

SECTION 01010

SUMMARY OF WORK AND CONTRACT CONSIDERATIONS

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. This project consists of improvements that will upgrade and expand the City of Arlington Wastewater Treatment Plant. The improvements include: relocation of utilities; new electrical, gas, and water services; demolition of existing buildings and structures; site grading; excavation and fill; construction of access roads, walkways, and retaining walls; fencing; new yard piping; modifications to existing yard piping; expansion of the existing headworks structure; installation of new fine screens; installation of new grit removal equipment; conversion of existing Sequencing Batch Reactor (SBR) Tank No. 2 into three continuous flow selector activated sludge aeration basins with aluminum covers; construction of six new membrane bioreactor (MBR) tanks with structurally supported fabric covers and return activated sludge (RAS) wet wells with RAS pumps; installation of MBR system equipment (pre-purchased by the Owner with the contract being assigned to the Contractor); construction of a new MBR Support Building complete with MBR blowers, permeate pumps and chemical systems; modifications to the existing Secondary Support Building to improve UV disinfection, upgrade the existing WAS pumps, improve the plant water system, replace the existing MCC, and modify the existing aeration blowers; conversion of existing SBR Tank No. 1 to two aerobic digester tanks with aluminum covers; expansion of the existing Solids Handling Building complete with new rotary fan presses for sludge dewatering, new polymer feed system, new digester blowers, new lime conveyance system, new sludge conveyors, modifications to the existing digested sludge pumps and sludge conveyors, and relocation of the existing sludge mixer; construction of a new pre-engineered metal Equipment Building, construction of a new Lab/Office Building, construction of three new biofilter cells with biofilter fans; new standby generator and transfer switch; new motor control centers, new programmable logic controllers and SCADA system; together with other associated site work, electrical work, instrumentation, painting, and demolition. Project earthwork is unbalanced and requires disposal of unsuitable material and may require importation of suitable material for fill.

1.02 TYPE OF CONTRACT

- A. The Work covered by these Contract Documents shall be provided under an itemized bid based on multiple lump sums as identified in the bid schedule.

1.03 OWNER-FURNISHED AND INSTALLED ITEMS

- A. Certain elements of work shown or referred to in the Contract Documents are not included in this contract and are noted to be performed by the Owner. The Contractor shall make required connections between work performed by the Owner and mechanical and electrical services provided under this Contract.
- B. The Contractor shall cooperate with the Owner's workers and shall provide access to work areas and space to store tools, material and equipment. The Owner shall coordinate his work efforts with those of the Contractor and shall adjust his schedule to accommodate the Contractor's schedule.

1.04 ITEMS ORDERED IN ADVANCE

- A. The Owner has taken bids on and awarded a Contract for the purchase and installation of the MBR system equipment that will be installed as part of this Work. In accordance with the Agreement, the Contractor shall take over this Contract and be fully responsible for all work (see Section 00499 - MBR System Equipment Contract Assignment).

1.05 PROVISIONS FOR FUTURE WORK

- A. In the future, the Owner intends to install equipment in MBR Tanks No. 5 and 6 and Aeration Basin No. 3, install a fourth MBR blower, install a third digester blower, install a fourth UV reactor and set of UV power modules, install two additional permeate pumps, and install a third rotary fan press. In addition, the Owner intends to modify the existing effluent pump station in the future to convey reclaimed water to a constructed wetlands. This will require revisions to the instrumentation and controls and may require extension of a chlorine solution line from the MBR Support Building. The Contractor shall not locate or support any conduits, pipes, ductwork, equipment or other items in such a way that they will have to be relocated or resupported when these items are added. Additionally, electrical and instrumentation work, including PLC and SCADA programming, shall make provisions for and not exclude the addition of these items in the future.

1.06 WORK SEQUENCE

- A. A detailed work sequence is provided in Section 01014. Additionally, the Drawings reflect critical information from Section 01014.

1.07 EARLY PARTIAL OCCUPANCY AND USE BY OWNER

- A. In accordance with the work sequence in Section 01014, the Owner requires early completion, occupancy, and beneficial use of a number of facilities to allow continued operations and maintain compliance with regulatory requirements. A general summary of the order of completion, as detailed in Section 01014 is as follows:
 1. Construction of the new Lab/Office Building shall be substantially complete and ready for beneficial use by the Owner prior to demolition of the existing Lab Building for installation of the new electrical service, water service, and standby generator, all which need to be in place for startup of the MBR system described below. Upon substantial completion, the Owner will move staff into the new building and install furniture and office equipment.
 2. The headworks improvements must be constructed and tested and the new MBR tanks and MBR Support Building constructed and tested to allow beneficial use of the MBR system in conjunction with SBR Tank No. 1 acting as a continuous flow process before SBR Tank No. 2 is taken offline for conversion to aeration basins. All equipment associated with the headworks, MBR tanks and MBR Support Building will be put into operation. Water, electric and gas utilities serving these facilities and the associated equipment must be installed and connected, including the standby generator. The Contractor shall substantially complete all work associated with the headworks, MBR tanks and MBR Support Building within 360 calendar days of Notice to Proceed.

- Warranties for equipment associated with the headworks, MBR tanks and MBR Support Building shall begin upon startup and beneficial use of these facilities.
3. The Secondary Support Building improvements must be constructed and tested and the aeration basins must be constructed and tested to allow beneficial use of the aeration basins before SBR Tank No. 1 is taken offline and converted to aerobic digesters. All equipment associated with the Secondary Support Building and aeration basins will be put into operation. Water and electric utilities serving the Secondary Support Building, aeration basins and associated equipment must be installed and connected. The Contractor shall substantially complete all work associated with the Secondary Support Building and aeration basins within 515 calendar days of Notice to Proceed. Warranties for equipment associated with the Secondary Support Building and aeration basins shall begin upon startup and beneficial use of these facilities.
 4. Construction of the aerobic digesters must be substantially complete and the digesters must then be tested to allow beneficial use of the digesters before the existing sludge storage tanks are demolished for expansion of the Solids Handling Building. All equipment associated with the aerobic digesters will be put into operation. Water and electric utilities serving the aerobic digesters and associated equipment must be installed and connected. Warranties for equipment associated with the aerobic digesters shall begin upon startup and beneficial use of these facilities.
 5. Following installation, startup, and testing, the new sludge screw conveyors and rotary fan presses shall be available for beneficial use. Warranties for this equipment shall begin upon startup and beneficial use.

B. See General Conditions paragraph 13.8.

1.08 CONTRACTOR'S USE OF SITE AND OWNERS CONTINUED OPERATIONS

- A. The Contractor shall confine his use of the site for storage to the staging areas provided, as shown on the contract drawings, unless specific arrangements have been made with the Owner to temporarily utilize other areas. The Contractor's use of adjacent lands and roads for access to move onto and off of the site and for daily access of workers, material and equipment shall be arranged and scheduled to minimize interference with the Owner's continued operations.
- B. The Owner intends to continue operation of its facility throughout the construction period. The Contractor shall plan and schedule its work to minimize impacting the Owner's continued operations and shall, at all times, maintain safe access for the Owner's operating personnel and equipment.
- C. The Contractor shall be responsible for maintaining safe emergency exiting for the Owner's and Contractor's personnel in all areas affected by the Contractor's work.
- D. If operation of the Owner's existing facility is adversely affected by the Contractor's work, the Owner may suffer a financial loss and may make a claim against the Contractor to recover its loss.

1.09 DOCUMENTING EXISTING

- A. Prior to commencing the Work, tour the site with the Owner and the Engineer. Examine and document photographically and in writing the condition of existing

buildings, equipment, improvements, and landscape planting on or adjacent to the site. This record shall serve as a basis for determination of subsequent damage due to the Contractor's operations and shall be signed by all parties making the tour. Record existing conditions on a video tape.

1.10 SHUTDOWN OF EXISTING UTILITIES, SERVICES OR OPERATIONS

- A. Submit to the Owner the Request for WWTP Operations Interruption Form provided in Section 01999 for receipt of approval at least seven (7) calendar days prior to the shutdown of any utility, service or operation of any existing facility. Give required notice and make appropriate arrangements with utility owners and other affected parties prior to shutdown of any utility service.
- B. Schedule utility service or operations shutdowns for periods of minimum use and at the Owner's convenience. Have all required material, equipment and workers on site prior to beginning any work involving a possible shutdown. Perform work as required to reduce shutdown time to the minimum. In some cases, this may require increased numbers of workers and/or premium time night or weekend work.

1.11 SCHEDULE OF VALUES

- A. Specific provisions are described in Article 13, paragraph 13.1 of the General Conditions.
- B. The Contractor's Schedule of Values shall be in a form acceptable to the Engineer and have at least the following level of detail: a separate line item for each technical specification section, for site mobilization, for Construction Scheduling, for bonds and insurance, for final cleanup, and for final deliverables. Subdivide final deliverables into: Record Drawings; Operation and Maintenance Manuals with Parts Lists; and Special Guarantees. Include the appropriate specification section and paragraph number for each line item. Subdivide major trades or portions of the work into multiple line items that relate to observable milestones to aid monthly progress evaluations in accordance with the following example:

- Concrete Work
- Foundations
- Slab on grade
- First floor walls and columns
- Second floor beams and slabs
- Second floor walls and columns, etc.

1.12 APPLICATION FOR PAYMENT

- A. Applications for Payment may be made only on General Conditions Exhibit GC-4, in accordance with General Conditions paragraph 13.2. Line items on the Application for Payment shall be the same as those used on the Schedule of Values. Applications for Payment shall contain the Contractors Certification required by General Conditions paragraph 13.2.

1.13 CONTRACT MODIFICATIONS

- A. Methods of modifying the Contract Documents are covered in General Conditions, Article 9.
- B. The following documents may be used by the Engineer:
1. Request for Quotation: Issued by the Engineer, a Request for Quotation is used to describe a proposed change and request a cost quotation from the Contractor but does not authorize a change in the Work or in the Contract Time or Price.
 2. Change Order: Signed by the Engineer signifying its recommendation, and signed by the Contractor and Owner signifying their acceptance, a Change Order changes the Scope of Work and possibly the Contract Price and/or Contract Time.
 3. Work Directive Change: Signed by the Owner (and in some cases by the Contractor) signifying their acceptance and issued by the Engineer, a Work Directive Change is used: (1) to direct the Contractor to do extra work on a cost accounting basis with a fixed maximum sum when the Owner and Contractor have not agreed on the price and time for the change, and (2) to direct the Contractor to do work that the Contractor contends is not included in the contract scope. Work done under case 1 will be converted to a Change Order when the Contractor and Owner agree on the change in price and time. The Contractor may make a claim under General Conditions Article 10 for recovery of cost and time extension for work done under case 2; but if the claim is denied because the work is determined to be included in the contract scope, then the Contract Time and Price will not be changed. Work done under both cases 1 and 2 shall be done in accordance with the requirements for work done on a cost accounting basis described in General Conditions paragraphs 9.11 through 9.14.
 4. Response to Request for Information: Issued by the Engineer, a Response to Request for Information is used to order or document minor changes in the work consistent with the intent of the Contract Documents and NOT involving a change in price or time. Information issued on a Response to Request for Information shall NOT authorize a change in Contract Price or Contract Time and shall not be considered a Constructive Change Order. If the Contractor considers that a Response to Request for Information would cause a change in Contract Price or Time, it shall notify the Engineer in writing within 15 days of receipt of the Response to Request for Information and shall not proceed with the work. See General Conditions paragraphs 7.8, 9.9 and 9.10.
 5. The Contractor hereby expressly waives any claim or right to make a claim for an increase in contract time or price without written notice to the Engineer of the Contractor's intent to make a claim 5 days prior to proceeding to execute the work or portion thereof giving rise to such claim. See General Conditions paragraph 10.3.
 6. The Contractor agrees that it shall not consider any Response to Request for Information, order, instruction, clarification, suggestion or any other communication either written or oral, given intentionally or unintentionally by the Engineer, Owner or any other person as authorization or direction to do any work that would cause a change in Contract Time or Price unless it is a formal written Change Order or Work Directive Change signed by the Owner.

1.14 REGULATORY REQUIREMENTS

- A. The codes and regulations together with local amendments when applicable adopted by the State and other governmental authorities having jurisdiction shall establish minimum requirements for this project. This project shall comply with the following:
 - 1. Latest Edition of International Building Code (IBC)
 - 2. Latest Edition of International Fire Code (IFC)
 - 3. Latest Edition of International Mechanical Code (IMC)
 - 4. Latest Edition of Uniform Plumbing Code (UPC)
 - 5. Latest Edition of National Electric Code (NEC)
- B. The latest edition of the requirements in effect at the date of submission of bids shall apply.
- C. General Conditions paragraph 5.11 covers the Contractor's responsibility to comply with laws and codes applicable to Means and Methods for performing the Work.
- D. General Conditions paragraph 5.14 covers the Contractor's responsibility to report code deficiencies in the design to the Engineer prior to proceeding with the Work.
- E. Paragraphs addressing Pre-Engineered Systems and Performance Specifications in other Sections cover the Contractor's responsibility to comply with code requirements when (1) performance specifications are used to describe all or portions of Work or items and (2) when pre-engineered (contractor designed) systems are specified.
- F. In cases where the Contract Documents are more restrictive than applicable codes, the Contractor shall comply with the Contract Documents.

1.15 REFERENCE STANDARDS

- A. When these specifications state that Work or tests shall conform to specific provisions in a referenced standard, specification, code, recommendation or manual published by an association, organization, society or agency the referenced provisions, as they apply to the Work of the Contractor only shall be considered a part of these specifications as fully as if included in total. When these specifications or applicable codes contain higher or more restrictive requirements than those contained in reference standards these specifications or applicable codes shall govern.
- B. The latest edition of a referenced standard published at the time of submission of bids shall apply unless a specific date for the referenced standard is cited in these specifications.
- C. General provisions in referenced standards, specifications, manuals or codes shall not change the specific duties and responsibilities between any of the parties involved in this work from those described in the General Conditions. Provisions in referenced standards with regard to measurement and payment shall not apply to this Work unless specifically cited. See General Conditions paragraph 2.3.

1.16 SPECIFICATION LANGUAGE AND STYLE

- A. Many parts of the Specifications as well as notes on the Drawings are written in the active voice and are addressed to the Contractor.
 - 1. When words or phrases requiring an action or performance of a task are used, it means that the Contractor shall provide the action or perform the task. For example: provide, perform, install, furnish, erect, connect, test, operate, adjust, or similar words mean that the Contractor shall perform the action or task referred to.
 - 2. When words or phrases requiring selection, acceptance, approval, review, direction, designation or similar actions are referred to, it means that such actions are the Owner's or the Engineer's prerogative and that the Contractor must obtain such action before proceeding.
- B. Requirements in the Specifications and Drawings apply to all work of a similar type, kind or class even though the word "all" or "typical" may not be stated.

1.17 DEFINITIONS

- A. The following terms, when used in the Contract Documents, shall have the meanings listed:

ACCEPTABLE	"acceptable to the Engineer"
PERFORM	"perform all operations required to complete the work referred to in accordance with the intent of the Contract Documents"
PROVIDE	"furnish and install the work referred to including proper anchorage, connection to required utilities or other work, testing, adjustment and startup ready to put in service and perform the intended function"
REQUIRED	"required by the Contract Documents or required to complete the Work and produce the intended results"
SATISFACTORY	"acceptable to the Engineer"
SHOWN	"as indicated on the Drawings"
SITE	"geographical location of the Project and land within the work area shown on the contract drawings and within which the Work will be installed or built"
SPECIFIED	"as written in the Contract Documents including the Specifications and the Drawings"
SUBMIT	"submit to the Engineer"

1.18 ABBREVIATIONS

- A. The following acronyms or abbreviations are used in these specifications for the organizations listed.

<u>Abbreviation</u>	<u>Stands for</u>
AASHTO	American Association of State Highway and Transportation Officials
AAMA	Architectural Aluminum Manufacturers Association
ABMA	American Boiler Manufacturers Association
ACI	American Concrete Institute
ADC	Air Diffusion Council
AGA	American Gas Association

<u>Abbreviation</u>	<u>Stands for</u>
AGMA	American Gear Manufacturers Association
AI	Asphalt Institute
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANSI	American National Standard Institute (formerly United States of America Standards Institute)
APA	American Plywood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood-Preservers' Association
AWS	American Welding Society
AWWA	American Water Works Association
CAGI	Compressed Air and Gas Institute
CBM	Certified Ballast Manufacturers
CBR	California Bearing Ratio
CI	Chlorine Institute
CISPI	Cast Iron Soil Pipe Institute
CMAA	Crane Manufacturers Association of America
CPSC	Consumer Products Safety Commission
CRA	California Redwood Association
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standards for the U.S. Department of Commerce
CTI	Cooling Tower Institute
DFPA	Douglas Fir Plywood Association
DOE	Department of Ecology
EIA	Electronic Industries Association
EPA	U.S. Environmental Protection Agency
ETL	Electronic Testing Laboratory
FM	Factory Mutual Insurance Company
FPS	Fluid Power Society
FS	Federal Specifications
HI	Hydraulic Institute
HMI	Hoist Manufacturers Institute
IAPMO	International Association of Plumbing and Mechanical Officials
IBC	International Building Code
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronic Engineers
IFC	International Fire Code
IES	Illuminating Engineering Society
IGCC	Insulating Glass Certification Council
IMC	International Mechanical Code
IPCE	International Power Cable Engineers Association

<u>Abbreviation</u>	<u>Stands for</u>
ISA	Instrument Society of America
NAAMM	National Association of Architectural Metal Manufacturers
NBS	National Bureau of Standards
NCPI	National Clay Pipe Institute
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association
NGVD	National Geodetic Vertical Datum
NSF	National Sanitation Foundation
NWMA	National Woodwork Manufacturers Association
OSHA	Occupational Safety and Health Act
PCA	Portland Cement Association
REA	Rural Electrification Administration
SAMA	Scientific Apparatus Makers Association
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SSPC	Structural Steel Painting Council
TCA	Tile Council of America
UPC	Uniform Plumbing Code
USDC	U.S. Department of Commerce
UL	Underwriters Laboratories
WCLIB	West Coast Lumber Inspection Bureau
WIC	Woodwork Institute of California
WISHA	Washington Industrial Safety and Health Act
WSDOT	Washington State Department of Transportation

END OF SECTION