean up of Work of separate Sections in preparation for final completion and for portions of Work designated for Owner's use
- D. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.5 ALTERATION PROJECT PROCEDURES

- A. Materials: As specified in product Sections; match existing products and work for patching and extending work.
- B. Where new work abuts or aligns with existing, perform a smooth and even transition. Patched work to match existing adjacent work in texture and appearance.
- C. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.
- D. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Engineer review.
- E. Patch or replace portions of existing surfaces, which are damaged, lifted, or showing other imperfections.
- F. Finish surfaces as specified in individual product sections.

1.6 PRECONSTRUCTION CONFERENCE

- A. Engineer will schedule a conference after Notice of Award
- B. Location: Persigo WWTP, 2145 River Road, Grand Junction, CO
- C. Attendance
 - 1. Owner's Representative
 - 2. Engineer and his professional consultants
 - 3. Contractor's Project Manager
 - 4. Contractor's Superintendent
 - 5. Major Subcontractors
 - 6. Others as Appropriate
- D. Agenda:
 - 1. Execution of Owner Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of subcontractors and suppliers, list of products, Schedule of Values, and Construction Project Schedule in critical path format.
 - 5. Designation of personnel representing the parties in Contractor, Owner, and the Engineer.
 - 6. Confined space entry and safety discussion
 - 7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, cost proposal requests, Change Orders and Contract closeout procedures.
 - 8. Construction scheduling and updates.
 - 9. Scheduling activities of manufacturers' representatives and other field tests
 - 10. Critical work sequencing
 - 11. Major equipment deliveries and priorities
 - 12. Procedures for maintaining Record Documents
 - 13. Construction facilities, controls and construction aids
 - 14. Temporary utilities provided by Owner
 - 15. Safety and first-aid procedures
 - 16. Security and housekeeping procedures
 - 17. Procedures for testing

1.7 PROGRESS MEETINGS

- A. Contractor will schedule and administer meetings throughout progress of the Work at weekly intervals. If work progress does not warrant meeting, all parties can mutually agree to postpone the weekly meeting.
- B. Location of the Meetings: The project field office of the Contractor, or other locations arranged for by Contractor, convenient to all parties

- C. Contractor will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings, record minutes, and distribute copies within one week to Contractor, Owner, participants, and those affected by decisions made.
- D. Attendance
 - 1. Owner's Representative
 - 2. Engineer, and his professional consultants as needed
 - 3. Contractor's Superintendent
 - 4. Subcontractors as appropriate to the agenda
 - 5. Suppliers as appropriate to the agenda
 - 6. Others, as appropriate
- E. Suggested Agenda
 - 1. Review Minutes of Previous meetings.
 - 2. Review Unresolved issues from Last Meeting.
 - 3. Review of Work Progress.
 - 4. Field Observations, Problems, Conflicts and Decisions.
 - 5. RFI Review
 - 6. Review of Submittals Schedule and Status of Submittals
 - 7. Schedule
 - a. General Schedule Issues
 - b. Review delivery schedules
 - c. Planned progress during succeeding work period (3-week "Look ahead")
 - d. Maintenance of construction project schedule
 - e. Corrective measures to regain project schedules
 - 8. Maintenance of Quality and Work Standards
 - 9. Change Orders
 - 10. New PR's or CCR's
 - 11. Accepted Change Orders
 - 12. Pay Requests
 - 13. Other Business

1.8 REQUESTS FOR INFORMATION (RFI)

- A. The Contractor shall prepare and submit an RFI upon the discovery of the need for interpretation of the Contract Documents or additional information.
 - 1. Only the Contractor shall submit RFIs to the Engineer.
 - 2. RFIs shall be submitted on Engineer's RFI form. Engineer will provide a template for the Contractor upon request.
- B. RFI shall include:
 - 1. Project Name
 - 2. Engineer Job Number
 - 3. Date
 - 4. Name of Contractor
 - 5. Name of Engineer
 - 6. RFI number, numbered sequentially

7. Related specification section number, title, and related paragraphs, as needed
 8. Drawing number and detail references, as needed
 9. Field conditions
 10. Contractor's proposed solution. If the Contractor's solution(s) affect contract times or contract price, Contractor shall state the effects on the RFI.
 11. Contractor's signature
 12. Relevant attachments including but not limited to drawings, descriptions, measurements, photos, product data, and shop drawings
- C. Electronically Submitted RFIs
1. Contractor shall submit one (1) complete RFI file in Adobe Acrobat PDF format
- D. Engineer's Response
1. Engineer will review each RFI, determine action required, and respond.
 2. Engineer will review and respond to each RFI within seven (7) working days
 3. If Engineer receives an RFI after 1:00 P.M. local time, the RFI will be considered as received the following working day.
 4. Engineer will not respond to RFIs requesting approval of submittals, approval of substitutions, coordination and information already indicated in Contract Documents, adjustment in contract time or contract amount, or erroneous RFIs.
 5. Engineer may respond to RFIs on related issues with a single response.
 6. If Engineer requests additional information as a result of the RFI, any further action or RFIs submitted by the Contractor will restart a new seven (7) day review period.
 7. Contractor shall submit any request for change of contract time or contract price utilizing proper Change Order forms.
- E. Contractor shall log and track all RFIs submitted organized by RFI number.
1. RFI log shall be submitted at each progress meeting
 2. RFI log shall include:
 - a. Project name
 - b. Name, address, and phone number of Contractor
 - c. Contractor representative name
 - d. RFI number
 - e. RFI description
 - f. RFI submittal date
 - g. RFI response date
 - h. Related Change Order number, as needed

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01200

PAYMENT PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section
- B. This information is supplemental to the requirements as stated in the General Conditions.

1.2 SUMMARY

- A. This Section includes additional administrative and procedural requirements necessary to prepare and process Applications for Payment. Refer to General Conditions for most requirements of the Owner.
 - 1. Unit Prices for administrative requirements governing use of unit prices
 - 2. Construction Progress Schedules

1.3 DEFINITIONS

- A. Unit Price: An amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES FOR UNIT PRICES

- A. Unit bid prices, as quoted in the Bid Form, shall be in full compensation for labor, materials, equipment, rentals, overhead, profit and incidentals to complete all work for each pay item; and for all risk, loss, damage, or expense of whatever nature arising from the nature of the work or the prosecution thereof.
- B. Work or materials that are essential to the work, but for which there are no pay items, will not be measured and paid for separately, but shall be included in other items of work.
- C. Prices include all necessary material, for a complete installation, insurance, applicable taxes, overhead, and profit
 - 1. Removal of Existing Liner: PER LUMP SUM. As shown on drawing and as approved by Engineer. Contractor is responsible for the complete demolition, removal and disposal of PVC liners and all associated costs for the following structures:
 - a. Two (2) Wet Wells
 - b. One (1) Influent Chamber
 - c. One (1) Manhole #2

2. Protective Coating: PER SQUARE FOOT. As shown on drawings and as approved by Engineer. Includes surface preparation, installation, monitoring and control of site conditions (i.e. temperature, humidity, moisture, etc.), storage, clean up, coordination and any applicable disposal. Contractor shall install coatings according to Manufacturer's recommendation and in accordance with Section 09985. Measured horizontally and vertically in each structure:

Slide Gate Chamber	1041-square feet
48-inch RCP	352-square feet
Grit Chamber	312-square feet
Influent Chamber	1015-square feet
Wet Well #1	2221-square feet
Wet Well #2	2221-square feet
Manhole #2	560-square feet

3. Bypass Pumping: per LUMP SUM. Includes all costs associated with the installation and operation of the bypass pumping system, which shall be the Contractor's responsibility. Contractor shall provide all adequately sized temporary piping and pumps to handle peak flow and ensure that the total flow will be safely diverted around the Structures that are to be repaired. The bypass pumping system will be required to be operated and monitored 24 hours per day. The Contractor shall have adequate standby equipment and personnel available in the event of an emergency.
4. Mobilization and Demobilization: PER LUMP SUM includes all costs, including labor, material and any incidental work and equipment necessary for mobilization of personnel, equipment and supplies to the project site, including mobilization of temporary facilities, staging area fencing and preparation, construction trailers, and temporary power and communications. Item also includes demobilization at the completion of the project including the removal of the Contractors equipment, supplies, temporary facilities, and excess materials and cleanup of the site. This item also includes providing all related materials, equipment and labor not specifically covered by other bid items, but does not include profit.

D. Bid Alternative

1. Bypass Pumping: PER DAY. As shown on drawings and as approved by Engineer. The installation and operation of the bypass pumping system shall be the Contractor's responsibility. Contractor shall provide all adequately sized temporary piping and pumps to handle peak flow and ensure that the total flow will be safely diverted around the Structures that are to be repaired. The bypass pumping system will be required to be operated and monitored 24 hours per day. The Contractor shall have adequate standby equipment available in the event of an emergency.
2. Foam Injection: PER LINEAR FOOT. As shown on drawings and as approved by Engineer, The installation of hydrophilic liquid foam at locations where leaky cracks are present and may cause failure of the corrosion barrier liner. Contractor shall install foam according to Manufacturer's recommendation and in accordance with Section 03963.

- E. Measurement and Payment: Refer to bid form and 1.4(A) of this Section for establishment of unit prices
- F. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

1.5 APPLICATION FOR PAYMENTS

- A. General
 - 1. Submit itemized payment request as required in General Conditions together with unit prices, and other submittals as specified herein
 - 2. Contractor shall not "project" work completed beyond the date of Application for Payment submittal for the purpose of payment request
- B. Each Application for Payment shall be consistent with previous applications and payments as certified by the Engineer and paid for by the Owner.
 - 1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements
- C. Payment Application Times: Each progress payment date is as indicated in the Agreement. The period of construction Work covered by each Application or Payment is the period indicated in the Agreement
- D. Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Owner. Incomplete applications will be returned without action.
 - 1. Entries shall match data on the unit prices and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
 - 2. Include amounts of Change Orders issued prior to the last day of the construction period covered by the application
- E. Transmittal
 - 1. Submit copy of each Application for Payment to the Engineer by means ensuring receipt within 24 hours
 - 2. Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Engineer
- F. Initial Application for Payment
 - 1. Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:
 - a. List of subcontractors
 - b. List of principal suppliers and fabricators
 - c. Schedule of Values
 - d. Contractor's Construction Schedule (preliminary if not final)
 - e. Schedule of principal products

- f. List of Contractor's staff assignments
 - g. Copies of building permits
 - h. Copies of authorizations and licenses from governing authorities for performance of the Work
 - i. Certificates of insurance and insurance policies
 - j. Performance and payment bonds, if required
- G. Application for Payment at Substantial Completion
1. Following issuance of the Certificate of Substantial Completion, submit an Application for Payment. This application shall reflect any Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of Work
 - a. Administrative actions and submittals that shall precede or coincide with this application include:
 - i) Occupancy permits and similar approvals
 - ii) Warranties (guarantees) and maintenance agreements
 - iii) Test/adjust/balance records
 - iv) Maintenance instructions
 - v) Meter readings
 - vi) Start-up performance reports
 - vii) Change-over information related to Owner's occupancy, use, operation and maintenance
 - viii) Final cleaning
 - ix) Application for reduction of retainage, and consent of surety
 - x) Advice on shifting insurance coverages
 - b. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion
- H. Application for Final Payment
1. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Price, previous payments, and sum remaining due.
 2. Application for Final Payment will not be considered until the following have been accomplished:
 - a. Completion of Project closeout requirements
 - b. Completion of items specified for completion after Substantial Completion
 - c. Assurance that unsettled claims will be settled
 - d. Assurance that Work not complete and accepted will be completed without undue delay
 - e. Transmittal of required Project construction records to Owner
 - f. Proof that taxes, fees and similar obligations have been paid
 - g. Removal of temporary facilities and services
 - h. Removal of surplus materials, rubbish and similar elements

1.6 PROCEDURES FOR THE CONSTRUCTION PROGRESS SCHEDULE

- A. Coordination: coordinate preparation and updates of Contractor's Construction Schedule with the preparation of Unit Prices.

1. Correlate line items in the Construction Schedule with required project tasks, including the following:
 - a. Mobilization/demobilization
 - b. Permits and regulatory requirements
 - c. Submittals
 - d. Equipment
 - e. O&M Manuals
 - f. Work breakdown of major project work
 - g. Major subcontractors work
 - h. Startup and commissioning
 - i. Training
 - j. Substantial completion
 - k. Final completion
 - l. Milestones and operational shutdown requirements

- B. Utilize the Critical Path Method (CPM) type construction schedule to establish preliminary progress schedule and track Work progress
 1. After acceptance by Engineer of preliminary Progress Schedule submitted per requirements of General Conditions, set preliminary Progress Schedule as the Construction Baseline Schedule
 2. Update and submit the construction progress schedule on a monthly basis with the pay application
 - a. Monthly submittal should indicate progress of tasks, changes to baseline schedule logic, work additions such as change orders, milestone and contract date changes
 - b. Submit two (2) color print copies, 11" x 17" size, and one Adobe pdf copy
 - c. Upon request provide copy of project schedule CPM data file

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01340

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submission of all shop drawings and product data as required by the Contract Documents for all equipment and materials to be furnished under this contract unless specifically indicated otherwise

1.2 RELATED SECTIONS

- A. Section 01600 – Materials and Equipment
- B. Section 01730 – Operations and Maintenance Data

1.3 SUBMITTALS

A. Definitions

- 1. Technical submittals: Shop drawings, product data and samples prepared by Contractor, subcontractors, suppliers, or manufacturers
 - a. Shall be submitted by the Contractor to Engineer for approval for the use of Equipment and Materials to complete the Work or as needed to describe the following:
 - i) Operation and maintenance
 - ii) Technical properties
 - iii) Installation
 - b. Shop drawings: Custom prepared data for the Project and Work including performance and capacity curves, diagrams, bills of material, instructions, and other information
 - c. Product data: Non-custom prepared printed information for the Project and Work on materials and products
 - d. Samples: Fabricated and non-fabricated tangible samples of products and material
 - i) Used for visual inspection and testing and analysis
- 2. Informational submittals: Reports, administrative informational submittals, certification and guarantees not including and defined as shop drawings, samples and product data
 - a. Reports: Include laboratory reports and tests, technical procedures and records and design analysis
 - b. Administrative informational submittals: Submittals necessary for administrative records such as construction photographs, work records, schedules, standards, record project data, safety data, and similar information submittals
 - c. Certification: Includes manufacturer or supplier certificates and guarantees

B. General Requirements

1. Quality

- a. Shall be of suitable quality for legibility and reproduction purposes
 - b. Shall be useable for reproduction yielding legible hard copy
 - c. Submittals not conforming to specified requirements herein and as specified in Divisions 2 through 16 shall be subject to rejection by Engineer and upon Engineer request, Contractor shall resubmit documents that are in conformance
2. Dimensions
- a. English units shall be provided on submittals
 - b. Metric units are acceptable in addition to English units
 - c. English units shall govern
3. Form of submittals
- a. Submittals shall be transmitted in electronic format as specified herein
 - b. Scanned submittals are acceptable
 - c. Electronic project documents and submittals shall be transmitted in the following format:
 - i) Native electronic format, nonproprietary
 - ii) Adobe PDF produced from native electronic format
 - d. Filename:
 - i) Shall be consistent for the initial and any subsequent submission revisions for a single submittal
 - ii) Contractor shall use a consistent naming convention for all submittals
 - a) Use number of original submittal followed directly by a capital letter corresponding to the number of times a submittal is resubmitted (i.e., #001, #001A, #001B, etc.)
4. Non-conforming submittals shall be subject to rejection by Owner and/or Engineer
5. Submittal completion requirements
- a. Submittals shall include design criteria, dimensions, construction materials and all other information specified for a complete submittal to facilitate Engineer review of the submittal information adequately
 - b. In the event various drawings are included a submittal for a class of Equipment, Contractor shall annotate clearly which parts apply to furnished Equipment
 - i) Information not pertaining to the submittal shall be clearly annotated. Highlighting of such information will cause rejection of the submittal by the Engineer
 - c. Contract Drawings
 - i) Copies or portions thereof will not be allowed as acceptable fabrication or erection drawings
 - ii) In the event Contract Drawings are used by the Engineer for erection drawings to annotate information on erection or identify reference details, Engineer title block and professional seal shall be removed and replaced with the Contractor's title block on the Contract Drawing(s). Contractor shall revise such erection drawings for subsequent revisions by the Engineer to Contract Drawings

C. Preparation

1. Shop Drawings

- a. Drawings shall be presented in a clear and thorough manner:

- b. Identify details by reference to sheet and detail, schedule or room numbers shown on Contract Drawings
 - c. Identify equipment by reference to equipment name and tag number shown on Contract Drawings
 - d. Scale and Measurements: Make drawings accurate to a scale with sufficient detail to show the kind, size, arrangement and function of component materials and devices
 - e. Minimum sheet size: 8.5" by 11"
 - f. Fabrication drawing size: 11" by 17" or 24" by 36"
2. Product Data
- a. Clearly mark each copy to identify pertinent products or models submitted for review
 - b. Identify equipment by reference to equipment name and P&ID number
 - c. Catalog cut sheets: Cross-out or hatch irrelevant data
- D. Technical Submittals: Shop Drawings and Product Data Submittal Requirements
1. Shop Drawings and Product Data shall include the following, at a minimum:
- a. Specifications of manufacturer(s)
 - b. Equipment parts and catalogs
 - c. Bills of materials, material lists, and schedules
 - d. Shop erection and fabrication drawings
 - e. Drawings shall include equipment dimensions, weights, installation location requirements, plates required, main components, support details, anchor bolt details/sizes/locations, support base sizes, baseplate sizes, spacing and clearance requirements for installation, erection, operation and maintenance disassembly
 - f. Electrical requirements:
 - i) Shall include schematic diagrams including one-line diagrams, terminal block numbers, internal wiring diagrams, external connections, controls, and any other information as requested in individual specification sections
 - g. List of spare parts
 - h. Instruction and Operation and Maintenance (O&M) manuals
 - i) As specified herein and in Specification Section 01730
 - i. Manufacturer's performance testing of equipment
 - j. Concrete mix design data and information
 - k. Performance characteristics and capacities
 - l. External connections, anchorages, and supports required
 - m. Other drawings, parts, catalogs, specifications, samples, or data necessary for the Engineer to determine conformance with Contract Documents
2. Samples – Office samples shall be of sufficient size and quantity to clearly illustrate:
- a. Functional characteristics of the product, with integrally related parts and attachment devices
 - b. Full range of color, texture and pattern
 - c. Comply with requirements identified in individual specification sections
- E. Construction Schedule: Designate in the construction schedule, or in a separate coordinated shop drawing schedule, the dates for submission and the dates that reviewed Shop Drawings and Product Data will be needed, if accelerated review is requested

- F. Field samples and Mock-ups:
 - 1. Contractor shall erect, at the Project Site, at a location acceptable to the Engineer and Owner
 - 2. Size or area: as specified in the respective specification section
 - 3. Fabricate each sample and mock-up complete and finished
 - 4. Remove mock-ups at conclusion of Work or when acceptable to Engineer

1.4 CONTRACTOR RESPONSIBILITIES

- A. Review shop drawings and product data prior to submission for accuracy and completeness of each submission
- B. Approve and stamp each submission before submitting to Engineer
- C. Determine and verify:
 - 1. Field measurements
 - 2. Field construction criteria
 - 3. Catalog numbers and similar data
 - 4. Conformance with specifications and identification of all deviations
 - 5. Confirm assignment of unit responsibility
- D. Prior to each submission, carefully review and coordinate all aspects of each item being submitted
- E. Verify that each item and the corresponding submittal conform in all respects with specified requirements of the Work and of the Contract Documents with respect to means, methods, techniques, sequences, and operations of construction, and safety precautions and programs incidental thereto
- F. Make submissions promptly in accordance with Construction Schedule, and in such sequence as to cause no delay in the Work or in the work of any other Contractor
- G. Limit requirement for accelerated submittal review by Engineer to no more than 10% percent of total number of submittals
 - 1. Accelerated submittal review period: less than 14 calendar days
- H. Notify Engineer in writing, at time of submission, of any deviations in the submittals from Contract Document requirements:
 - 1. Identify and tabulate all deviations in transmittal letter
 - 2. Indicate essential details of all changes proposed, including modifications to other facilities that may be a result of the deviation
 - 3. Include required piping and wiring diagrams

1.5 SUBMISSION REQUIREMENTS

- A. Make submissions far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmissions, and for placing orders and securing delivery

- B. In scheduling, allow fourteen (14) calendar days for review by Engineer following receipt of submission in Engineer's office:
 - 1. Time required to mail submissions or resubmissions is not considered a part of review period

- C. Submittal Naming and Numbering
 - 1. Assign a unique number to include all shop drawings, product data and other information required for individual specification sections, beginning with #001.
 - 2. Resubmissions shall have the original number with a letter, starting with "A". If the first submittal required resubmission, it would be labeled #001A.
 - 3. Each specification section may still have more than one submittal number for later submissions (i.e., Preliminary O&M Manuals, Final O&M Manuals, etc.)
 - 4. Contractor shall use a consistent naming convention for all submittals

- D. Quantity of Submittals Required
 - 1. Shop Drawings and Product Data:
 - a. Initial submittal:
 - i) Electronic – One (1) copy to Engineer
 - b. Resubmittal:
 - i) Electronic – One (1) copy to Engineer
 - c. Final Submittal for Distribution
 - i) Paper hard copy - Maximum of two (2) copies for Contractor's use, plus a maximum of three (3) copies which will be distributed by Engineer when approved. Do not submit more than five (5) copies
 - ii) One (1) electronic copy to Engineer
 - d. As-constructed document submittals
 - i) Paper hard copy – Maximum of two (2) copies for Contractor's use, plus a maximum of three (3) copies which will be distributed by Engineer when approved. Do not submit more than five (5) copies
 - ii) Electronic – One (1) copy to Engineer and one (1) copy to Owner
 - 2. Samples
 - a. Initial submittal:
 - i) Submit three (3) of each sample unless specified otherwise in individual specification section
 - b. Resubmittal:
 - i) Submit three (3) to Engineer
 - c. One (1) sample of approved sample submittal will be returned to Contractor
 - 3. Informational submittals
 - a. Technical reports and administrative submittals
 - i) Electronic – One (1) copy to Engineer
 - ii) Paper: Three (3) copies to Engineer
 - b. Certificates and guarantees:
 - i) Electronic – One (1) copy to Engineer
 - ii) Paper: Three (3) copies to Engineer
 - c. Test reports
 - i) Paper
 - a) Owner: Two (2) copies

- b) Engineer: One (1) copy
 - c) Contractor: Two (2) copies
 - d) Manufacturer/supplier: One (1) copy
 - 4. Instruction and O&M manuals
 - a. In accordance to Specification Section 01730
 - 5. At no additional cost to the Owner and whether or not submittals are copyrighted, the Owner may copy and use for staff training and/or internal operations any submittals approved for final distribution as well as required by this Contract
- E. Submittal Transmittal Requirements
- 1. Accompany each submittal with a letter of transmittal showing all information required for identification and checking
 - 2. Shall include:
 - a. Drawing numbers and titles
 - b. Revision number
 - c. Electronic filename
 - d. Deviations from Contract Documents: As specified herein
 - e. Submittals unidentifiable will be returned for proper identification
 - f. Date
- F. Submittals Requirements
- 1. Submittal number
 - 2. Date of submission and dates of any previous submissions
 - 3. Project title and number
 - 4. Owner Contract identification number if applicable
 - 5. Names of:
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
 - 6. Identification of the product, with the specification section number
 - 7. Field dimensions, clearly identified as such
 - 8. Relation to adjacent or critical features of the Work or materials
 - 9. Applicable standards, such as ASTM or Federal Specification numbers
 - 10. Identification of deviations from Contract Documents:
 - a. If Contractor proposes to provide material or equipment of Work which deviates from the Project Manual, Contractor shall indicate so under “deviations” on the transmittal form accompanying the submittal copies
 - b. Identify all requested deviations as specified and on the copies of Specifications and Drawings required by paragraph below.
 - 11. Confirmation of compliance with Contract Documents and, if applicable, identification of deviations from Contract Documents:
 - a. Provide the following documents to demonstrate compliance with the contract specifications:
 - i) A copy of the relevant Drawing(s) with all addendum updates that apply to the equipment in various Divisions marked to show specific changes necessary for the equipment proposed in the Contractor’s submittal

- a) If no changes are required, the Drawing(s) shall be clearly marked “No Changes Required”
 - b) Failure to include copies of relevant Drawing(s) with the submittal, whether changes are required or not, shall be cause for rejection of the entire submittal with no further review by Engineer
 - c) Relevant Drawing(s) include as a minimum the control diagrams, process and instrumentation diagrams (P&IDs), and Process (P) drawings.
- ii) A copy of each pertinent specification section with all addendum updates included, all referenced and applicable specifications sections, with their respective addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate the requested deviations from the specification requirements:
- a) If deviations from the specifications are indicated and, therefore requested, by the Contractor, the submittal shall be accompanied by a detailed, written justification for each deviation
 - b) Failure to include a copy of the marked up specification sections, along with justification for any requested deviations to the specification requirements, with the submittal shall be cause for rejection of the entire submittal with no further review by Engineer
12. Identification of revisions on resubmissions
13. An 8" by 4" blank space for Contractor's and Engineer's stamps
14. Stamp cover sheet of each submittal as identified in letter of transmittal
15. Contractor's stamp: Initialed or signed, certifying review and approval of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the Work and of Contract Documents. Use stamp to include wording similar to the following:

<p>This submittal has been reviewed by <i>[Name of Contractor]</i> and approved with respect to the means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incidental thereto. <i>[Name of Contractor]</i> also warrants that this submittal complies with contract documents and comprises no deviations thereto:</p> <p>Section No: _____ Submittal No: _____</p> <p>Date: _____ By: _____</p>
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- G. For equipment that is provided directly by manufacturer without specification provide:
- 1. Shop drawings: Illustrate complete assembly of products; foundation, installation and anchor requirements; dimensions and total weights of each, electrical wiring diagrams
 - 2. Product data: Provide manufacturer’s literature including general assembly, materials of construction, model and type, detailed data describing parts and accessories, sufficient data to verify compliance with specifications
 - 3. Manufacturer’s installation instructions: Provide detailed connection requirements and startup instructions

4. Manufacturer's field report: Indicate personnel present and actual start-up procedures that were performed by manufacturer's representative
5. Field report and test results shall be submitted to the Engineer by the Contractor

H. Submittal Log:

1. Maintain an accurate submittal log for duration of the Work showing current status of all submissions
2. Show submittal number, section number, section title, submittal description, dates and disposition of submittal
3. Make submittal log available to Engineer for Engineer's review upon request

I. Unless specified otherwise, make submissions in groups to facilitate efficient review and approval:

1. Include all associated items from individual specification sections to assure that all information is available for checking each item when it is received
2. Submit a complete initial submittal including all components when an item consists of components from several sources
3. Partial submittals may be rejected as not complying with provisions of the Contract
4. Engineer will not be held liable for delays due to poorly organized or incomplete submissions
5. Do not include items from more than one specification section for any one submittal number

J. Contractor may require subcontractors to provide drawings, setting diagrams and similar information to help coordinate the Work, but such data shall remain between Contractor and his subcontractors and will not be reviewed by Engineer unless specifically called for within the Contract Documents

K. All submittals for each component of multi-component systems shall be compiled and submitted through the Contractor to the Engineer by the manufacturer having System Responsibility

1.6 DISPOSITION OF SHOP DRAWINGS, PRODUCT DATA, AND INFORMATION SUBMITTALS

A. "No Exceptions Taken": Approved with No Corrections Noted

1. One copy sent to Owner
2. One copy sent to Resident Project Representative
3. One copy retained in Engineer's file
4. Remaining copies returned to Contractor for his use
 - a. One copy to be kept on file at Contractor's office at job site
 - b. Remaining copies for Contractor's office file, suppliers, or subcontractors
5. No corrections or comments noted on the submittal or on a Submittal Response Summary Sheet
6. Issues or miscellaneous comments pertaining to other related items of the Work may be included in transmittal letter
7. Resubmission not required

- B. "Exceptions Noted": Approved with Corrections Noted
 - 1. One copy sent to Owner
 - 2. One copy sent to Resident Project Representative
 - 3. One copy retained in Engineer's file
 - 4. Remaining copies returned to Contractor for his use
 - a. One copy to be kept on file at Contractor's office at job site
 - b. Remaining copies for Contractor's office file, suppliers or subcontractors
 - c. Copies of submittal data in operation and maintenance manuals to be revised according to corrections
 - 5. Comply with corrections or comments as noted on the submittal or on a Submittal Response Summary Sheet
 - 6. Resubmission not required

- C. "Revise And Resubmit": Incorrect information provided or Significant Information Still Required
 - 1. One copy sent to Resident Project Representative
 - 2. One copy retained in Engineer's file
 - 3. All remaining copies returned to Contractor for revision and re-submittal
 - 4. Copy of transmittal letter and/or Submittal Response Summary Sheet sent to Owner. A "No Exceptions Taken" or "Exceptions Noted" submittal it will be forwarded to Owner after review per above disposition requirements
 - 5. Submittal is either: incorrectly annotated; specific comments need to be addressed and incorporated in re-submittal; and/or additional information may be required as noted on the submittal or on a Submittal Response Summary Sheet
 - 6. Submitted information may not include or address specific item required per the specification as identified on the submittal or on a Submittal Response Summary Sheet
 - 7. Specific information related to identified item may be required for final approval of submittal
 - 8. Resubmission of entire submittal may be required or resubmission of specific item may be required as identified on the submittal or on a Submittal Response Summary Sheet

- D. "Rejected": Returned for Correction
 - 1. One copy sent to Resident Project Representative
 - 2. One copy retained in Engineer's file
 - 3. All remaining copies returned to Contractor
 - 4. Copy of transmittal letter and/or Submittal Response sent to Owner
 - 5. Contractor required to resubmit complete submittal package in accordance with Contract Documents
 - 6. Submittal does not comply with provisions of Contract Documents as noted on the submittal or on a Submittal Response Summary Sheet
 - 7. Resubmission required

- E. "Receipt Acknowledged": For Reference Purposes Only, or for Record Copy:
 - 1. Applicable to manufacturer or Contractor provided calculations and other miscellaneous documentation no subject to Engineer review and approval
 - 2. One copy sent to Resident Project Representative

3. One copy retained in Engineer's file
4. One copy returned to Contractor
5. Copy of transmittal letter sent to Owner
6. Remaining submittal copies destroyed
7. Detailed review and comment by Engineer not required
8. Resubmission not required

1.7 DISPOSITION OF SAMPLES

- A. "No Exceptions Taken": Approved with No Corrections Noted
 1. One sample sent to Owner
 2. One sample sent to Resident Project Representative
 3. One sample retained in Engineer's file
 4. Acknowledgement: Copy of transmittal letter sent to Contractor
 5. Resubmission not required
- B. "Exceptions Noted": Approved with Corrections Noted
 1. One sample sent to Owner
 2. One sample sent to Resident Project Representative
 3. One sample retained in Engineer's file
 4. Acknowledgement: Copy of transmittal letter sent to Contractor
 5. Work performed or products furnished to comply with exceptions noted in acknowledgement
 6. Resubmission not required
- C. "Rejected": Returned for Correction
 1. One sample retained in Engineer's file
 2. Remaining samples sent to Contractor for resubmittal and compliance with the Contract Documents as noted in transmittal letter
 3. Copy of transmittal letter sent to Owner
 4. Resubmission required

1.8 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in submittals required by Engineer and resubmit until approved
- B. Transmit each resubmission under new letter of transmittal. Use number of original submittal followed directly by a capital letter corresponding to the number of times a submittal is resubmitted (i.e., #001, #001A, #001B, etc.)
- C. Shop Drawings and Product Data
 1. Revise initial drawings or data and resubmit as specified for the initial submittal
 2. Indicate any changes which have been made other than those requested by Engineer
- D. Samples: Submit new samples as required for initial submittal
- E. Reimbursement of Resubmission Review Costs:

1. Review of first submittal and one resubmittal will be performed by Engineer at no cost to Contractor
2. Cost for review of subsequent resubmissions will be directly paid by Contractor
3. Engineer will document work-hours required for review and costs for Engineer review will be deducted from payments due Contractor as Change Order deducts
4. Charges for review of resubmissions will include Engineer at maximum rate of \$150 per hour and administrative staff at maximum rate of \$75 per hour

1.9 PROJECT RECORD SUBMITTALS

- A. After completion of the Work and prior to final payment, Contractor shall furnish record documents and final approved shop drawings and samples (as-constructed shop drawings and samples) in the number of copies specified herein.
 1. Contractor shall provide additional copies of final approved shop drawings and samples for insertion in Equipment instruction and O&M manuals as required
 2. All copies shall be clearly marked "Project Record"

1.10 ENGINEER'S DUTIES

- A. Review submittals with reasonable promptness and in accordance with approved submission schedule provided that each submittal has been called for by the Contract Documents and is stamped by Contractor as indicated above
 1. No extensions of time are allowed due to Engineer's delay in reviewing submittals unless all the following criteria are met:
 - a. Contractor has notified Engineer in writing that timely review of particular submittal in question is critical to the progress of the Work and Contractor has identified the requested submittal return date.
 - b. Engineer has failed to return submittal within 21 days of receipt of the submittal or receipt of said notice, whichever is later
 - c. Contractor demonstrates that delay in progress of the Work was directly attributable to Engineer's failure to return submittal within 21 days
 2. No extensions of time are allowed due to delays in progress of the Work caused by rejection and subsequent resubmission of data, including multiple resubmissions
 3. Engineer's review shall not extend to means, methods, techniques, sequences, construction operations, and safety precautions and programs incidental thereto. No information regarding these items will be reviewed whether or not included in submittals
 4. In the event that Engineer will require more than 21 calendar days to perform review, Engineer shall so notify Contractor
- B. Review drawings and data submitted only for general conformity with Contract Documents
 1. Engineer's review of drawings and data returned marked No Exceptions Taken or Exceptions Noted does not indicate a thorough review of all dimensions, quantities, and details of material, equipment device or items shown
 2. Engineer's review does not relieve Contractor of responsibility for errors, omissions or deviations nor responsibility for compliance with the Contract Documents

- C. Assume that no shop drawing or related submittal comprises a deviation to the Contract Documents unless Contractor advises Engineer otherwise in writing which is acknowledged by Engineer in writing:
 - 1. Consider and review only those deviations from the Contract Documents clearly identified as such on the submittal and tabulated on the Contractor's transmittal sheet.
- D. Review informational submittals for indications of Work or Material deficiencies and will respond to Contractor regarding such deficiencies
- E. Return submittals to Contractor for distribution or for resubmission
- F. Transmit, unreviewed, to Contractor all copies of submittals received directly from suppliers, manufacturers and subcontractors
- G. Transmit, unreviewed, to Contractor all copies of submittals not called for by the Contract Documents or which have not been approved by Contractor
- H. Engineer will not review uncalled-for shop drawings or product data except by special arrangement
- I. City will affix stamp and indicate approval for submittal or resubmission requirements.

1.11 SUBMITTAL SCHEDULE

- A. Unless indicated otherwise, provide all submittals required by individual sections of the Contract Documents to establish compliance with the specified requirements.
- B. Contractor to produce schedule of submittals for Engineer review

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01380

CONSTRUCTION PHOTOGRAPHS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Construction record photographs prior to commencing and during the course of the Work

1.2 RELATED SECTIONS

- A. Section 01010 – Summary of Work
- B. Section 01700 – Contract Closeout: Project Record Documents

1.3 PHOTOGRAPHY REQUIRED

- A. Take photographs of the existing conditions prior to commencing work to document existing conditions
- B. Take photographs on the date on which each scheduled Application for Payment is due. Intent is for digital photos to be kept as project record
- C. CD of Digital photos become the property of Owner

1.4 COSTS OF PHOTOGRAPHY

- A. Pay all costs for specified photography and printing
 - 1. Parties requiring additional photography or prints will pay for them directly

1.5 DELIVERY OF PHOTOS

- A. Submit digital photos to the Engineer with monthly pay requests or within 20 days of photo date

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 TECHNIQUE

- A. Factual Presentation
- B. Correct Exposure and Focus
 - 1. High resolution and sharpness
 - 2. Maximum depth-of-field

3. Minimum distortion

3.2 VIEWS REQUIRED

- A. Photograph from locations to adequately illustrate the condition of construction and the state of the Project
 - 1. Photographic survey of the existing site
 - a. Show all areas to be modified
 - b. Show all areas in which Contractor will conduct operations or store equipment
 - 2. Weekly photographs
 - a. Minimum of eight (8) views weekly until final acceptance
 - b. Views as designated by the Engineer or Owner

3.3 PHOTOGRAPH REQUIREMENTS FOR PROGRESS SITE PHOTOGRAPHS

- A. Responsibility
 - 1. Site photographs for Owner record of construction progress shall be the responsibility of the Contractor
 - 2. Contractor shall be responsible for site photographs including the existing and progress of Work
- B. Photographs shall include, but not limited to, the following:
 - 1. Existing site: Photographs of existing site conditions before site work commences
 - a. Number of views shall be sufficient to cover the existing site conditions
 - 2. Progress of work: Shall include photographs from clearing throughout construction
 - a. Number of views shall be sufficient to cover progress in Work and shall include a minimum of eight (8) different views
 - 3. After completion of Work: Shall be sufficient to show completed and finished Work
- C. Digital images
 - 1. Provide images in uncompressed JPEG format
 - 2. Minimum resolution: 1500 x 2200
 - 3. Submitted digital images shall not be cropped
- D. Identify each digital image file
 - 1. Name of project
 - 2. Orientation and description of view
 - 3. Date and time of exposure

3.4 ADDITIONAL PHOTOGRAPHS

- A. Contractor shall provide additional photographs upon the request of the Engineer
- B. Additional photographs may include, but not limited to, the following:
 - 1. Publicity photographs
 - 2. Special events at Project site
 - 3. Major phase of Work
 - 4. Substantial Completion
 - 5. Follow-up investigations for on-site events such as construction damage or losses

6. Additional record photographs during final acceptance

3.5 PROJECT RECORD

- A. Submit CD of all photos, grouped by date
- B. Engineer will distribute, after review
 - 1. One copy of each view to Owner
 - 2. One copy of each view to Engineer's file
 - 3. One copy of each view returned to Contractor for inclusion in Project Record Document

END OF SECTION

SECTION 01400
QUALITY CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance/Control of installation
- B. Independent testing firm services
- C. Contractor's responsibilities
- D. Field testing

1.2 RELATED SECTIONS

- A. Section 01010 - Summary of Work
- B. Section 01340 - Shop Drawings, Product Data, and Samples
- C. Section 01600 - Material and Equipment

1.3 REFERENCES

- A. Conform to reference standard by date of issue current on date of Contract Documents
- B. Obtain copies of standards when required by Contract Documents
- C. Where specified reference standards conflict with Contract Documents, request clarification for Engineer before proceeding
- D. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document

1.4 SUBMITTALS

- A. Submit under provisions of Section 01340
- B. Provide copies of written reports for materials or systems as scheduled at the end of this section. Reference each report by respective section number.
- C. Test Reports: Provide written reports of each test and inspection to Engineer. Each report shall include:
 - 1. Date issued
 - 2. Project title and number
 - 3. Testing laboratory name, address and telephone number

4. Name and signature of laboratory inspector
5. Date and time of sampling or inspection
6. Record of temperature and weather conditions
7. Date of test
8. Identification of product and specification section
9. Location of sample or test in the Project
10. Type of inspection or test
11. Results of tests and compliance with Contract Documents
12. Interpretation of test results when requested by Engineer

- D. Shop Test Reports: Provide reports detailing results of tests and certification from manufacturer to verify compliance with specifications
- E. Field Test Reports: Provide reports detailing results of the tests. Indicate compliance or non-compliance with Contract Documents. Identify corrective action for materials which fails to pass field tests.

1.5 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality
- B. Comply fully with Manufacturer's instructions, including each step in sequence
- C. Should Manufacturer's instructions conflict with Contract Documents, request clarification from Engineer before proceeding
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship
- E. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement
- F. Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities: Conditions of the Contract
- G. Certification of products: Respective sections of specifications

1.6 QUALIFICATION OF INDEPENDENT TESTING FIRM

- A. Authorized to operate in the State in which the Project is located

1.7 INDEPENDENT TESTING FIRM DUTIES

- A. Owner will employ and pay for the services of an independent testing firm to perform specified testing of materials where the technical specifications specifically obligate the Owner to provide the services

1. Contractor shall cooperate with the firm to facilitate the execution of its required services
 2. Employment of the firm shall in no way relieve Contractor's obligations to perform the Work of the Contract
 3. Contractor shall employ and pay for the services of an independent testing firm to perform all specified services and testing not specifically identified in the technical specifications to be provided by Owner related to the design of coating systems to Engineer's review of proposed materials before, during and after incorporation in the Work and to retest materials which fail original tests
- B. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Engineer. Payment for retesting will be charged to the Contractor by deducting inspection or testing charges from the Contract Sum/Price
- C. Cooperate with Engineer and Contractor; provide qualified personnel after due notice
- D. Perform specified inspections, sampling, and testing of materials and methods of construction
1. Comply with specified standards
 2. Ascertain compliance of materials with requirements of Contract Documents
- E. Promptly notify Engineer and Contractor of observed irregularities or deficiencies of work or products
- 1.8 LIMITATIONS OF AUTHORITY OF INDEPENDENT TESTING FIRM
- A. Laboratory Is Not Authorized To
1. Release, revoke, alter or enlarge on requirements of Contract Documents
 2. Approve or accept any portion of the Work
 3. Owner employed laboratory shall not perform any duties of the Contractor
- 1.9 CONTRACTOR'S RESPONSIBILITIES
- A. Cooperate with testing personnel and provide access to Work
- B. Furnish Incidental Labor and Facilities
1. To provide access to Work to be tested
 2. To obtain and handle samples at the project site or at the source of the product to be tested
 3. To facilitate inspections and tests
 4. For storage of test samples
- C. Cooperate with independent firm; furnish equipment, tools, storage and assistance as requested
1. Notify City and independent firm 48 hours prior to expected time for operations requiring services to allow for scheduling of tests and assignment of personnel

- 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use

1.10 FIELD TESTING

- A. Owner shall pay all costs associated with standard field testing of materials as detailed in these specifications. Owner's independent firm will take material samples as needed and report results. Contractor shall pay for all retesting due to tests indicating failed conditions.
- B. Provide all required materials, labor, equipment, water, and power required for testing
- C. Perform all tests in presence of the City
- D. Repair all materials and equipment which fail during testing with no additional compensation
- E. Field testing shall be provided for, but shall not be limited to, the following:

Specification Section	Type of System	Owner (O) or Contractor (C) Provided
09985	Corrosion Barrier Liner	O

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities: Electricity, lighting, heating, ventilating, water and sanitary facilities
- B. Temporary Controls: Bypass pumping of all wastewater flows, barriers, enclosures and fencing, protection of the Work, and water
- C. Construction Staging Facilities: parking areas, progress cleaning, project signage, storage and temporary buildings.

1.2 GENERAL REQUIREMENTS

- A. Furnish, install and maintain all temporary utilities to assure continuous service required for the Work, except as allowed herein, and remove on completion of Work. Modify and extend systems, as work progress requires.
- B. Furnish, install and maintain all construction aids required for the Work, except as allowed herein, and remove on completion of the Work
- C. Furnish, install and maintain fences and barriers as required for protection of the public, property and the Work
- D. Contractor may use existing roadways for access and parking only where designated by Owner.
- E. Field office is optional
- F. Products may be new or used, but must be serviceable, adequate for the intended purpose, and must not violate the requirements of any applicable codes or standards
- G. Clean and repair damage caused by temporary installations or use of temporary facilities. Grade and seed all disturbed areas not detailed on the drawings for other treatment
- H. Provide contractor information sign posted at accessible location with contractor name and emergency phone contact information.

1.3 QUALITY ASSURANCE

- A. Requirements of Regulatory Agencies

1. Comply with applicable Federal and State rules and regulations, local codes and ordinances
2. Comply with utility company requirements

1.4 TEMPORARY BYPASS PUMPING

- A. Refer to contract documents for bypass pumping requirements
- B. The Contractor will not be compensated for increased influent flows due to a rain event. Rain events can produce up to 20 MGD to the WWTP. At flows higher than 20 MGD, the WWTP will divert flows.
- C. Any failure in pumping system will be repaired at the expense of the Contractor

1.5 TEMPORARY ELECTRICITY

- A. Contractor allowed to use power outlets in existing structures for construction operations. Coordinate use with Owner. Provide flexible power cords as required.
- B. Contractor shall pay all costs associated with power service to the field offices.
- C. Arrange for and pay all costs associated with temporary power service either from the local utility or a portable engine-generator
- D. Provide main service disconnect and over current protection at convenient location.
- E. Pay all costs for installation and removal of temporary electrical service.

1.6 TEMPORARY LIGHTING

- A. Provide and maintain lighting to exterior staging and storage areas after dark for security purposes as required
- B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required
- C. Maintain lighting and provide routine repairs

1.7 TEMPORARY WATER SERVICE

- A. Potable water does exist on the site. Provide and pay for all temporary potable water piping, hoses, pumps and back flow preventions, etc. needed to complete the work.
- B. Provide all drinking water required by construction personnel and Owner's representatives. Pay all costs for temporary water service.

1.8 TEMPORARY SANITARY FACILITIES

- A. Provide sanitary facilities at staging area

1. As required by laws and regulations
2. Not less than 1 facility

B. Service, clean and maintain facilities and enclosures

1.9 CONSTRUCTION AIDS

- A. Provide construction aids and equipment required by personnel and to facilitate the execution of the Work: scaffolds staging, ladders, stairs, ramps, runways, platforms, railways, hoists, cranes, chutes and other such facilities and equipment
- B. Relocate construction aids as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements by Owner
- C. Completely remove temporary materials, equipment, and services at completion of the Project
- D. Clean, repair damage caused by installation or by use of temporary facilities
 1. Remove foundations and underground installations for construction aids
 2. Grade the areas for the site affected by temporary installations to required elevations and slopes and clean the area and seed unless specified as shown on the drawings to be different

1.10 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition
- B. Provide suitable barriers as required for public protection of Owner's employees
- C. Protect non-owned vehicular traffic, stored materials, site and structures from damage
- D. Install facilities of a neat and reasonable uniform appearance, structurally adequate for the required purposes
- E. Relocate barriers as required by progress of construction
- F. Completely remove barriers, including foundations, when construction has progressed to the point that they are no longer needed
- G. Clean and repair damage caused by installation, fill and grade the areas of the site to required elevations and slopes and clean the area

1.11 TEMPORARY FENCING

- A. Construction: Commercial grade chain link fence

- B. Provide additional fencing to protect stored materials & products or to insure public safety and the safety of Owner's employees
- C. Provide Owner two (2) keys to lock(s)

1.12 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification Sections
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage
- C. Prohibit construction traffic from entering future landscaped areas after grades have been established and topsoil restored

1.13 SECURITY

- A. Provide security and facilities to protect Work from unauthorized entry, vandalism, or theft
- B. Coordinate with Owner's security program

1.14 ACCESS ROADS

- A. Maintain existing roads accessing public thoroughfares to construction staging area.
- B. Extend and relocate as Work progress requires. Provide detours necessary for unimpeded traffic flow
- C. Provide and maintain access to existing fire hydrants free of obstructions
- D. Provide means of removing mud from vehicle wheels before entering public paved streets as required by SWMP and Owner

1.15 PARKING

- A. Paved and unpaved surfaces adjacent to the staging area can accommodate construction personnel until the designated building staging area has been established
- B. If staging area space is not adequate, provide additional off-site parking at location designated by Owner

1.16 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition

- B. Remove waste materials, debris, and rubbish from site periodically and dispose off-site in accordance with local and state regulations. Due to high winds experienced at the site, waste removal must be done immediately after it is generated

1.17 FIELD OFFICES AND SHEDS

- A. Field offices and sheds are not required, but shall be provided by the Contractor as needed to complete the project according to the Contract Documents.
- B. Weekly construction meetings can be held in the Administration building at the WWTP
- C. Recommended field office and shed construction
 1. Structurally sound, weather-tight, with floors raised above ground
 2. Temperature transmission resistance: Compatible with occupancy and storage requirements
 3. At Contractor's option, portable or mobile buildings modified for office use may be used
 4. Fill and grade sites for temporary structures to provide surface drainage
 5. Construct temporary field offices and storage sheds on proper foundations, provide connections for utility services
 - a. Secure portable or mobile buildings for winds to 110 mph
 - b. Provide steps and landings at entrance door
 6. Provide periodic maintenance and cleaning for temporary structures, furnishings, equipment and services
 7. Remove temporary field offices, contents, and service at a time they are no longer needed
 8. Remove storage sheds when they are no longer needed
 9. Remove foundations and debris; grade the site to required elevations and clean the areas
- D. Existing facilities at the site shall not be used for field offices or storage
- E. Fire protection equipment. Contractor shall provide and maintain fire extinguishers and active fire hydrants where indicated, maintain fire lanes to hydrants, and provide other equipment as necessary for proper fire protection during construction. Such equipment shall be for fire protection only.

1.18 REMOVAL OF TEMPORARY UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Final Application for Payment
- B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated
- C. Clean and repair damage caused by installation or use of temporary work

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01550

CUTTING AND PATCHING

PART 1 GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for cutting and patching
- B. Work included in this Section
 - 1. Cutting and patching not required to be performed as part of the work of other sections
 - 2. Cutting and patching existing work altered or disturbed to accommodate new construction
 - 3. Cutting and patching existing work damaged or defaced during new construction as required to restore to existing or better condition at the time of award of Contract
 - 4. Cutting and patching required to
 - a. Install or correct non-coordinated work
 - b. Remove and replace defective and non-conforming work
 - c. Remove samples of installed work for testing
- C. Contractor shall be responsible for all cutting, and patching, including attendant excavation and backfill, required to complete the Work or to:
 - 1. Uncover portions of the Work to provide for installation of ill-timed work
 - 2. Remove and replace defective work
 - 3. Remove and replace work not conforming to requirements of Contract Documents
 - 4. Remove samples of installed work as specified for testing

1.2 DEFINITIONS

- A. Cutting includes cutting into nominally completed or existing construction including, but not limited to, the following, in order to provide for the coordination of Work, installation of Work, uncovering of other facilities and structures for access or inspection, or obtaining samples for testing or other similar purposes
 - 1. Concrete
 - 2. Steel
 - 3. Wood
 - 4. Miscellaneous metal structures
 - 5. Piping and pavement
- B. Patching includes the repair required to restore cut materials to original or better condition
- C. Submittals

1. Submit a proposal describing procedures in advance of the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - a. Extent: For each occurrence, describe the cutting and patching required, show how it will be performed and indicate the reason(s) it cannot be avoided
 - b. In-place construction changes: Describe anticipated results and include changes to structural elements and operating components in addition to changes in building's appearance and other significant visual elements
 - c. Products: List products to be used and firms or entities that will perform the Work
 - d. Dates: Indicate when cutting and patching will be performed
 - e. Utility services and mechanical and electrical systems:
 - i) List services and systems that cutting and patching procedures will disturb or affect
 - ii) List services and systems that will be relocated and that will be temporarily out of service
 - iii) Indicate how long services and systems will be disrupted
 - f. Structural elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure
 - g. Approval by Engineer:
 - i) Obtain approval of cutting and patching proposal before cutting and patching
 - ii) Approval does not waive right to later require removal and replacement of unsatisfactory work

D. Quality Assurance

1. Structural work requirements: Do not cut and patch structural elements in a manner that would reduce their load-carrying or load-deflection ratio
 - a. Obtain Engineer approval of cutting and patching proposal before cutting and patching the following structural elements:
 - i) Bearing and retaining walls, foundation construction, and structural concrete and structural steel
 - ii) Lintels
 - iii) Timber and primary wood framing
 - iv) Structural decking and stair systems
 - v) Equipment supports, piping, ductwork, vessels, and equipment
 - vi) Miscellaneous structural metals
2. Operational limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance or decreased operational life or safety
 - a. Obtain Engineer approval of cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
 - i) Primary operational systems and equipment
 - ii) Air, smoke, water, moisture, or vapor barriers
 - iii) Membrane and flashings
 - iv) Fire protection, control, communication, or electrical wiring systems
 - v) Noise and vibration control elements and systems

3. Visual requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Engineer's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching
 - a. Retain the original installer or fabricator throughout construction phases to cut and patch the following categories of exposed work, if possible, or if it is not possible to engage the original installer or fabricator, engage another recognized experienced and specialized firm:
 - i) Concrete finishes
 - ii) Pre-formed metal panels
 - iii) Painting
 - iv) Wall covering
 - v) HVAC enclosures, cabinets, or covers
 - vi) Firestopping

E. Warranty

1. For existing warranties, Contractor shall replace, patch, and repair material and/or surfaces cut and/or damaged by methods and with materials in order to not void any warranties required or existing

PART 2 PRODUCTS

A. Materials

1. Use materials identical to existing materials unless not available
 - a. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials matching existing adjacent surfaces to the fullest extent possible with regard to visual effect
 - b. Before proceeding, Contractor shall obtain approval of the Engineer
 - c. Use materials whose installed performance will equal or surpass that of existing materials

PART 3 EXECUTION

3.1 INSPECTION

- A. Inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered
- B. After uncovering work, inspect the conditions affecting the installation of products, or performance of the work
- C. Report unsatisfactory or questionable conditions to the Engineer in writing; do not proceed with the work until the Engineer has provided further instructions

3.2 PREPARATION

- A. Provide devices and methods to protect other portions of the Project from damage

- B. Provide temporary support of Work to be cut where required
- C. Provide protection from the elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water
 - 1. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations
- D. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas
- E. Take all precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them
- F. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes
- G. Restore work which has been cut or removed; install new products to provide completed Work in accordance with requirements of Contract Documents

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay
- B. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition
 - 1. Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review proposed procedures with the original installer; comply with the original installer's recommendations
 - a. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use
 - b. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces
 - c. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill
 - d. By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated or abandoned. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting
 - e. Provide fire-safe seals to maintain fire rating at all penetrations
 - 2. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances

- a. Where feasible, inspect and test patched areas to demonstrate integrity of the installation
 - b. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing
 - c. Where removal of walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary to achieve uniform color and appearance
 - d. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken containing the patch, after the patched area has received primer and second coat
 - e. Patch, repair or re-hang existing ceilings as necessary to provide an even plane surface of uniform appearance
 - f. Replace concrete walkways to nearest construction joint
3. Plaster Installation: Comply with manufacturer's instructions and install thickness and coats as indicated

3.4 CLEANING

- A. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition

END OF SECTION

SECTION 01600

MATERIALS AND EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Administrative and procedural requirements governing Contractor's selection of products for use in Project and for Work including, but not limited to, the following
 - 1. Definitions
 - 2. General Requirements for Materials and Equipment
 - 3. Environmental Conditions
 - 4. Submittals
 - 5. Quality Assurance and Qualifications
 - 6. System Responsibility
 - 7. Transportation and Shipment
 - 8. Delivery, Storage and Handling
 - 9. Maintenance Materials
 - 10. Warranty
 - 11. Product Selection
 - 12. Preparation and Installation
 - 13. Examination, Installation, Adjusting and Cleaning

1.2 RELATED SECTIONS

- A. Section 01010 – Summary of Work
- B. Section 01340 – Shop Drawings, Product Data, and Samples
- C. Section 01400 – Quality Control
- D. Section 01730 – Operation and Maintenance Data

1.3 REFERENCES

- A. American National Standards Institute – ANSI
 - 1. B1.1-89-Unified Screw Threads
 - 2. B18.2.1-81-Square and Hex Bolts and Screws, Including Askew Head Bolts, Hex Cap Screws, and Log Screws
 - 3. B18.2.2-87-Square and Hex Nuts
- B. Hazardous (Classified) Locations: Conform to requirements of NFPA70 Articles 500 through 504

1.4 DEFINITIONS

- A. Definitions used in this specification section are not intended to change the meaning of other terms used in the Contract Documents, such as “specialties,” “systems,”

“structure,” “finished,” “accessories,” and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry

- B. Products: Items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term “product” includes the terms “material”, “equipment”, “system”, and terms of similar intent
- C. Named products: Items identified by manufacturer’s product name, including make or model number or other designation, shown or listed in the manufacturer’s published product literature that is current as of date of Contract Documents
- D. Foreign products: Distinguished from “domestic products” are items substantially manufactured (50 percent or more of value) outside of the United States and its possessions. Products produced or supplied by entities substantially owned (more than 50 percent) by persons who are not citizens or, nor living within, the United States and its possessions are also considered to be foreign products
- E. Materials: Products substantially shaped, cut, worked, mixed, finished, refined, or otherwise fabricated, processed, or installed to form a part of the Work
- F. Equipment: Product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping
- G. Special tools, instruments, devices, or accessories: Any tools, instruments, devices or accessories required for repair, adjustment or maintenance of equipment which are designed especially for the equipment in question or which are not normally kept in stock by local tool suppliers
- H. Responsible manufacturer: Unless otherwise specified, responsible manufacturer shall be manufacturer of driven equipment. Agents, representatives or other entities who are not a direct component of manufacturing corporation will not be acceptable as a substitute for manufacturer's corporation in meeting this requirement

1.5 GENERAL REQUIREMENTS

- A. The section applies to all equipment provided under this contract
- B. The requirements of detailed specifications take precedence over this section in the event of an apparent conflict
- C. Provide all new Equipment and Materials, except as specified or required by testing
- D. Equipment and Materials removed from existing structure: Do not use in completed Work except where specifically indicated or specified
- E. Contractor to coordinate equipment with other parts of the Work, including verification or compatibility of structures, piping, wiring and equipment components
- F. Do not use any material or equipment for any purpose other than that for which is designed or specified

1.6 ENVIRONMENTAL CONDITIONS

- A. Project is a municipal wastewater treatment facility where dilute concentrations of corrosive or explosive chemicals and gasses may be expected to be present
- B. Various corrosive or explosive mixtures of liquids including; solvents, grease, gasoline and other hazardous materials may be present
- C. Minimum Design Criteria:
 - 1. Altitude: 4,520 feet above mean sea level
 - 2. Outdoor air temperature:
 - a. Summer Time (Low, High): 65,99 °F
 - b. Winter Time (Low, High): 17,47 °F
 - 3. Relative Humidity:
 - a. Summer time (Low, High): 14,47 percent
 - b. Winter time (Low, High): 53,88 percent

1.7 SUBMITTALS

- A. Provide submittals in accordance with Section 01340
- B. Submittals for products are specified in Section 01340 and in Divisions 2 through 9
- C. All submittals for each component of multi-component systems shall be compiled and submitted through the Contractor to the Engineer by the manufacturer having System Responsibility
- D. Provide a copy of this specification section with all addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate the requested deviations from the specification requirements.
- E. Provide Certificate of System Responsibility

1.8 QUALITY ASSURANCE AND QUALIFICATIONS

- A. Source limitations and interchangeability: To the fullest extent possible, provide products of the same kind from a single source
- B. Compatibility of options: When Contractor is given the option of selection between two or more products for use on Project, product selected shall be compatible with produces previously selected, even if previously selected products were also options
- C. Installers Qualifications:
 - 1. Equipment and material: Installed and placed in service by or under guidance of qualified personnel having knowledge and experience necessary for proper results
 - 2. Where Contractor's or subcontractor's employees are not properly qualified, use personnel such as factory authorized field representative of equipment supplier

1.9 SYSTEM RESPONSIBILITY

- A. Nothing in this provision shall be construed as relieving the Contractor of overall responsibility for the Work of this Contract and the performance of all systems as required under General Conditions

1.10 TRANSPORTATION AND SHIPMENT

- A. Shipment preparation: Contractor shall require manufacturers and suppliers to prepare Equipment and Materials for shipment in a manner to facilitate unloading and handling, and to protect against damage or unnecessary exposure in transit and storage, for contractor supplied equipment. Provisions for protection shall include the following:
 - 1. Crates or other suitable packaging materials
- B. Marking
 - 1. Each item of Material shall be tagged or marked as identified in the delivery schedule or on Submittals
 - 2. Complete packing lists and bills of material shall be included with each shipment.
 - 3. Each piece of every item need not be marked separately, provided that all pieces of each item are packed or bundled together and the packages or bundles are properly tagged or marked

1.11 DELIVERY, STORAGE, AND HANDLING

- A. Delivery
 - 1. Arrange deliveries of Equipment and Materials in accordance with construction schedules, in ample time to facilitate inspection prior to installation and to avoid delay of Work. Coordinate to avoid conflict with work and conditions at the site
 - 2. Deliver products in undamaged condition, in manufacturer's sealed or covered, weather tight, original container or packaging, with identifying labels intact and legible, all in accordance with manufacturer's instructions and recommendations using means and methods that will prevent damage, deterioration, and loss, including theft
 - 3. Control delivery schedules to minimize long-term storage at the Site and to prevent overcrowding of construction spaces. Coordinate delivery and installation to ensure minimum holding or storage times for items known or recognized to be flammable hazardous, easily damaged, or sensitive to deterioration, theft, and other sources of loss
 - 4. Products delivered to Work site shall be in undamaged condition, in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing
 - 5. Mark deliveries of component parts of equipment to identify the equipment, to permit easy accumulation of parts, and to facilitate inspection and measurement of quantity or counting of units
 - 6. Immediately on delivery, inspect shipment to ensure:
 - a. Product complies with requirements of Contract Documents and reviewed Submittals
 - b. Quantities are correct
 - c. Containers and packages are intact and labels are legible
 - d. Equipment and Materials are properly protected and undamaged

7. Include complete packing lists and bills of material with each shipment including Equipment Identification number assigned by Drawings and Specifications of this Contract
8. Deliver anchor bolts together with templates sufficiently early to permit setting when structural concrete is placed

B. Storage

1. Minimal interior space is available from the Owner for storage on a case-by-case basis and must be approved by Owner prior to use.
 - a. Provide adequate facilities for storage in accordance with Section 01500
 - b. Provide off-site storage and protection when site does not permit on-site storage or protection and if acceptable to Owner in accordance with the General Conditions
2. Submit and maintain insurance for Equipment and Materials at off-site storage
3. Requests for payment of stored Equipment and Materials by the Contractor may be rejected if storage facilities do not conform to these specifications or manufacturer's written recommendations.
4. Store Equipment and Materials immediately on delivery, and protect until completion of the Work. Store in accordance with manufacturer's instructions with seals and labels intact and legible
5. Store Equipment and Materials in a manner that will not endanger the supporting construction
6. Store Equipment and Materials that are subject to damage by elements in weathertight enclosures
7. Maintain temperature and humidity within ranges required by manufacturer
8. Exterior storage:
 - a. Provide substantial platforms, blocking, or skids to support fabricated products aboveground and to prevent soiling or staining. Cover products subject to discoloration or deterioration from exposure to elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation
 - b. Store loose granular materials on solid surface areas to prevent mixing with foreign matter
 - c. Provide surface drainage to prevent flow or ponding of rainwater
9. Equipment and Materials shall not show any pitting, rust, decay or other deleterious effects of storage prior to final acceptance of Work
10. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to ensure products are maintained under specified conditions and free from damage or deterioration
 - a. Prepare stored materials lists with schedules of maintenance activities and frequency of activities required to maintain the quality of the equipment and the warranty from the manufacturer
 - b. List dates and activities of storage requirements such as rotating moveable parts
 - c. Update lists weekly and include in progress meeting agenda
11. Protect painted surfaces against impact, abrasion, discoloration or other damage:
 - a. Repaint any damaged areas with manufacturer provided touch-up paint
12. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation
13. Installed products stored prior to start-up:

- a. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations, dust, dirt, water and paint. Remove when no longer needed
- C. Handling
1. Provide equipment and personnel necessary to unload and handle Equipment and Materials, by methods to prevent damage or soiling to Equipment and Materials or packaging
 2. Handle by methods to prevent bending or overstressing. Where lifting points are designated, lift components only at those points
 3. Provide additional protection to surrounding surfaces as necessary to prevent damage
- D. Maintenance of storage
1. Inspect stored Equipment and Materials on a scheduled basis
 2. Verify that storage facilities comply with manufacturer's product storage requirements, including environmental conditions continually maintained
 3. Verify that surfaces of products exposed to elements are not adversely affected; that any weathering of finishes is acceptable under requirements of Contract Documents
- E. Protection after installation
1. Provide substantial coverings as necessary to protect installed Equipment and Materials from damage from subsequent construction operations.
 2. Remove when no longer needed or as specified

1.12 WARRANTY

- A. Warranty all Equipment and Materials against faulty or inadequate design, improper assembly or erection, defective workmanship or materials, leakage, breakage, delamination or other failure for a period of two (2) years from the date of Substantial Completion
- B. Unless otherwise specified, for all Equipment and Materials provide manufacturer's warranty for a period of two (2) years from the date of Substantial Completion
- C. Warranties that begin at the time of shipment, delivery or within a limited time period from date of shipment or delivery or any other qualification that does not conform to the definition of Substantial Completion are not acceptable
- D. Cost of all manufacturer warranties are considered as part of the Bid price

PART 2 PRODUCTS

2.1 MATERIALS

- A. Suitable for the intended service conditions

2.2 EQUIPMENT AND PRODUCT SELECTION

- A. General product requirements: Provide products that comply with the Contract Document, are undamaged, and unless otherwise indicated or specified, are new at time of installation
 - 1. Standard products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects
 - 2. Continued availability: Where, because of the nature of its application, the Owner is likely to need additional amounts of a product at a later date, either for maintenance and repair or replacement, provide standard, domestically produced product for which the manufacturer has published assurances that the product and its parts shall be available to the Owner at a later date. A reasonable doubt regarding such future availability will be grounds for rejection of products other than named products
 - 3. As specified in each applicable Specification Sections, Drawings, codes, standards, and regulatory agencies
 - 4. Do not use products for any purpose other than that for which designed
 - 5. Provide products of the same kind from a single source to the fullest extent possible

PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect all products for deleterious effects of storage. Do not install any equipment showing such effects. Replace damaged equipment with identical new equipment

3.2 INSTALLATION

- A. Install all materials in accordance with the manufacturer's written recommendations unless otherwise specified in the individual equipment detailed technical specifications
- B. Each product shall be located and aligned with other Work
- C. Manufacturer's Instructions
 - 1. Contractor shall obtain and distribute hard copies and electronic copies of manufacturer's instructions and recommendations to parties involved in installation including a copy to Engineer
 - 2. Maintain one (1) set of complete instructions at job site during installation and until completion
 - 3. Handle, install, connect, clean, conditions, and adjust products in accordance with such instructions and in conformity with specified requirements

3.3 CLEANING

- A. Perform under provisions of Section 01700

- B. Repaint all painted surfaces which are damaged prior to final equipment acceptance to Owner's satisfaction
- C. Clean exposed surfaces and protect as necessary and required to prevent any damage or deterioration at the time Substantial Completion

END OF SECTION

SECTION 01700
CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Substantial completion
- B. Final acceptance
- C. Project record documents
- D. Closeout procedures
- E. Final cleaning
- F. Final adjustment of accounts
- G. Final application for payment

1.2 RELATED SECTIONS

- A. Section 01500 – Construction Facilities and Temporary Controls
- B. Section 01340 – Shop Drawings and Product Data

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Prior to requesting inspection for certification of Substantial Completion, complete the following and list exceptions in the request:
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100% completion for the portion of the Work claimed as Substantially Complete
 - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Price
 - b. If 100% completion cannot be shown, include a list of incomplete items, the value of incomplete Work, and reasons the Work is not complete. All items remaining outstanding on the Contractor's punch list shall include a projected date of completion and/or correction with an explanation of why such item is not presently completed
 - 2. Advise Owner of pending insurance changeover requirements
 - 3. Submit specific warranties, workmanship Bonds, maintenance agreements, final certifications, and similar documents
 - 4. Obtain and submit releases enabling Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases

5. Submit record drawings, instruction books and operating manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information
6. Deliver tools, spare parts, extra stock, and similar items
7. Make final changeover of permanent locks and transmit keys to Owner. Advise Owner's personnel of changeover in security provisions
8. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes

- B. Inspection Procedures: On receipt of a request for inspection, Engineer will either proceed with inspection or advise Contractor of unfilled requirements. Engineer will prepare the Certificate of Substantial Completion following inspection or advise Contractor of construction that must be completed or corrected before the certificate will be issued
1. Engineering will repeat inspection when requested and assured by Contractor that the Work is Substantially Complete.
 2. Results of the completed inspection will form the basis of requirements for final acceptance

1.4 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required
 2. Submit an updated final statement, accounting for final additional changes to the Contract Price
 3. Submit a certified copy of Engineer's final inspection list of items to be completed or corrected, endorsed and dated by Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by Engineer.
 4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the Date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work
 5. Submit consent of surety to final payment
 6. Submit evidence of final, continuing insurance coverage complying with insurance requirements
- B. Reinspection Procedure: Engineer will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to Engineer.
1. Upon completion of reinspection, Engineer will prepare a certificate of final acceptance. If the Work is incomplete, Engineer will advise Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance

2. If necessary, reinspection will be repeated, but at the expense of the Contractor who will reimburse the Owner for these services by the Engineer

1.5 PROJECT RECORD DOCUMENTS

A. General

1. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Engineer's reference during normal working hours
2. Maintain on site, one set of the following record documents; record actual revisions to the Work:
 - a. Contract Drawings
 - b. Specifications
 - c. Addenda
 - d. Change Orders and other Modifications to the Contract
 - e. Reviewed shop drawings, product data, and samples
 - f. Field test reports
 - g. Construction photographs
3. Store Record Documents and samples separate from documents used for construction
 - a. Provide files and racks for storage of documents
 - b. Provide locked cabinet or secure storage space for samples

B. Record Drawings

1. Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings
2. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown
3. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings
4. Give particular attention to concealed elements that would be difficult to measure and record at a later date
 - a. Record information concurrently with construction progress
 - b. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work. Mark each document "Project Record" in neat, large, printed letters
 - c. Mark new information that is important to Owner but was not shown on Contract Drawings or Shop Drawings
 - d. Note related Change Order numbers where applicable
 - e. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set
 - f. Upon completion of the Work, submit record drawings to Engineer for Owner's records
5. Contract Drawings and approved Shop Drawings: Legibly mark each item to record actual construction, including:
 - a. Measured depths of elements of foundation in relation to finish grade or first floor datum

- b. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvement
 - c. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction.
 - d. Field changes of dimensions and details
 - e. Changes made by Addenda or Change Order(s), if any
 - f. Details not on original Contract Drawings
 - g. References to related Shop Drawings and Modifications
- C. Record Specifications: Maintain one complete copy of the Project Manual including addenda. Include with the Project Manual one copy of other written construction documents, such as Change Orders and Modifications issued in printed form during construction
- 1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
 - 2. Give particular attention to substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.
 - 3. Note related record drawing information and product data.
 - 4. Upon completion of the Work, submit record Specifications to Engineer for Owner's records
- D. Record Product Data: Maintain one copy of each product data Submittal. Note related Change Orders and markup of record drawings and specifications.
- 1. Mark record documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the Site and from the manufacturer's installation instructions and recommendations.
 - 2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.
 - 3. Upon completion of markup, submit complete set of record product data to Engineer for Owner's records
 - 4. Legibly mark and record at each Product section description of actual Products installed, including the following:
 - a. Manufacturer's name, product model, number, trade name and supplies
 - b. Product substitutions or alternates utilized
 - c. Changes made by Addenda, field order or change order
- E. Record Samples Submitted: Immediately prior to Substantial Completion, Contractor shall meet with Engineer and Owner's personnel at the Project Site to determine which Samples are to be transmitted to Owner for record purposes. Comply with Owner's instructions regarding packaging, identification, and delivery to Owner.
- F. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and Submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records, and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to Engineer for Owner's records

1. For electrical refer to Section 16900
- G. Maintenance Manuals: Contractor shall organize operation and maintenance data as specified in Section 01730
- H. Submit documents to Engineer with claim for final Application for Payment
- I. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes
- J. Make documents and samples available at all times for inspection by Engineer
- K. Label each document "Project Record" in neat, large printed letters

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. General
 1. Comply with requirements stated in the Owner's General Conditions of the Contract and in these specifications for administrative procedures in closing out the Work
 2. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's inspection
 3. Provide submittals to Engineer/Owner that are required by governing or other authorities
 4. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due

3.2 FINAL CLEANING

- A. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
 1. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion
 - a. Remove labels that are not permanent labels
 - b. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition
 - c. Wipe surfaces of mechanical and electrical Equipment. Remove excess lubrication and other substances
 2. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction

3. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the Site and dispose of lawfully.
 - a. Where extra materials of value remaining after completion of associated Work become Owner's property. Dispose of these materials as directed by Owner

3.3 CONTRACTOR'S CLOSEOUT SUBMITTALS

- A. Evidence of Payment and Release of Liens: As specified in the General Conditions
- B. Final inspection reports by all regulatory agencies demonstrating the agencies' final approval
- C. At Contract close-out, deliver Record Documents to Engineer for the Owner
- D. Accompany Submittal with Transmittal Letter in Duplicate, Containing
 1. Date
 2. Project title and number
 3. Contractor's name and address
 4. Title and number of each Record Document
 5. Signature of Contractor or his authorized representative

3.4 FINAL ADJUSTMENTS OF ACCOUNTS

- A. Submit a Final Statement of Accounting to Engineer
- B. Statement Shall Reflect All Adjustments to the Contract Sum
 1. The original Contract Sum
 2. Additions and deductions resulting from
 - a. Previous Change Orders
 - b. Deductions for uncorrected Work
 - c. Deductions for liquidated damages
 - d. Deductions for reinspection payments
 - e. Other adjustments
 3. Total Contract Sum, as adjusted
 4. Previous payments
 5. Sum remaining due

3.5 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the General Conditions of the Contract

END OF SECTION

SECTION 02220

DEMOLITION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Demolition, removal, salvage and disposal of existing site features, piping, structures and materials where indicated on the drawings and as specified in this section

1.2 RELATED SECTIONS

- A. Section 01500 – Construction Facilities and Temporary Controls

1.3 SUBMITTALS

- A. Permits and Certificates.
 - 1. Permit for transport and disposal of debris

1.4 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Division 1 specifications
- B. Accurately record actual locations of capped utilities and subsurface obstructions

1.5 REGULATORY REQUIREMENTS

- A. Conform to applicable State and local codes for demolition of structures, safety of adjacent structures, dust control, and disposal
- B. Obtain required permits from authorities
- C. Do not close or obstruct roadways, sidewalks, or hydrants without written permission from Owner
- D. Conform to applicable regulatory procedures when discovering hazardous or contaminated materials

1.6 SCHEDULING

- A. Schedule and submit under provisions of Division 1 specifications
- B. Provide detailed descriptions for demolition and removal procedures
- C. Notify Engineer and Owner of any demolition work one (1) week prior to commencement

- D. Coordinate all demolition work with Engineer and Owner

PART 2 PRODUCTS

2.1 SALVAGE OF MATERIALS

- A. Not applicable

PART 3 EXECUTION

3.1 LINER REMOVAL

- A. Remove and dispose of existing PVC liner where indicated on the Drawings

3.2 INSPECTION

- A. Verify areas to be demolished are unoccupied and discontinued in use
- B. Do not commence work until conditions are acceptable to Engineer and Owner
- C. Existing conditions of Equipment and Materials, structures, surfaces, or properties that could be misinterpreted as damaged as a result of demolition work shall be photographed and filed with Owner and Engineer prior to commencement of Work

3.3 PREPARATION

- A. Provide, erect, and maintain temporary barriers, enclosures, security fences and shoring at demolition locations in accordance with Division 1 and other related specifications to protect personnel
- B. Protect existing structures and utilities which are not to be demolished
- C. Mark location of existing utilities

3.4 GENERAL REQUIREMENTS

- A. Sprinkle work with water to minimize dust where applicable. Provide hoses and water connections for this purpose.
- B. Do not use water to extent causing flooding, contaminated runoff, or icing
- C. Remove demolished material from the site
- D. Repair damage to adjacent structures

3.5 DISPOSAL

- A. Do not store or burn waste materials on-site
- B. Transport demolition debris to designated off-site disposal area
- C. If hazardous materials are encountered during demolition work, Contractor shall comply with applicable regulations and laws regarding the removal, handling, and protection of environment and human health

3.6 CLEANUP AND REPAIR

- A. Contractor shall remove tools, equipment and demolished materials from Site upon completion of demolition work
 - 1. Remove protections
 - 2. Interior areas shall be broom clean
 - 3. Inspect and clean all electrical control cabinets, interior and exterior, exposed to dust and debris during the demolition process
- B. Contractor shall repair demolition performed in excess of that required or indicated
 - 1. Surfaces and structures to remain shall be repaired to the existing conditions prior to commencement of demolition work

END OF SECTION

SECTION 03936
FOAM INJECTION

PART 1 GENERAL

1.1 SUMMARY

- A. Provide pressure injection of existing concrete with hydrophilic liquid foam at locations where leaky cracks are present and may cause failure of the corrosion barrier liner.
- B. EPA: Environmental Protection Agency

1.2 SUBMITTALS

- A. Product Data:
 - 1. Foam manufacturer's literature.
- B. Miscellaneous Submittals:
 - 1. Statement detailing Contractor/Subcontractor previous experience and personnel performing comparable Work.
 - 2. Proposed technique and equipment.
- C. Submit in accordance with Section 01340.

1.3 QUALITY ASSURANCE

- A. Contractors/Subcontractor shall have successfully used injection process on min of 5000 linear feet over past 5 years.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Manufacturers:
 - 1. SikaFix by Sika Corp.
 - 2. AV-333 Injectaflex by Avanti.
 - 3. MasterInject 1230 IUG by BASF.
 - 4. Or Engineer Approved Equal
- B. Liquid that when it comes in contact with water, expands and quickly cures to tough, flexible, closed cell, polyurethane foam.
- C. Cured foam shall be low in toxicity and noncorrosive.

PART 3 EXECUTION

3.1 GENERAL

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
- B. Inject cracks with foam in accordance with foam manufacturer's recommendations and as specified herein.

3.2 EQUIPMENT

- A. Equipment used to meter and inject components into crack shall provide positive ratio control of proportions.
- B. Pumps shall be capable of discharging components at pressure up to 2500 pounds per square inch.
- C. Hoses, gauges, and injection ports shall be as recommended by foam manufacturer.

3.3 PREPARATION

- A. Clean surfaces of cracks of dirt, dust, grease, oil, efflorescence, or other foreign matter.
- B. Drill injection holes at approximately 45° angle intersecting crack at approximately middle of structural element. Locate holes along crack as required so foam flows from adjacent ports during injection. Space as recommended by foam manufacturer.
- C. Install injection ports into holes. Flush crack clean with water to remove drilling dust.

3.4 FOAM INJECTION

- A. Pump foam material into first/lowest port with suitable mechanical injection equipment. Maintain slow, steady pressure rather than rapid build-up of pressure. Use the least amount of pressure required to completely penetrate the crack.
- B. Pump until foam material reaches the next port and pure resin is leaking from the crack or good quality foam has appeared on the surface of the crack. Move to next port and follow same procedure until length and width of crack is injected.
- C. Perform injection continuously until complete crack is injected.

3.5 FIELD QUALITY CONTROL

- A. At completion of injection, if cracks or portion of cracks are not completely sealed, re-inject ports or spot drill and inject areas until entire crack is sealed.

3.6 FINISHING

- A. Upon satisfactory completion of injection, remove injection ports and excess foam from surface, and repair and finish surface as specified in Section 03300.

END OF SECTION

SECTION 09985

CORROSION BARRIER LINER

PART 1 GENERAL

1.1 SUMMARY

- A. Rehabilitation system for existing reinforced concrete structures utilizing a resurfacing mortar and epoxy liner.

1.2 SUBMITTALS

- A. Manufacturer's product data, including physical properties, surface preparation, application instructions, and curing requirements.
- B. Test reports of in-place testing performed by an independent testing agency
- C. Applicator Qualifications:
 - 1. Certificate stating applicator is licensed and approved by the manufacturer to install the specified products. Provide certification to Owner and or Engineer for review and approval before the start of the project.
 - 2. List of recently completed restoration and corrosion barrier liner products, including project name and location, names of Owner and Engineer, and description of products used, substrates, and application procedures.
- D. Submit in accordance with Section 01340.

1.3 QUALITY ASSURANCE

- A. Applicator Qualifications:
 - 1. Licensed and experienced in the application of the specified products
 - 2. Employs persons trained for the application of the specified products
- B. Pre-Application Meeting:
 - 1. Convene a pre-application meeting 2 weeks before the start of application of the specified products.
 - 2. Required attendance: Contractor, Engineer, Applicator, and Manufacturer's representative
 - 3. Review surface preparation, application, curing, field quality control, coordination with plant operations, and coordination with other work.
- C. Warranty: Manufacturer shall warrant that materials supplied are free from defects and formulated as described in the product data sheets. Coating materials found to be defective shall be replaced at no cost to the Owner.
- D. Testing shall be provided by Contractor in accordance with Section 01400 and this section.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver material to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage:
 - 1. Store materials in accordance with manufacturer's instructions.
 - 2. Keep containers sealed until ready for use.
 - 3. Store materials in a cool dry environment.
 - 4. Storage temperature shall be in accordance with manufacturer's instructions.

1.5 ENVIRONMENTAL CONDITIONS

- A. Do not apply materials under the following conditions:
 - 1. Temperatures exceeding the manufacturer's recommended maximum or minimum allowable.
 - 2. Dusty or smoke-laden atmosphere.
 - 3. Over flowing water.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Resurfacing Mortar
 - 1. Option 1: Sauereisen "RestoKrete"
 - 2. Option 2: A.W. Cook Cement "CEMTEC Silatec MSM" as provided by Sherwin Williams
- B. Protective Top Coat:
 - 1. Option 1: Sauereisen "Sewergard 210"
 - 2. Option 2: Sherwin Williams "Dura-Plate 6100"
- C. Contractor shall select mortar and protective coating from one manufacturer.
- D. Select formulations of specified product to suit project constraints.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to receive restoration mortar. Notify the Engineer in Writing if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.
- B. Provide the Engineer with a minimum of 3 days advance notice of completion of surface preparation and start of applications.

- C. Before application of each material, surfaces to be lined shall be inspected by the Manufacturer's Representative. Correct defects or deficiencies before application of subsequent coating material.
- D. Inspection by independent testing agency, manufacturer's representative, or Engineer does not relieve the Contractor of responsibility to perform the work as specified.

3.2 SURFACE PREPARATION

- A. Prepare surfaces to have a minimum profile of 1/16 inch, with aggregate exposed in accordance with manufacturer's instructions.
- B. Clean and prepare surfaces by waterblasting/hydrodemolition to sound concrete. Following waterblasting/hydrodemolition clean up debris removed from cleaning and surface preparation work.
- C. Test pH of surfaces to be coated. Surfaces must have a pH of not less than 8 unless written approval is given by the coating manufacturer.
- D. Inspection:
 - 1. Inspect cleaned surfaces to identify and mark corroded reinforcing steel, and to locate cracks, leaks, and joints.
 - 2. Inspect surfaces for soundness
- E. Replace or treat corroded reinforcing steel, repair cracks and leaks, and treat joints in accordance with manufacturer's instructions and as approved by the Engineer
- F. Hydrostatic Leak Correction:
 - 1. Stop visible hydrostatic leaks by application of Hydraulic Cement Mortar, after completion of surface preparation.
 - a. Apply by hand or trowel.
 - b. Press mixed material firmly into place, starting at top of leak and working downward.
 - 2. Inject flowing leaks or cracks using a suitable polymer gel or foam approved by the Engineer. Remove excess or spilled material from the concrete surface before application of restoration mortar.
 - 3. Refer to Section 03936 for foam injection products. Size of cracks to be injected shall not exceed maximums listed on product data sheets.

3.3 APPLICATION OF RESTORATION MORTAR

- A. Mix and apply restoration mortar in accordance with manufacturer's instructions. Provide anchorage or reinforcement as required by manufacturer for vertical or overhead surfaces.
- B. Saturate all surfaces thoroughly with clean water and verify that surface pH is compatible with restoration mortar to be applied.

- C. Apply restoration mortar as soon as water sheen is no longer visible (saturated surface dry)
- D. Apply uniformly to substrate to provide ¼” minimum thickness above peaks of existing profile after surface preparation
- E. Finish surface with trowel and broom or brush finish to provide a more desirable bond surface for the protective coating
- F. Do not trap air in corners, behind exposed reinforcing steel, or between lifts.
- G. Weather Application:
 1. Follow manufacturer’s instructions to reduce evaporation rate of surface moisture until the protective top coat can be applied.
- H. Cold Weather Application:
 1. Follow manufacturer’s instructions for minimum application temperature and minimum number of days to protect from freezing.
 2. During cold weather (a period when form more than 3 successive days the average daily outdoor temperature drops below 40 degrees F) place mortar at a minimum days at a temperature of 55 degrees F and 75 degrees F. Gradually reduce mortar temperature during the protection period so that the final 24 hours is held as close to 55 degrees F as practical.
 3. During periods not defined as cold weather, but when freezing temperatures may occur, protect the mortar against freezing as specified for cold weather for the first 24 hours after application.

3.4 APPLICATION OF PROTECTIVE TOP COAT

- A. Apply protective top coat in accordance with manufacturer’s instructions
- B. Apply protective top coat as soon as possible after finish of restoration mortar application.
- C. Do not allow surface contamination to the finished restoration mortar before application of protective top coat.
- D. Apply at a minimum thickness of 60 mils dry film thickness in one or two coats
- E. At joints between gates and concrete wall surfaces, sawcut wall surfaces to provide thickened coating edge and seal joint with a polysulfide caulk material approved by the Engineer.

3.5 CURING

- A. Cure coating in accordance with manufacturer’s recommendations. Do not return structures to service until recommended by liner manufacturer.
- B. Curing Conditions:

1. Continue to protect corrosion barrier liner from freezing throughout protection periods for cold weather application.
2. Shelter corrosion barrier liner from direct contact with water or other detrimental environmental conditions until corrosion barrier liner reaches end of manufacturer recommended cure time.

3.6 FIELD QUALITY CONTROL

- A. Check applications for required dry film thickness (DFT)
- B. Coated surfaces that fail to meet DFT requirements will be rejected by the Engineer.
- C. Spot adhesion testing of corrosion barrier liner to substrate:
 1. Perform minimum of 1 uniaxial pull-off adhesion test for every 500 square feet of surface lined.
 2. Remove and replace areas not meeting required 145 pounds per square inch minimum adhesion requirement
- D. Visual and electrical inspection for holidays in corrosion barrier liner:
 1. Perform visual inspection for holidays in corrosion barrier liner. Mark areas identified for repair and reapplication of corrosion barrier liner.
 2. Perform holiday testing in accordance with ASTM D-4787 using 100 volts per mil of coating thickness or as recommended by the manufacturer. Mark areas identified for repair and reapplication of corrosion barrier liner.
 3. Repair and reapply in accordance with manufacturer's recommendations.
- E. Where corrosion barrier liner system is found to be defective Contractor shall repair corrosion barrier liner at no cost to the Owner. Defects include, but are not limited to, bubbling or debonding of liner to substrate, tears or holes in liner, inadequate thickness, or failure to pass testing requirements specified here-in. Failure to provide inspections as specified is also grounds for rejection of corrosion barrier liner.

END OF SECTION

APPENDIX C

Persigo WWTP – Historical Influent Flows

YEAR 2014

May Influent Flow 2014	Plant influent flow, MGD		June Influent Flow 2014	Plant influent flow, MGD		July Influent Flow 2014	Plant influent flow, MGD
5/1/2014	7.153		6/1/2014	7.435		7/1/2014	6.605
5/2/2014	7.145		6/2/2014	6.506		7/2/2014	6.53
5/3/2014	7.051		6/3/2014	7.492		7/3/2014	6.49
5/4/2014	7.121		6/4/2014	7.394		7/4/2014	6.2
5/5/2014	7.209		6/5/2014	7.508		7/5/2014	6.286
5/6/2014	7.227		6/6/2014	7.449		7/6/2014	6.517
5/7/2014	7.211		6/7/2014	7.251		7/7/2014	6.794
5/8/2014	7.256		6/8/2014	7.467		7/8/2014	8.432
5/9/2014	7.269		6/9/2014	7.638		7/9/2014	6.522
5/10/2014	6.927		6/10/2014	7.465		7/10/2014	6.814
5/11/2014	9.843		6/11/2014	7.374		7/11/2014	6.796
5/12/2014	8.33		6/12/2014	7.624		7/12/2014	6.617
5/13/2014	7.725		6/13/2014	7.448		7/13/2014	6.72
5/14/2014	7.554		6/14/2014	7.261		7/14/2014	6.896
5/15/2014	7.613		6/15/2014	7.261		7/15/2014	6.85
5/16/2014	7.552		6/16/2014	7.483		7/16/2014	6.801
5/17/2014	7.431		6/17/2014	7.437		7/17/2014	6.867
5/18/2014	7.543		6/18/2014	6.527		7/18/2014	6.794
5/19/2014	7.518		6/19/2014	6.502		7/19/2014	6.667
5/20/2014	7.32		6/20/2014	6.484		7/20/2014	6.89
5/21/2014	7.413		6/21/2014	6.304		7/21/2014	7.083
5/22/2014	7.396		6/22/2014	6.504		7/22/2014	6.874
5/23/2014	7.361		6/23/2014	6.792		7/23/2014	6.812
5/24/2014	7.136		6/24/2014	6.664		7/24/2014	6.861
5/25/2014	7.902		6/25/2014	6.66		7/25/2014	7.701
5/26/2014	7.637		6/26/2014	6.573		7/26/2014	6.972
5/27/2014	7.648		6/27/2014	6.471		7/27/2014	7.159
5/28/2014	7.476		6/28/2014	6.384		7/28/2014	7.236
5/29/2014	7.391		6/29/2014	6.579		7/29/2014	10.273
5/30/2014	7.365		6/30/2014	6.738		7/30/2014	9.128
5/31/2014	7.435					7/31/2014	8.733
Sum =	232.158		Sum =	210.675		Sum =	219.92
Avg. =	7.489		Avg. =	7.023		Avg. =	7.094
Max. =	9.843		Max. =	7.638		Max. =	10.273
Min. =	6.927		Min. =	6.304		Min. =	6.2

YEAR 2015

May Influent Flow 2015	Plant influent flow, MGD		June Influent Flow 2015	Plant influent flow, MGD		July Influent Flow 2015	Plant influent flow, MGD
5/1/2015	8.349		6/1/2015	8.698		7/1/2015	8.637
5/2/2015	8.234		6/2/2015	8.451		7/2/2015	8.719
5/3/2015	8.531		6/3/2015	8.372		7/3/2015	8.85
5/4/2015	8.569		6/4/2015	8.355		7/4/2015	8.265
5/5/2015	8.496		6/5/2015	8.53		7/5/2015	8.414
5/6/2015	10.169		6/6/2015	8.501		7/6/2015	8.833
5/7/2015	9.046		6/7/2015	8.362		7/7/2015	9.935
5/8/2015	8.928		6/8/2015	8.555		7/8/2015	11.204
5/9/2015	8.768		6/9/2015	8.309		7/9/2015	9.681
5/10/2015	8.635		6/10/2015	9.763		7/10/2015	9.246
5/11/2015	9.061		6/11/2015	10.796		7/11/2015	9.356
5/12/2015	9.061		6/12/2015	9.058		7/12/2015	9.343
5/13/2015	8.995		6/13/2015	8.721		7/13/2015	9.541
5/14/2015	8.907		6/14/2015	8.758		7/14/2015	9.358
5/15/2015	9.241		6/15/2015	9.705		7/15/2015	9.696
5/16/2015	8.886		6/16/2015	9.079		7/16/2015	9.273
5/17/2015	8.984		6/17/2015	8.883		7/17/2015	8.974
5/18/2015	8.836		6/18/2015	9.049		7/18/2015	8.588
5/19/2015	9.426		6/19/2015	8.71		7/19/2015	9.113
5/20/2015	8.837		6/20/2015	8.762		7/20/2015	8.949
5/21/2015	8.813		6/21/2015	8.886		7/21/2015	9.463
5/22/2015	8.974		6/22/2015	8.952		7/22/2015	9.431
5/23/2015	8.509		6/23/2015	8.946		7/23/2015	9.098
5/24/2015	8.182		6/24/2015	9.057		7/24/2015	8.978
5/25/2015	9.111		6/25/2015	9.135		7/25/2015	8.752
5/26/2015	8.916		6/26/2015	8.864		7/26/2015	8.855
5/27/2015	8.664		6/27/2015	8.62		7/27/2015	9.207
5/28/2015	8.861		6/28/2015	8.683		7/28/2015	8.864
5/29/2015	8.667		6/29/2015	8.738		7/29/2015	8.823
5/30/2015	8.452		6/30/2015	7.338		7/30/2015	8.659
5/31/2015	8.563					7/31/2015	8.672
Sum =	273.671		Sum =	264.636		Sum =	282.777
Avg. =	8.828		Avg. =	8.821		Avg. =	9.122
Max. =	10.169		Max. =	10.796		Max. =	11.204
Min. =	8.182		Min. =	7.338		Min. =	8.265

YEAR 2016

May Influent Flow 2016	Plant influent flow, MGD		June Influent Flow 2016	Plant influent flow, MGD		July Influent Flow 2016	Plant influent flow, MGD
5/1/2016	8.359		6/1/2016	8.45		7/1/2016	9.485
5/2/2016	8.535		6/2/2016	8.365		7/2/2016	8.9
5/3/2016	8.37		6/3/2016	8.44		7/3/2016	8.462
5/4/2016	8.64		6/4/2016	8.67		7/4/2016	8.591
5/5/2016	7.997		6/5/2016	8.401		7/5/2016	8.915
5/6/2016	9.719		6/6/2016	8.442		7/6/2016	8.675
5/7/2016	9.653		6/7/2016	8.381		7/7/2016	8.655
5/8/2016	9.188		6/8/2016	8.463		7/8/2016	8.588
5/9/2016	11.016		6/9/2016	8.499		7/9/2016	8.469
5/10/2016	9.679		6/10/2016	8.749		7/10/2016	8.584
5/11/2016	8.946		6/11/2016	8.569		7/11/2016	8.716
5/12/2016	8.949		6/12/2016	8.406		7/12/2016	8.561
5/13/2016	8.784		6/13/2016	8.789		7/13/2016	8.569
5/14/2016	8.705		6/14/2016	8.671		7/14/2016	8.522
5/15/2016	9.026		6/15/2016	8.252		7/15/2016	8.615
5/16/2016	9.842		6/16/2016	8.651		7/16/2016	8.288
5/17/2016	8.623		6/17/2016	8.515		7/17/2016	8.498
5/18/2016	8.59		6/18/2016	8.337		7/18/2016	8.82
5/19/2016	8.508		6/19/2016	8.45		7/19/2016	8.721
5/20/2016	8.646		6/20/2016	8.904		7/20/2016	8.751
5/21/2016	8.605		6/21/2016	8.686		7/21/2016	8.606
5/22/2016	8.566		6/22/2016	8.698		7/22/2016	8.771
5/23/2016	8.755		6/23/2016	8.608		7/23/2016	8.669
5/24/2016	8.391		6/24/2016	8.615		7/24/2016	8.7
5/25/2016	8.382		6/25/2016	8.403		7/25/2016	8.837
5/26/2016	8.492		6/26/2016	8.496		7/26/2016	8.63
5/27/2016	8.542		6/27/2016	8.766		7/27/2016	8.787
5/28/2016	8.132		6/28/2016	8.755		7/28/2016	8.684
5/29/2016	8.129		6/29/2016	8.859		7/29/2016	8.695
5/30/2016	8.571		6/30/2016	8.845		7/30/2016	8.325
5/31/2016	8.434					7/31/2016	8.515
Sum =	272.774		Sum =	257.135		Sum =	268.604
Avg. =	8.799		Avg. =	8.571		Avg. =	8.665
Max. =	11.016		Max. =	8.904		Max. =	9.485
Min. =	7.997		Min. =	8.252		Min. =	8.288

Set No. _____

CITY OF GRAND JUNCTION PERSIGO WASTEWATER TREATMENT PLANT RAW SEWAGE WET WELL REHABILITATION GRAND JUNCTION, COLORADO

BID SET

CONTACTS

OWNER: CITY OF GRAND JUNCTION
2145 RIVER ROAD
GRAND JUNCTION, CO 81505
TEL: 970-256-4155

ENGINEER: JVA, INC.
6500 AVENUE DATE, #10
GLENNWOOD SPRINGS, CO 81621
COOPER D. BEST, P.E.



JVA, Inc.
817 Colorado Avenue, Suite 301
Grand Junction, CO 81501
970-264-3106
www.jva.com
Boulder • Fort Collins • Winter Park
Denver • Glenwood Springs

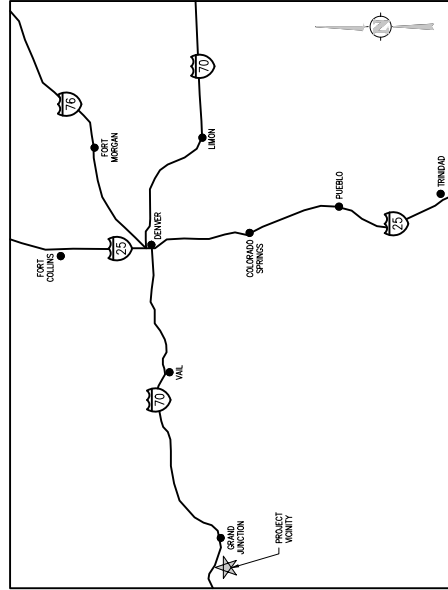
MARCH 2017

PREPARED UNDER THE SUPERVISION OF

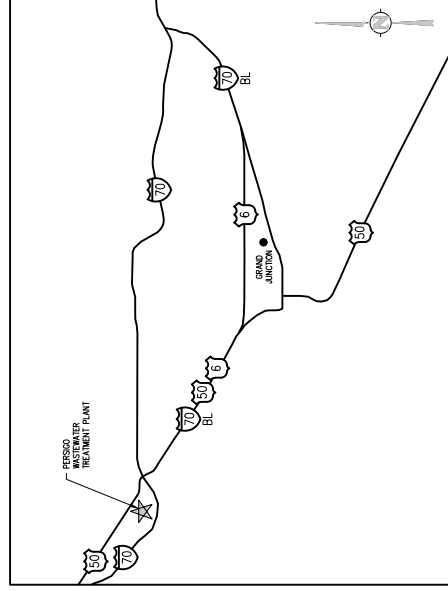
JVA, Inc.

DRAWING INDEX

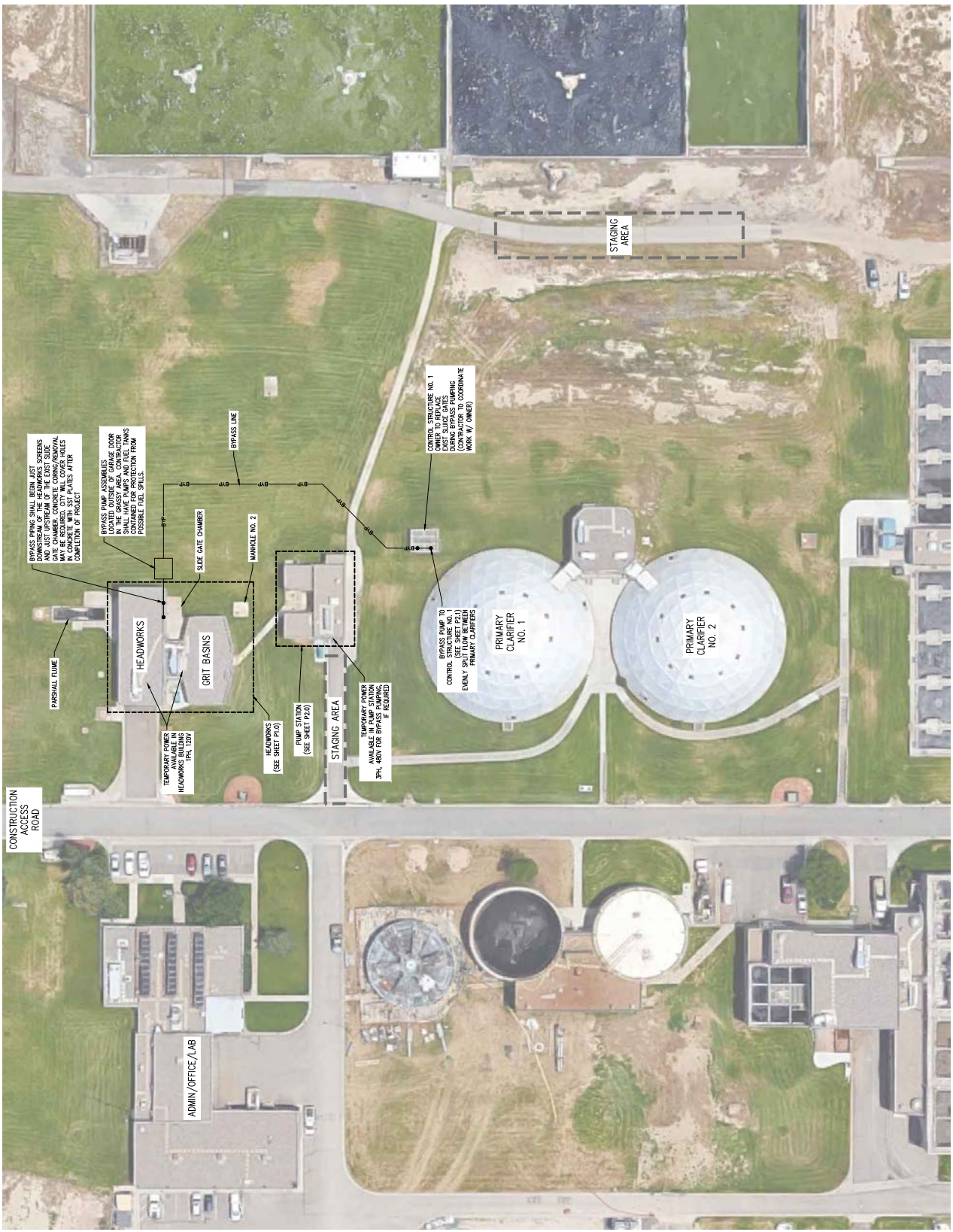
SHEET NO.	TITLE
G0.0	COVER SHEET
G0.1	LEGEND, NOTES AND ABBREVIATIONS
C1.0	SITE PLAN
P1.0	HEADWORKS FLOOR PLAN
P1.1	SLUDGE CHAMBER AND GRIT SPLITTER BOX DETAILS
P1.2	MANHOLE NO. 2 DETAILS
P2.0	PUMP STATION LOWER LEVEL PLAN AND SECTION
P2.1	CONTROL STRUCTURE NO. 1 PLAN AND SECTION



VICINITY MAP
N15



PROJECT LOCATION MAP
N15



CONSTRUCTION ACCESS ROAD

ADMIN/OFFICE/LAB

BYPASS PUMP ASSEMBLIES LOCATED OUTSIDE OF CHANGE DOOR SHALL HAVE PUMPS AND FUEL TANKS COVERED WITH CONCRETE TO PREVENT POSSIBLE FUEL SPILLS.

TEMPORARY POWER AVAILABLE IN HEADWORKS (PH, 120V)

HEADWORKS (SEE SHEET P1.0)

GRIT BASINS

HEADWORKS (SEE SHEET P2.0)

STAGING AREA

TEMPORARY POWER AVAILABLE FOR BYPASS PUMPING. P REQUIRED

CONTROL STRUCTURE NO. 1 OWNER TO REPLACE CONTROL STRUCTURE NO. 1 DURING BYPASS PUMPING (CONTRACTOR TO COORDINATE WORK W/ OWNER)

BYPASS PUMP TO CONTROL STRUCTURE NO. 1 (EVENLY SPLIT FLOW BETWEEN PRIMARY CLARIFIERS)

PRIMARY CLARIFIER NO. 1

PRIMARY CLARIFIER NO. 2

STAGING AREA

MANHOLE NO. 2

SIDE GATE CHAMBER

BYPASS LINE



CONSULTING ENGINEERS
 8125 Grandview Avenue, Suite 300
 Grandview, MO 64030
 Phone: (816) 425-1200
 Fax: (816) 425-1201
 www.ce-engineers.com

NO.	DATE	DESIGN	DRAWN	REVISION DESCRIPTION

DESIGNED BY:	AMC
DRAWN BY:	LCB
CHECKED BY:	JAM
DATE:	MARCH 2017
PROJECT:	208816
DATE:	MARCH 2017
DATE:	MARCH 2017

CITY OF GRAND JUNCTION
 PERSIGO WASTEWATER TREATMENT PLANT
 RAW SEWAGE WET WELL REHAB
 SITE PLAN

SHEET NO. C1.0



SITE PLAN
 1" = 30'



CONSULTING ENGINEERS
 8177 Commonwealth Blvd., Suite 200
 Dallas, Texas 75241
 Phone: 972.346.2000
 www.ce-engineers.com

NO.	DATE	DESIGN	DESCRIPTION

DESIGNED BY:	AMR
DRAWN BY:	JCD
CHECKED BY:	JAN
DATE:	MARCH 2017

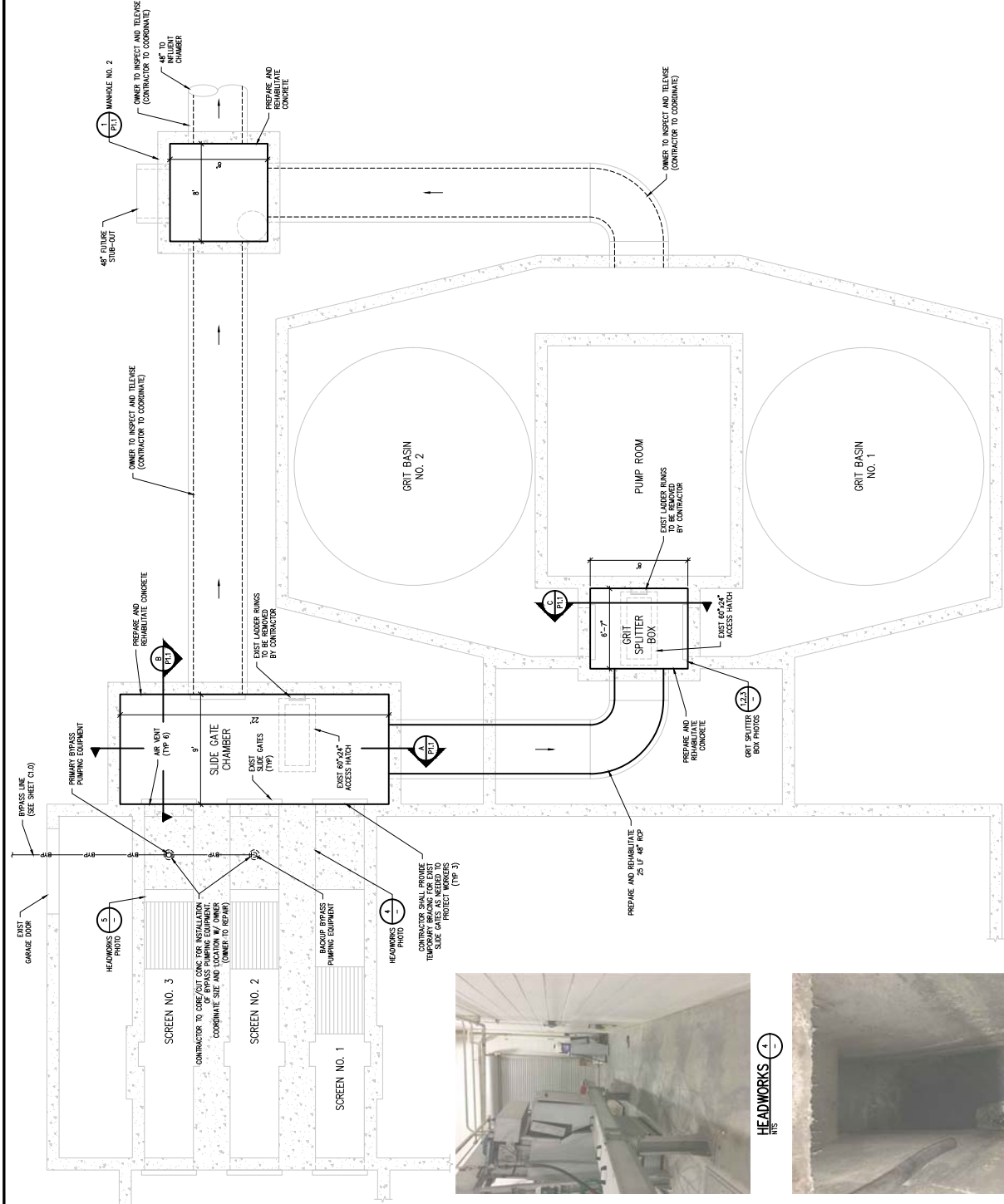
PROJECT NO.:	208316
DATE:	MARCH 2017
PROJECT NAME:	CITY OF GRAND JUNCTION PERSIGO WASTEWATER TREATMENT PLANT RAW SEWAGE WET WELL REHAB

CITY OF GRAND JUNCTION
 PERSIGO WASTEWATER TREATMENT PLANT
 RAW SEWAGE WET WELL REHAB
 HEADWORKS FLOOR PLAN

SHEET NO.
 P.1.0



HEADWORKS FLOOR PLAN
 1/4" = 1'-0"



HEADWORKS
 NO. 1



HEADWORKS
 NO. 2



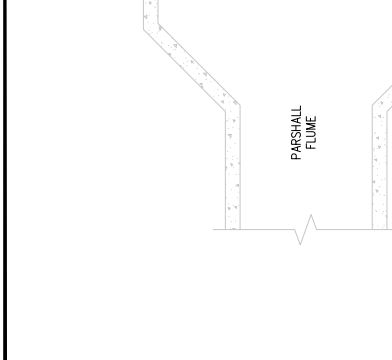
GRIT SPLITTER BOX
 NO. 1



GRIT SPLITTER BOX
 NO. 2



GRIT SPLITTER BOX
 NO. 3

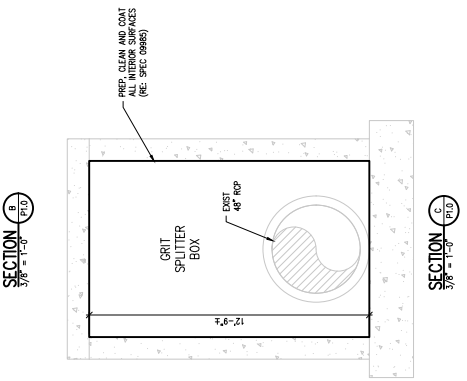
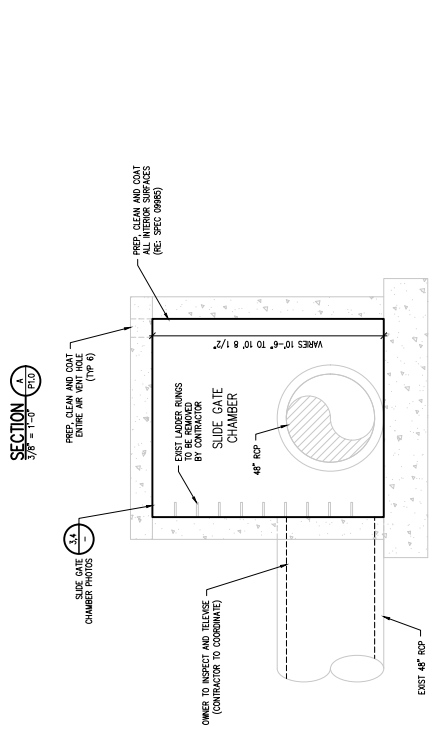
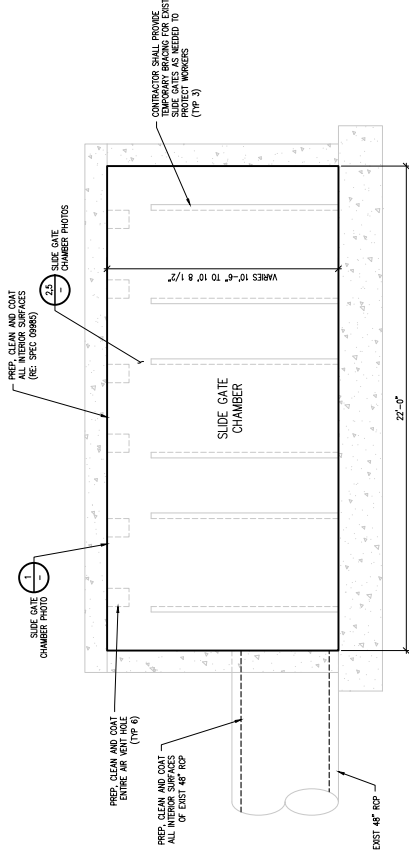


NO.	DATE	DESIGN	DRAWN

DESIGNED BY:	AMR
DRAWN BY:	ACD
CHECKED BY:	JAM
DATE:	MARCH 2017
PROJECT:	208316
DATE:	MARCH 2017
BY:	JAR/INC

REVISION DESCRIPTION

CITY OF GRAND JUNCTION
 PERSIGO WASTEWATER TREATMENT PLANT
 RAW SEWAGE WET WELL REHAB
 SLIDE GATE CHAMBER AND GRIT SPLITTER BOX
 DETAILS



1
 PHOTO
 SLIDE_GATE_CHAMBER



2
 PHOTO
 SLIDE_GATE_CHAMBER



3
 PHOTO
 SLIDE_GATE_CHAMBER



4
 PHOTO
 SLIDE_GATE_CHAMBER



5
 PHOTO
 SLIDE_GATE_CHAMBER



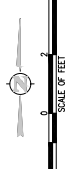
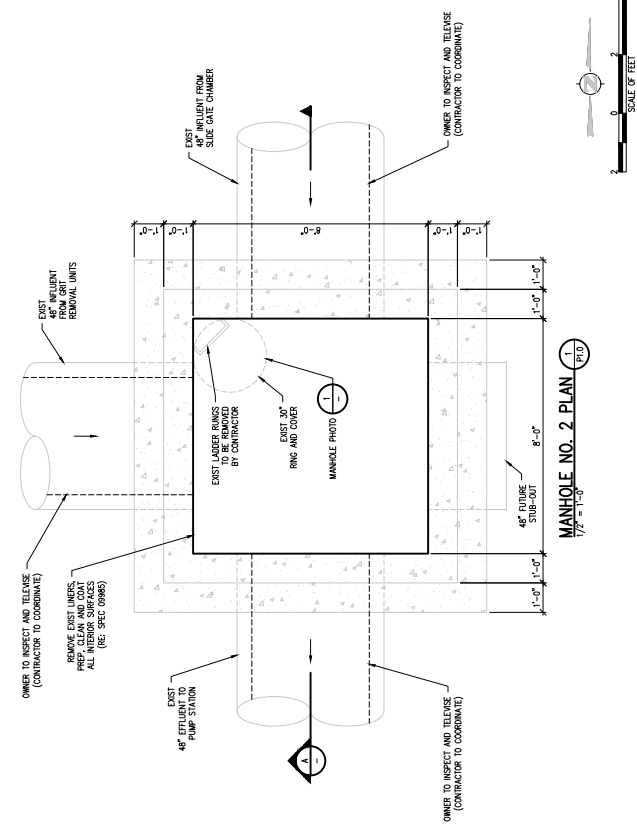
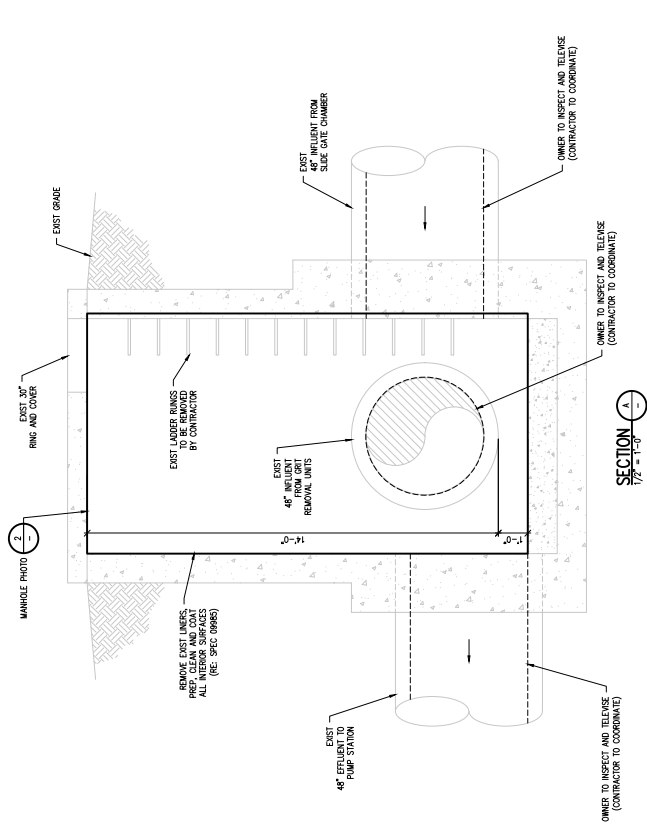
CONSULTING ENGINEERS
 8177 Grand Junction, Suite 202
 Grand Junction, CO 81505
 Phone: 970.243.2289
 Fax: 970.243.2290
 www.ce-engineers.com

NO.	DATE	DESIGN	DESCRIPTION

DESIGNED BY:	AWB
DRAWN BY:	LCD
CHECKED BY:	JAM
DATE:	MARCH 2017
PROJECT NO.:	20814
DATE:	MARCH 2017
PROJECT NAME:	CITY OF GRAND JUNCTION

CITY OF GRAND JUNCTION RAW SEWAGE WET WELL REHAB	
MANHOLE NO. 2 DETAILS	

SHEET NO. P12



MANHOLE NO. 2 - 2



MANHOLE NO. 2 - 1



CONSULTING ENGINEERS
 10000 W. 15th Avenue, Suite 200
 Greenwood Village, CO 80120
 Phone: 303.751.1000
 www.consultingengineers.com

NO.	DATE	DESCRIPTION

DESIGNED BY:	AWB
DRAWN BY:	JCD
CHECKED BY:	JAN
DATE:	MARCH 2017

CITY OF GRAND JUNCTION
 PERSIGO WASTEWATER TREATMENT PLANT
 RAW SEWAGE WET WELL REHAB
 PUMP STATION LOWER LEVEL
 PLAN AND SECTION

SHEET NO.
 P2.0



WET WELL NO. 1



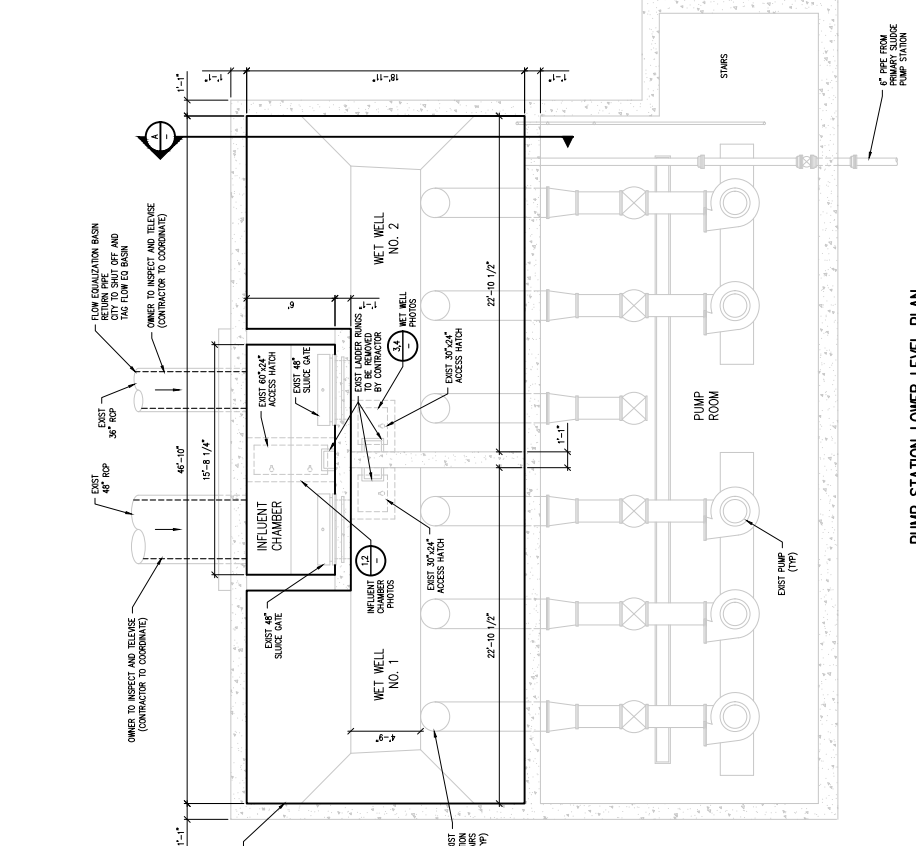
WET WELL NO. 2



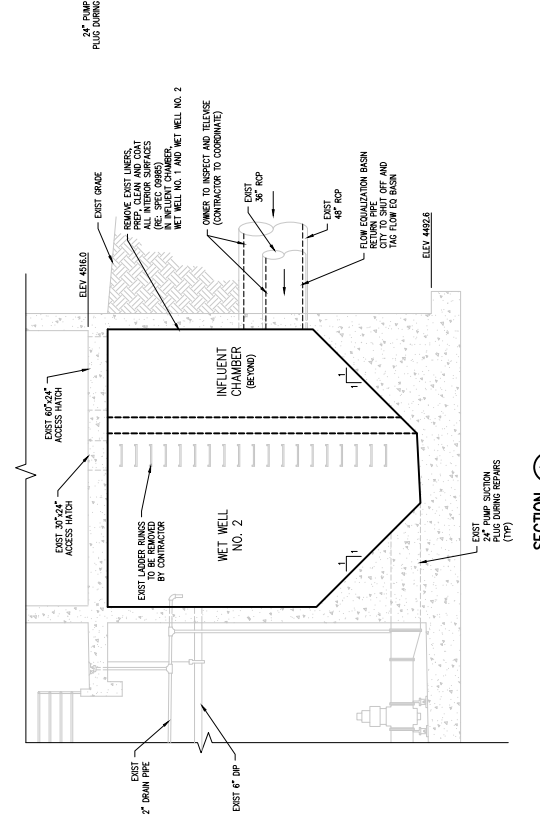
INFLUENT CHAMBER NO. 2



INFLUENT CHAMBER NO. 1



PUMP STATION LOWER LEVEL PLAN
 1/4" = 1'-0"



SECTION
 1/4" = 1'-0"



CONSULTIVE ENGINEERS
 18170 Granddawn Avenue, Suite 202
 Irvine, CA 92615
 Phone: 949.453.2200
 Fax: 949.453.2201
 www.consultive.com Email: info@consultive.com

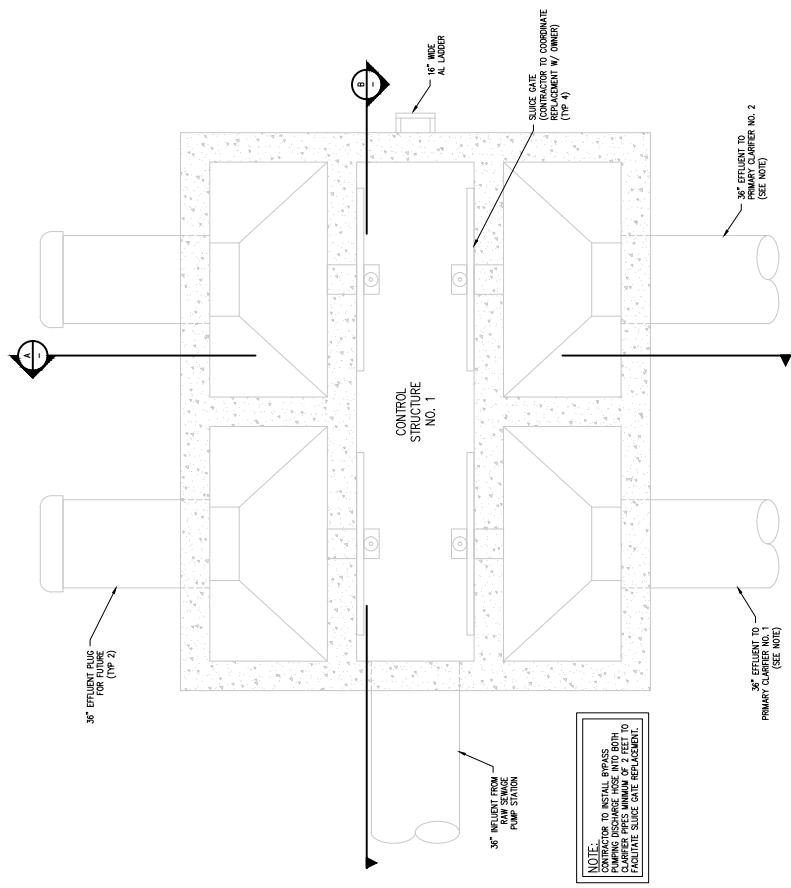
NO.	DATE	DESIGN	DRAWN

REVISION DESCRIPTION

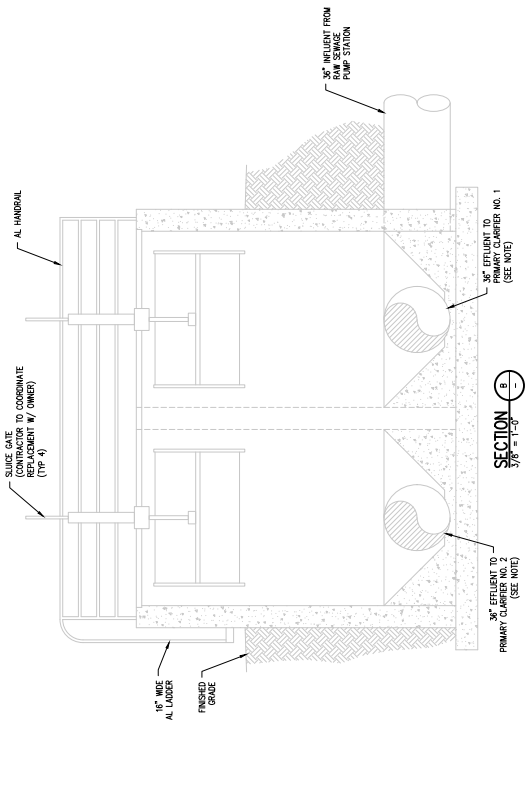
DESIGNED BY: JMB	CHECKED BY: JMB
DRAWN BY: JMB	DATE: MARCH 2017
PROJECT NO: 201610	DATE: MARCH 2017
JAN	

CITY OF GRAND JUNCTION
 PERSIGO WASTEWATER TREATMENT PLANT
 CONTROL STRUCTURE NO. 1
 PLAN AND SECTION

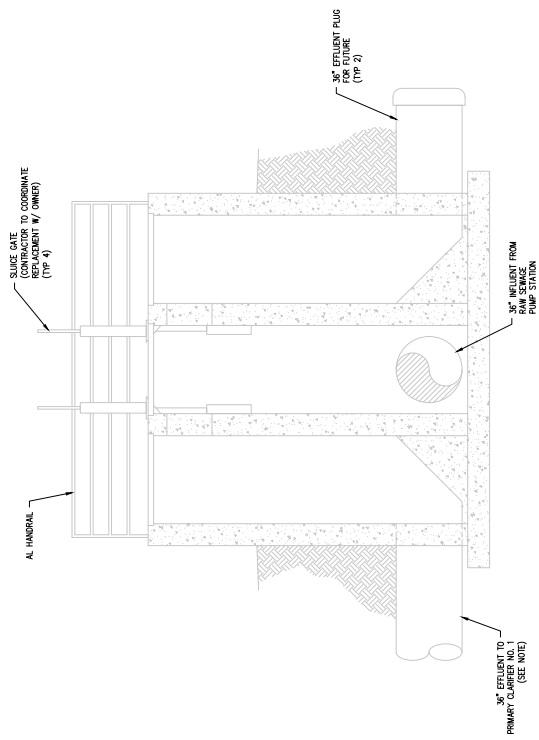
SHEET NO.
 P2.1



CONTROL STRUCTURE NO. 1 PLAN
 1/8" = 1'-0"



SECTION A-A
 3/8" = 1'-0"



SECTION B-B
 3/8" = 1'-0"

NOTE:
 CONTRACTOR TO INSTALL BRACKETS FOR CARRIER PIPES MINIMUM OF 2 FEET TO FACILITATE SLIDE GATE REPLACEMENT.