

DIVISION 01
GENERAL REQUIREMENTS

SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 REQUIREMENTS

- A. The Work to be done under this Contract and in accordance with these Specifications consists of furnishing all equipment, supervision, labor, skill, material and all other items necessary for the construction of the West Hickman Wet Weather Storage Facility.
- B. The Contractor shall perform all work required for such construction in accordance with the Contract Documents and subject to the terms and conditions of the Contract, complete and ready for use.
- C. The principal features of the Work to be performed under this Contract includes, but is not limited to:
 - 1. The construction of a 22 million gallon storage tank.
 - 2. The construction of a new headworks facility, including a new screening room, a 70 million gallon a day influent pump station, a 80 million gallon a day wet weather pump station, grit removal facilities, and a Parshall flume channel.
 - 3. The construction of an electrical building, including all electrical components required for proper operation of the facility.
 - 4. The construction of a recycle pump station, a flow split structure, and all necessary piping to ensure proper operation of the wet weather storage tanks and the wastewater treatment plant.
 - 5. The construction of a generator building.
 - 6. An upgrade to the plants non-potable water system, including the replacement of pumps and piping.
 - 7. Site piping
 - 8. Site grading and paving
- D. The foregoing description(s) shall not be construed as a complete description of all work required.

1.02 CONTRACT DOCUMENTS

- A. Work to be done is shown on the set of Drawings entitled: West Hickman Wet Weather Storage. The numbers and titles of all Drawings appear on the index sheet of the Drawings. All drawings so enumerated shall be considered an integral part of the Contract Documents as defined herein.

1.03 GENERAL ARRANGEMENT

- A. Drawings indicate the extent and general arrangement of the work. If any departures from the Drawings are deemed necessary by the Contractor to accommodate the materials and equipment he proposes to furnish, details of such departures and reasons therefore shall be submitted as soon as practicable to the Engineer for approval. No such departures shall be made without the prior written approval of the Engineer. Approved changes shall be made without additional cost to the Owner for this work or related work under other Contracts of the Project.

1.04 CONSTRUCTION PERMITS, EASEMENTS AND ENCROACHMENTS

- A. The Owner shall obtain or cause to be obtained all permanent and temporary construction easements as shown on the Drawings or required for completion of the Work. The Contractor shall verify that these easements have been obtained and shall comply with the conditions set forth in each easement.
- B. The Contractor shall obtain, keep current and pay all fees for any necessary construction permits from those authorities, agencies, or municipalities having jurisdiction over land areas, utilities, or structures which are located within the Contract limits and which will be occupied, encountered, used, or temporarily interrupted by the Contractor's operations unless otherwise stated. Record copies of all permits shall be furnished to the Engineer.
- C. When construction permits are accompanied by regulations or requirements issued by a particular authority, agency or municipality, it shall be the Contractor's responsibility to familiarize himself and comply with such regulations or requirements as they apply to his operations on this Project.

1.05 ADDITIONAL ENGINEERING SERVICES

- A. In the event that the Engineer is required to provide additional engineering services as a result of substitution of materials or equipment by the Contractor which are not "or equal", or changes by the Contractor in dimension, weight, power requirements, etc., of the equipment and accessories furnished, or if the Engineer is required to examine and evaluate any changes proposed by the Contractor for the convenience of the Contractor, then the Engineer's charges in connection with such additional services shall be charged to the Contractor by the Owner.
- B. In the event that the Engineer is required to provide additional engineering services as a result of Contractor's errors, omissions, or failure to conform to the requirements of the Contract Documents, or if the Engineer is required to examine and evaluate any changes proposed by the Contractor solely for the convenience of the Contractor, then the Engineer's charges in connection with such additional services shall be charged to the Contractor by the Owner.

1.06 ADDITIONAL OWNER'S EXPENSES

- A. In the event the Work of this Contract is not completed within the time set forth in the Contract or within the time to which such completion may have been extended in accordance with the Contract Documents, the additional engineering or inspection charges incurred by the Owner may be charged to the Contractor and deducted from the monies due him. Extra work or supplemental Contract work added to the original Contract, as well as extenuating circumstances beyond the control of the Contractor, will be given due consideration by the Owner before assessing engineering and inspection charges against the Contractor.
- B. Unless otherwise specifically permitted, the normal time of work under this Contract is limited to 40 hours per week, Monday through Friday. Work beyond these hours will result in additional expense to the Owner. Any expenses and/or damages, including the cost of the Engineer's on site personnel, arising from the Contractor's operations beyond the hours and days specified above shall be borne by the Contractor. Any overtime work, as defined above as 40 hours per week, will require the Contractor to reimburse the Owner for the Engineer's on-site personnel at a rate of \$80.00 per hour.
- C. Charges assessed to the Contractor for additional engineering and inspection costs will be determined based on actual hours charged to the job by the Engineer. Daily rates will depend on the number and classifications of employees involved, but in no case shall such charges exceed \$500 per day for field personnel based on an eight hour workday. Additional charges will apply if multiple personnel are needed or if engineering time is required as part of the work outside the contract times.

- D. Charges for additional Owner's expenses shall be in addition to any liquidated damages assessed in accordance with the Contract.

1.07 TIME OF WORK

- A. The normal time of work for this Contract is limited to 40 hours per week and shall generally be between the hours of **7:00 a.m. and 6:00 p.m., Monday through Friday**. The Contractor may work beyond these hours or on weekends with written approval from the Owner provided that all costs incurred by the Owner for any additional engineering shall be borne by the Contractor. The Owner shall deduct the cost of additional engineering from monies due the Contractor.
- B. If it shall become imperative to perform work outside of the normal working hours the Owner and Engineer shall be informed a reasonable time in advance of the beginning of such work. Temporary lighting and all other necessary facilities for performing and inspecting the work shall be provided and maintained by the Contractor.
- C. Unless otherwise specifically permitted, all work that would be subject to damage shall be stopped during inclement, stormy or freezing weather. Only such work as will not suffer injury to workmanship or materials will be permitted. Contractor shall carefully protect his work against damage or injury from the weather, and when work is permitted during freezing weather, he shall provide and maintain approved facilities for heating the materials and for protecting the finished work.

1.08 SURVEYS AND LAYOUT

- A. All work under this Contract shall be constructed in accordance with the lines and grades shown on the Drawings or as directed by the Engineer. Contractor shall be responsible for confirming locations and elevations of existing site utilities, site improvements and grades. Elevations of existing ground and appurtenances are believed to be reasonably correct but are not guaranteed to be absolute and therefore are presented only as an approximation. Any error or apparent discrepancy in the data shown or omissions of data required for accurately accomplishing the stake out survey shall be referred immediately to the Engineer for interpretation or correction.
- B. All survey work for construction control purposes shall be made by the Contractor at his expense. The Contractor shall provide a Licensed Surveyor as Chief of Party, competently qualified survey party, all necessary instruments, stakes, and other material to perform the work.
- C. Contractor shall establish all baselines for the location of the principal component parts of the work together with a suitable number of bench marks adjacent to the work. Based upon the information provided by the Contract Drawings, the Contractor shall develop and make all detail surveys necessary for construction, including stakes for all working points, lines and elevations.
- D. Contractor shall have the responsibility to carefully preserve the bench marks, reference points and stakes, and in the case of destruction thereof by the Contractor or resulting from his negligence, the Contractor shall be charged with the expense and damage resulting therefrom and shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such bench marks, reference points and stakes.
- E. Existing or new control points, property markers and monuments that will be or are destroyed during the normal causes of construction shall be reestablished by the Contractor and all reference ties recorded therefore shall be furnished to the Engineer. All computations necessary to establish the exact position of the work shall be made and preserved by the Contractor.
- F. The Engineer may check all or any portion of the work and the Contractor shall afford all necessary assistance to the Engineer in carrying out such checks. Any necessary corrections

to the work shall be immediately made by the Contractor. Such checking by the Engineer shall not relieve the Contractor of any responsibilities for the accuracy or completeness of his work.

- G. At completion of the work, the Contractor shall furnish Record Drawings indicating the final layout of all constructed piping and structures and finished grades constructed or changed as part of this work.

1.09 FIRE PROTECTION

- A. Contractor shall take all necessary precautions to prevent fires at or adjacent to the work and shall provide adequate facilities for extinguishing fires which do occur. Burning shall not be permitted on site.
- B. When fire or explosion hazards are created in the vicinity of the work as a result of the locations of fuel tanks or similar hazardous utilities or devices, the Contractor shall immediately alert the local Fire Marshal, the Engineer, and the Owner of such tank or device. The Contractor shall exercise all safety precautions and shall comply with all instructions issued by the Fire Marshal and shall cooperate with the Owner of the tank or device to prevent the occurrence of fire or explosion.

1.10 CHEMICALS

- A. All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, or reactant of other classification, must show approval of either the EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with all applicable rules and regulations.

1.11 FIRST AID FACILITIES AND ACCIDENTS

- A. First Aid Facilities
 - 1. The Contractor shall provide at the site such equipment and facilities as are necessary to supply first aid to any of his personnel who may be injured in connection with the work.
- B. Accidents
 - 1. The Contractor shall promptly report, in writing, to the Engineer and Owner all accidents whatsoever out of, or in connection with, the performance of the work, whether on or adjacent to the site, which cause death, personal injury or property damage, giving full details and statements of witnesses.
 - 2. If death, serious injuries, or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Owner and the Engineer.
 - 3. If any claim is made by anyone against the Contractor or a Subcontractor on account of any accidents, the Contractor shall promptly report the facts, in writing, to the Engineer and Owner, giving full details of the claim.

1.12 ULTIMATE DISPOSITION OF CLAIMS BY ONE CONTRACTOR ARISING FROM ALLEGED DAMAGE BY ANOTHER CONTRACTOR

- A. During the progress of the Work, other Contractors may be engaged in performing other work or may be awarded other Contracts for additional work on this project. In that event, the Contractor shall coordinate the work to be done hereunder with the work of such other Contractors and the Contractor shall fully cooperate with such other Contractors and carefully fit its own work to that provided under other Contracts as may be directed by the Engineer. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other Contractor.

- B. If the Engineer shall determine that the Contractor is failing to coordinate his work with the work of the other Contractors as the Engineer directed, then the Owner shall have the right to withhold any payments otherwise due hereunder until the Contractor completely complies with the Engineer's directions.
- C. If the Contractor notifies the Engineer in writing that another Contractor is failing to coordinate his work with the work of this Contract as directed, the Engineer will promptly investigate the charge. If the Engineer finds it to be true, he will promptly issue such directions to the other Contractor with respect thereto as the situation may require. The Owner, the Engineer, nor any of their agents shall not, however, be liable for any damages suffered by the Contractor by reason of the other Contractor's failure to promptly comply with the directions so issued by the Engineer, or by reason of another Contractor's default in performance, it being understood that the Owner does not guarantee the responsibility or continued efficiency of any Contractor.
- D. The Contractor shall indemnify and hold the Owner and the Engineer harmless from any and all claims of judgments for damages and from costs and expenses to which the Owner may be subjected or which it may suffer or incur by reason of the Contractor's failure to promptly comply with the Engineer's directions.
- E. Should the Contractor sustain any damage through any act or omission of any other Contractor having a Contract with the Owner for the performance of work upon the site or of work which may be necessary to be performed for the proper execution of the work to be performed hereunder, or through any act or omission of a Subcontractor of such Contract, the Contractor shall have no claim against the Owner or the Engineer for such damage, but shall have a right to recover such damage from the other Contractor under the provision similar to the following provisions which have been or will be inserted in the Contracts with such other Contractors.
- F. Should any other Contractor having or who shall hereafter have a Contract with the Owner for the performance of work upon the site sustain any damage through any act or omission of the Contractor hereunder or through any act or omission of any Subcontractor of the Contractor, the Contractor agrees to reimburse such other Contractor for all such damages and to defend at his own expense any suit based upon such claim and if any judgment or claims against the Owner shall be allowed, the Contractor shall pay or satisfy such judgment or claim and pay all costs and expenses in connection therewith and shall indemnify and hold the Owner harmless from all such claims.
- G. The Owner's right to indemnification hereunder shall in no way be diminished, waived or discharged, by its recourse to assessment of liquidated damages as provided in the Contract, or by the exercise of any other remedy provided for by Contract Documents or by law.

1.13 BLASTING AND EXPLOSIVES

- A. Refer to section 02225 of these specifications for blasting requirements.

1.14 LIMITS OF WORK AREA

- A. The Contractor shall confine his construction operations within the Contract limits shown on the Drawings and/or property lines and/or fence lines. Storage of equipment and materials, or erection and use of sheds outside of the Contract limits, if such areas are the property of the Owner, shall be used only with the Owner's approval. Such storage or temporary structures, even within the Contract's limits, shall not be placed on properties designated as easements or rights-of-way unless specifically permitted elsewhere in the Contract Documents.
- B. The Contractor shall secure, insure, maintain, rent/lease, and restore staging area.
- C. The Contractor shall provide Engineer and Owner copy of agreement with landowner of staging areas.

1.15 WEATHER CONDITIONS

- A. No work shall be done when the weather is unsuitable. The Contractor shall take necessary precautions (in the event of impending storms) to protect all work, materials, or equipment from damage or deterioration due to floods, driving rain, or wind, and snow storms. The Owner reserves the right, through the opinion of the Engineer, to order that additional protection measures over and beyond those proposed by the Contractor, be taken to safeguard all components of the Project. The Contractor shall not claim any compensation for such precautionary measures so ordered, nor claim any compensation from the Owner for damage to the work from weather elements.

1.16 PERIODIC CLEANUP: BASIC SITE RESTORATION

- A. During construction, the Contractor shall regularly remove from the site of the work all accumulated debris and surplus materials of any kind which result from his operations. Unused equipment and tools shall be stored at the Contractor's staging area for the Project.
- B. As the work involves installation of sewers, drains, manholes, underground structures, or other disturbance of existing features in or across streets, rights-of-way, easements, or private property, the Contractor shall (as the work progresses) promptly backfill, compact, grade, and otherwise restore the disturbed area to the basic condition which will permit resumption of pedestrian or vehicular traffic and any other critical activity or functions consistent with the original use of the land. The requirements for temporary paving of streets, walks, and driveways are specified elsewhere. Unsightly mounds of earth, large stones, boulders, and debris shall be removed so that the site presents a neat appearance.
- C. The Contractor shall perform the cleanup work on a regular basis and as frequently as ordered by the Engineer. Basic site restoration in a particular area shall be accomplished immediately following the installation or completion of the required facilities in that area. Furthermore, such work shall also be accomplished, when ordered by the Engineer, if partially completed facilities must remain incomplete for some time period due to unforeseen circumstances.
- D. Upon failure of the Contractor to perform periodic cleanup and basic restoration of the site to the Engineer's satisfaction, the Owner may, upon five (5) days prior written notice to the Contractor, without prejudice to any other rights or remedies of the Owner, cause such work for which the Contractor is responsible to be accomplished to the extent deemed necessary by the Engineer, and all costs resulting therefrom shall be charged to the Contractor and deducted from the amounts of money that may be due him.

1.17 USE OF FACILITIES BEFORE COMPLETION

- A. The Owner reserves the right to enter the site and use any portion of the constructed facilities before final completion of the whole work to be done under this Contract. However, only those portions of the facilities which have been completed to the Engineer's satisfaction, as evidenced by his issuing a Certificate of Substantial Completion covering that part of the work, shall be placed in service.
- B. It shall be the Owner's responsibility to prevent premature connections to or use of any portion of the installed facilities by private or public parties, persons or groups of persons, before the Engineer issues his Certificate of Substantial Completion covering that portion of the work to be placed in service.
- C. Consistent with the approved progress schedule, the Contractor shall cooperate with the Owner, his agents, and the Engineer to accelerate completion of those facilities, or portions thereof, which have been designated for early use by the Owner.

1.18 CONSTRUCTION VIDEO

- A. The Contractor shall video the entire project site including all concrete and asphalt pavements, curb and gutter, fencing to remain, structures to be demolished, and existing structures that are

to remain or be modified. The original video image shall be turned over to the Engineer prior to beginning construction activities. The video shall be provided as an Audio Video Interleave File (.avi) and shall be provided on DVD+R/DVD-ROM compatible media only. The video shall clearly identify existing site and structural conditions prior to construction.

1.19 CONTINUOUS OPERATION

- A. The existing system must be maintained in continuous operation in such a manner that it meets all local, state, and federal requirements. The Contractor is responsible not to deactivate, demolish, or interfere with any system until a temporary or new permanent-like system has been installed and is operational. The Contractor is responsible for payment of all fines resulting from any action or inaction on his part or the part of his subcontractors during performance of the Work that is illegal.
- B. The Contractor shall be responsible for maintaining the existing conveyance of all wastewater to the treatment plant throughout construction. If necessary, the Contractor shall utilize bypass pumping at no additional expense to the Owner. The Contractor must notify the Engineer and Owner of any bypass pumping in accordance with Section 01520 – 1.02 M.

1.20 SAFETY REGULATIONS & COMPLIANCE

- A. The Contractor shall comply with OSHA (P.L. 91-596) and the Contract Work Hours and Safety Standards Act (P.L. 91-54). Contractor must also comply with Title VI of the Civil Rights Act of 1964.

PART 2 – PRODUCT

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01015 - WORK SEQUENCE

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The Contract shall conform to all miscellaneous requirements as contained in the Contract.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. General Conditions: Section 00700
- B. Summary of Work: Section 01010
- C. Coordination: Section 01040

PART 2 – PRODUCT

2.01 MATERIALS

- A. The Contractor shall comply with the Specifications for type of work to be done.

PART 3 – EXECUTION

3.01 SEQUENCE OF CONSTRUCTION OPERATIONS

The Contractor shall submit to the Engineer for review and acceptance a complete schedule (progress chart) of his proposed sequence of construction operations prior to commencement of Work. However, the Engineer shall not accept a construction schedule that fails to utilize the entire time allocated for the construction of the project. The Contractor shall schedule the various construction activities to complete the project throughout the entire allotted time period. This schedule requirement in no way prevents the Contractor from completing the project in a shorter time frame than scheduled. The construction schedule along with a cost breakdown schedule shall be submitted and approved by the Owner prior to the submittal of the first partial payment request in accordance with the general conditions. A revised construction schedule shall be submitted to the Owner with each pay request. This revised schedule must be approved by the Owner prior to payment.

3.02 SPECIAL WORK SEQUENCE CONDITIONS

- A. There shall be no bypass pumping of wastewater or non-potable water into the stream.
- B. The Contractor shall submit to the Engineer for review and acceptance a complete schedule of the proposed sequence of construction operations prior to commencement of work. This submittal shall include estimated tie-in dates to the existing plant, each with a contingency plan due to weather related delays.
- C. This project involves the modification of the existing systems and plant expansion work, both of which interface and potentially impact the existing treatment plant operations. Plant operations and effluent water quality must be maintained throughout construction; therefore, the various construction activities associated with work must be properly sequenced. The information given in this section regarding work sequence is intended to help the Contractor in identifying constraints with respect to keeping the existing plant in operation and in compliance with the discharge permit and assist the Contractor in planning its work.

- D. In general, each existing process or item of equipment cannot be removed from service until a new, like system is operational and all downstream systems are operational. "Operational" means constructed, installed, inspected, checked by the manufacturer's factory representative, tested, and operated by the Contractor for an adequate time period. Use of any equipment, improvement, or process by Owner necessary for sequencing of construction shall not determine substantial completion or initiation of any warranty period.
- E. The tank, headworks, and non-potable water system shall be tested prior to any tie-ins being scheduled. The headworks facility and tank may be tested by both dry running the individual components and by recirculating non-potable water through the headworks facility and the wet weather storage tank and valve vaults. This includes the testing of all mechanical equipment (pumps, screens, others), electrical, controls and instrumentation testing.
- a. Non-potable water can be pumped, at the Contractor's expense, from the chlorine contact tanks for testing.
 - b. If non-potable water is used for testing of the headworks and tank facilities and is routed through the Junction Chamber and into the secondary clarifier effluent channel via bypass pumping, the NPW flow shall not exceed 3 MGD.
- F. The junction chamber, the BPR manhole, the recycle pump station, and the flume structure shall be completed and operational, with the exception of the final tie-ins, prior to any tie-ins being scheduled.
- G. For the influent tie-ins:
- a. The sequence proposed by the Contractor must include provisions to switch the influent flow back and forth between the new facility and the existing headworks to allow for full scale testing and debugging before the new facility is 100% in service and the old headworks is decommissioned.
 - b. There is a 54-inch inter-connection, located in Veterans Park, between manhole MH-5A and MH-5B that connects the 60-inch and 54-inch influent pipes. The Contractor may utilize the connection to route the majority of the influent flow to West Hickman WWTP through the existing 60-inch and MH-1A or the existing 54-inch and straight into Special Manhole 10. This does not account for the trailer park sewer flow, the Hartland Trunk sewer, or depending on the location of the plugs, any flow entering the existing 60-inch or existing 54-inch lines downstream of the cross connection.
- H. Existing WWTP Information:
- a. Current pumping capacities:
 - o Existing Influent Pump Station: 12.5 MGD for each pump, number of pumps operational to be confirmed
 - o Existing Influent Pump Station – Temporary Pumps: 11.5 MGD combined for temporary pumps
 - o Existing Raw Sewage Pump Station: 27 MGD
 - b. When flows are under 27 MGD, influent flow can be routed to the raw sewage pump station during the tie in to the existing 54-inch and 48-inch PTE from BPR Manhole. Wastewater flow to the BPR cannot be stopped for more than 24 consecutive hours.
 - c. The flow in the Hartland Trunk Sewer can be bypass pumped in the existing secondary clarifier effluent channel if required.
 - d. A temporary bulkhead can be installed at the corner of the existing leaping weir structure and the raw sewage pump station discharge channel to isolate the leaping weir structure, the 54-inch and the 48-inch PTE.
 - e. All pumps may be shut down for two (2) hours during flows less than 6 MGD.
 - f. RAS flow can be cut off at for a maximum of 6 hours.

- g. Flow from raw sewage and RAS can be routed through the BPR tanks, aeration tanks, and into the existing secondary clarifier channel. This only can be completed when the all influent flow is sent through the raw sewage pump station.
 - h. Recycle flow can be minimized to approximately 75 gallons per minute (GPM), dependent on the solids processing.
- I. For Non-potable water
- a. If required during the replacement of Thickener Dilution Water pumps and associating piping, the Contractor may bypass pump water from the chlorine contact tanks to the sludge mixing chamber between the Gravity Thickeners.
 - b. Solids processing can only be taken offline for a maximum of 24 hours, and must be coordinated with plant operators.

END OF SECTION

SECTION 01025 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall furnish all necessary labor, machinery, tools, apparatus, equipment, materials, service, other necessary supplies and perform all work including all excavation and backfilling (without additional compensation, except where specifically set out in these specifications) at the contract lump sum bid for the work described in the plans and specifications.

1.02 PROGRESS AND PAYMENTS SCHEDULES

- A. The Contractor's construction schedule must be approved by the Engineer before any payments shall be made on this contract. Refer to Section 01320.
- B. Within fifteen (15) days after the date of formal execution of the Agreement (Contract), the Contractor shall prepare and submit to the Engineer, for approval, a schedule of values. The schedule of values depicts the Contractor's cost for completing the contract requirements and identify by major unit of the project work, the Contractor's dollar value for the material and the labor (two separate amounts) to be used as a basis for the periodic payments. The Contractor's schedule of values must be approved by the Engineer before any payments shall be made on this contract.
- C. The Engineer's decision as to sufficiency and completeness of the Contractor's construction schedule and schedule of values shall be final.
- D. The Contractor must make current, to the satisfaction of the Engineer, the construction schedule and schedule of values each time it requests a payment on this contract.
- E. The Contractor's construction schedule and schedule of values must be maintained at the construction site available for inspection and shall be revised to incorporate approved change orders as they occur.
- F. When the Contractor requests a payment on this contract, it must be on the approved schedule of values and be current. Further, the current schedule of values and construction schedule (both updated and revised) shall be submitted for review and approval by the Engineer before monthly payments shall be made by the Owner. The Contractor may submit stored materials for pay purposes provided proper documentation is provided.
- G. Refer to Section 00800 14.02.A.6-8 for retainage requirements.

1.03 CLAIMS FOR EXTRA WORK

- A. If the Contractor claims that any instructions by Drawings or otherwise involve extra cost, it shall give the Engineer written notice of said claim within seven (7) days after the receipt of such instructions, and in any event before proceeding to execute the work, stating clearly and in detail the basis of its claim or claims. No such claim shall be valid unless so made.
- B. Claims for additional compensation for extra work, due to alleged errors in spot elevations, contour lines, or bench marks, shall not be recognized unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material, or performing more work than would reasonably be estimated from the Drawings and topographical maps issued.

- C. Any discrepancies which may be discovered between actual conditions and those represented by the topographical maps and Drawings shall at once be reported to the Engineer, and work shall not proceed, except at the Contractor's risk, until written instructions have been received by the Contractor from the Engineer.
- D. If, on the basis of the available evidence, the Engineer determines that an adjustment of the Contract Price or time is justifiable, the procedure shall then be as provided herein for "Changes in the Work".
- E. By execution of this Contract, the Contractor warrants that it has visited the site of the proposed work and fully acquainted itself with the conditions there existing relating to construction and labor, and that it fully understands the facilities, difficulties, and restrictions attending the execution of the work under this Contract. The Contractor further warrants that it has thoroughly examined and is familiar with the Drawings, Specifications and all other documents comprising the Contract. The Contractor further warrants that by execution of this Contract its failure when it was bidding on this Contract to receive or examine any form, instrument or document, or to visit the site and acquaint itself with conditions there existing, in no way relieves the Contractor from any obligation under the Contract, and the Contractor agrees that the Owner shall be justified in rejecting any claim based on facts regarding which it should have been on notice as a result thereof.

1.04 DETERMINATION OF THE VALUE OF EXTRA (ADDITIONAL) OR OMITTED WORK

- A. The value of extra (additional) or omitted work shall be determined in one or more of the following ways:
 - 1. On the basis of the actual cost of all the items of labor (including on-the-job supervision), materials, and use of equipment, plus a maximum 15 percent for added work or a minimum 15 percent for deleted work which shall cover the Contractor's general supervision, overhead and profit.
 - a. Labor may include on-site supervision, on-site project management, in addition to field personal associated with the work.
 - b. In case of subcontracts, the 15 percent (maximum for added work and minimum for deleted work) is interpreted to mean the subcontractor's supervision, overhead and profit, and an additional 5 percent (maximum for added work and minimum for deleted work) may then be added to such costs to cover the General Contractor's supervision, overhead and profit.
 - c. The cost of labor shall include required insurance, taxes and fringe benefits.
 - d. Equipment costs shall be based on current rental rates in Lexington, KY.
 - 2. By estimate and acceptance in a lump sum.
 - 3. By unit prices named in the Contract or subsequently agreed upon.
- B. Provided, however, that the cost or estimated cost of all extra (additional) work shall be determined in advance of authorization by the Engineer and approved by the Owner.
- C. All extra (additional) work shall be executed under the conditions of the original Contract. Any claim for extension of time shall be adjusted according to the proportionate increase or decrease in the final total cost of the work unless negotiated on another basis.
- D. Except for over-runs in contract unit price items, no extra (additional) work shall be done except upon a written Change Order from the Engineer, and no claim on the part of the Contractor for pay for extra (additional) work shall be recognized unless so ordered in writing by the Engineer.

1.05 PAY ITEMS

- A. Item No. 1 – Base Bid for Construction of the West Hickman Wet Weather Storage Facility and WWTP Improvements per the Contract Documents and Exclusive of Bid Items No. 2 through 26.

The Contractor shall furnish all necessary labor, machinery, tools, apparatus, equipment, materials, service and other necessary supplies and perform all Work shown on the Drawings and/or described in the Specifications and Contract Documents at the lump sum price as indicated by the Bidder in the Bid. The Contractor shall include in this item any additional materials, labor, goods, services, resources, and manpower necessary to complete the work for the allowance items. The price does not include the cost for items 2 through 26 on the Bid schedule, also listed below:

- a. Allowance: Eutek HeadCell Grit System
- b. Allowance: ControlTouch SCADA Integration
- c. Allowance: Brick for Nitrification Gallery Stair Building
- d. Drilling of Probe Holes for Competent Rock
- e. Rock Removal (Additional due to inadequate bearing)
- f. Engineered Fill – Lean Concrete
- g. Structural Backfill – DGA
- h. Non-Paved Site Restoration: Method A
- i. Non-Paved Site Restoration: Method B
- j. Non-Paved Site Restoration: Method C
- k. Paved Site Restoration: Bituminous Concrete – Trench Construction Street
- l. Paved Site Restoration: Bituminous Concrete – Full Width Full Depth Paving Street
- m. Paved Site Restoration: Bituminous Concrete – Private Parking Lots or Driveways
- n. Paved Site Restoration: Portland Cement Concrete – Private Parking Lots, Driveways and Aprons
- o. Paved Site Restoration: Bituminous Concrete – Full Width Paving Street – Asphalt only
- p. Paved Site Restoration: Bituminous Concrete – Asphalt Overlay
- q. Paved Site Restoration: Asphalt Milling
- r. Paved Site Restoration: Roadway Shoulders – ECB
- s. Paved Site Restoration: Roadway Shoulders – TRM
- t. Paved Site Restoration: Roadway Shoulders - Riprap
- u. Roadway Ditch Restoration
- v. Roadway Subgrade Repairs
- w. Allowance: Miscellaneous Site Improvements
- x. Roadway Asphalt Repair
- y. Alternate 1 – Builder's Risk Insurance

- B. Item No. 2 – Allowance: Eutek Headcell Grit System

1. This is a defined allowance for the Eutek HeadCell Grit Concentrator. The allowance shown in the Bid Form represents the pricing provided by the equipment supplier and as negotiated by the Owner for supply of goods and services related to the equipment and as specified in the manufacturer's proposal for the work. The proposal for the work is included in the specifications. Contractor shall include all additional items, goods, services, resources, and manpower necessary to complete the work in the lump sum item, Item No. 1 – Base Bid. This item includes the Eutek HeadCell Grit Concentrators, the Eutek Slurry Cup Grit Washing/Classification units, the Eutek Grit Snail Dewatering Units, Grit Pumps, ancillary valves and appuretenances, spare parts, local control stations and the main Control Panel. This also includes all shop drawing submittals, start-up, training, warranty, bonds, and all

goods and services shown in the manufacturer's proposal for the work. The manufacturer's proposal is included in Appendix E.

C. Item No. 3 – Allowance: ControlTouch SCADA Integration

1. This is a defined allowance for SCADA Integration. The allowance shown in the Bid form represents the pricing as provided by the supplier and as negotiated by the Owner for supply of goods and services as specified in Section 18000 – SCADA. Contractor shall include any additional items, goods, services, resources, and manpower necessary to complete the work in the lump sum item, Item No. 1 – Base Bid.
2. This item includes all SCADA system programming and reprogramming required to add the new headworks process and the WWS tank process to the LFUCG integrated SCADA system. Integrator shall update all graphics, add new graphics as required, add report generator as required, and program all alarms and logic on the existing LFUCG SCADA system. All graphics shall match the current graphics for the West Hickman Wastewater Treatment Plant. ControlTouch's proposal is included in Appendix E.

D. Item No. 4 – Allowance: Brick for Nitrification Gallery Stair Building

1. This is a defined allowance for purchase of brick. The allowance shown in the Bid Form represents the price of the brick for the building addition to the Nitrification Gallery Stair Building. This allowance only includes the cost for the brick material (including sales tax and delivery to site), it does not include any handling cost, labor, mortar, tools, equipment, or incidentals required for the installation of the brick. Contractor shall include all additional items, goods, services, resources, and manpower necessary to complete the work in the lump sum item, Item No. 1 – Base Bid. The Contractor, after notified of Award of Contract, will procure and submit to the Engineer, Bids and itemized Bid Form which will be reviewed by the Engineer and Owner and notification given to the Contractor as to the selection.

E. Item No. 5 – Drilling of Probe Holes for Competent Rock

1. Measurement shall be on the basis of each probe hole drilled.
2. This item includes all materials, equipment, labor, testing and incidentals required to drill probe holes as required by Section 02222 – Excavation of these specifications, and as recommended by the geotechnical reports included in Section 00320 – Geotechnical Reports. Per Section 02222, a depth of five (5) feet is the minimum required for each probe hole. Each probe hole shall be 1-1/2 to 2 inches in diameter drilled with a pneumatic percussion drill.
3. Payment for this item will be on the basis of the unit price Bid per drilled probe hole, completed, and ready for inspection by a geotechnical engineer.

F. Item No. 6 – Rock Removal (Additional due to inadequate bearing)

1. Measurement shall be on the basis of cubic yards of rock removed.
2. This item includes all materials, equipment, labor, hauling, testing, and incidentals required for the Contractor to complete rock removal as a result of poor bearing or voids in rock as determined by the probe holes. The Contractor shall remove all weathered rock to competent rock, prior to drilling of probe holes. Competent rock must be defined by a geotechnical engineer in accordance with the Contract Documents prior to drilling probe holes. There will be no payment for rock removal of weathered rock or to bench level in accordance with the specifications. All rock removal must be completed in accordance with Section 02221 – Rock Removal and Section 02222 – Excavation.

3. The volume of rock removal for this item shall be determined by the Contractor by performing pre-excavation and post-excavation topographic surveys of the rock remediation area and the resulting volumes calculated therefrom. The pre-excavation topographic survey shall be completed and submitted to the Engineer for acceptance prior to the commencement of excavation. The post-excavation topographic survey shall be completed and submitted to the Engineer for acceptance prior to any backfilling. The Contractor shall provide calculations to the Engineer prior to request for payment. No payment will be made without acceptance by the Engineer for the pre- and post-excavation survey.
 4. Payment for this item will be on the basis of cubic yards of rock removed.
- G. Item No. 7 – Engineered Fill – Lean Concrete
1. Measurement shall be on the basis of cubic yards of lean concrete backfill.
 2. This item includes all materials, equipment, labor, hauling, testing, and incidentals required for the Contractor to place lean concrete backfill per Section 02223 – Structural Fill and Embankment and Section 03300 – Cast – in- place concrete.
 3. The volume of lean concrete backfill shall be determined by the Contractor by performing pre-backfill and post-backfill topographic surveys of the lean concrete backfill area and the resulting volumes calculated therefrom. The pre-backfill survey for the lean concrete backfill will be the accepted Rock Removal post-excavation survey. The post-backfill survey shall be completed and submitted to the Engineer prior to any construction activities. The Contractor shall provide calculations to the Engineer prior to request for payment. The Contractor shall also provide lean concrete delivery tickets. This item only shall be used for backfill beneath a structure(s). This item will not be paid for backfill around walls.
 4. Payment for this item will be on the basis of cubic yards of lean concrete backfill, in place.
- H. Item No. 8 – Structural Backfill – DGA
1. Measurement shall be on the basis of tons of DGA backfill.
 2. This item includes all materials, equipment, labor, hauling, testing, and incidentals required for the Contractor to place DGA backfill per Section 02223 – Structural Fill and Embankment.
 3. The volume of DGA backfill shall be determined by the Contractor by performing pre-backfill and post-backfill topographic surveys of the DGA backfill area and the resulting volumes calculated therefrom. The pre-excavation survey for the structural backfill will be the accepted Rock Removal post-excavation survey for rock removal areas. The post-excavation survey shall be completed and submitted to the Engineer prior to any construction activities. The Contractor shall provide calculations to the Engineer prior to request for payment. This item only shall be used for backfill beneath a structure(s). This item will not be paid for backfill around walls.
 4. Payment for this item will be on the basis of tons of DGA backfill, in place.
- I. Item No. 9 – Non-Paved Site Restoration: Method A
1. Measurement shall be on the basis of square yards of Non-Paved Site Restoration: Method A – sod.
 2. This item includes all materials, equipment, labor, hauling and incidentals required for the Contractor restore the site using sod. Site Preparation and sod placed shall be in accordance with the Plans and Specifications, specifically the General and Project Specific Notes.
 3. Payment for this item will be on the basis of square yard of sod installed, in place.

J. Item No. 10 – Non-Paved Site Restoration: Method B

1. Measurement shall be on the basis of square yards of Non-Paved Site Restoration: Method B – seed and straw.
2. This item includes all materials, equipment, labor, hauling and incidentals required for the Contractor to restore the site using seed and straw. This includes all site preparation as listed in the General Notes and Specifications. Seed and straw mixture, seeding rate, and straw distribution shall be in accordance with the Plans and Specifications, specifically the General and Project Specific Notes.
3. Payment for this item will be on the basis of square yard of seed and straw distributed, in place.

K. Item No. 11 – Non-Paved Site Restoration: Method C

1. Measurement shall be on the basis of square yards of Non-Paved Site Restoration: Method C – seed, straw and net.
2. This item includes all materials, equipment, labor, hauling and incidentals required for the Contractor restore the site using seed, straw and net. This includes all site preparation as listed in the General Notes and Specifications. Seed and straw mixture, seeding rate, and straw distribution shall be in accordance with the Plans and Specifications, specifically the General and Site Specific Notes.
3. Payment for this item will be on the basis of square yard of seed, straw and net in place.

L. Item No. 12 – Paved Site Restoration: Bituminous Concrete – Trench Construction Street

1. Measurement shall be on the basis of square yard of pavement restoration for trench construction.
2. This item includes all materials, equipment, labor, hauling, testing and incidentals required for the Contractor to restore a street trench opening in accordance with the Contract Documents. This includes any required saw cutting, compacting of subgrade, milling, base and asphalt placement, and filling joints as required. The pavement restoration shall be in accordance with the General Notes, and will include the Granular Base (DGA), Bituminous Base, and Bituminous Surface at specified thicknesses.
3. Payment for this item will be on the basis of square yard to pavement restoration using the bituminous concrete – trench construction method, complete in place ready for vehicle use.

M. Item No. 13 – Paved Site Restoration: Bituminous Concrete – Full Width Full Depth Paving Street

1. Measurement shall be on the basis of square yard of pavement restoration for a full street width.
2. This item includes all materials, equipment, labor, hauling, testing and incidentals required for the Contractor to repave a street in accordance with the Contract Documents. This includes saw cutting the areas to be repairs, compacting of subgrade, base and asphalt placement, and filling joints as required. The pavement restoration shall be in accordance with the General Notes, and will include the Granular Base (DGA), Bituminous Base, and Bituminous Surface at specified thicknesses.
3. Payment for this item will be on the basis of square yard to pavement restoration using the bituminous concrete – full width paving method, complete in place ready for vehicle use.

- N. Item No. 14 – Paved Site Restoration: Bituminous Concrete – Private Parking Lots or Driveways
1. Measurement shall be on the basis of square yard of pavement restoration for parking lots or driveway.
 2. This item includes all materials, equipment, labor, hauling, testing and incidentals required for the Contractor to repave a parking lot or driveway in accordance with the Contract Documents. This includes saw cutting the areas to be repairs, compacting the subgrade, base and asphalt placement, and filling joints as required. The pavement restoration shall be in accordance with the General Notes, and will include the Granular Base (DGA), Bituminous Base, and Bituminous Surface at specified thicknesses.
 3. Payment for this item will be on the basis of square yard to pavement restoration using the bituminous concrete – full width paving method, complete in place.
- O. Item No. 15 – Portland Cement Concrete – Private Parking Lots, Driveways, and Aprons
1. Measurement shall be on the basis of square yard of private parking lots, driveways or aprons paved using Portland Cement Concrete.
 2. This items includes all material, equipment, labor, hauling, testing, and incidentals required for the Contractor to repave a private parking lot, driveway or apron with Portland cement concrete in accordance with the Contract Documents. This includes any required saw cutting, material placement, and the construction of expansion and contraction joints. The pavement restoration shall be in accordance with the General Notes, and will include the Granular Base (DGA) and Portland Cement Concrete surface at specified thicknesses.
 3. Pavement for this item will be on the basis of square yards of private parking lots, driveways or aprons repaved, complete ready for vehicle use.
- P. Item No. 16 – Paved Site Restoration: Bituminous Concrete – Full Width Paving Street – Asphalt Only
1. Measurement shall be on the basis of square yard of pavement restoration for a full street width.
 2. This item includes all materials, equipment, labor, hauling, testing and incidentals required for the Contractor to repave a street in accordance with the Contract Documents. This includes asphalt base and surface course placement, and filling joints as required. The pavement restoration shall be in accordance with the General Notes, and will include the Bituminous Base, and Bituminous Surface at specified thicknesses. This pay item will only be used for the asphalt placed along the existing gravel access road from Ashgrove.
 3. Payment for this item will be on the basis of square yard to pavement restoration using the bituminous concrete – full width paving method asphalt only, complete in place ready for vehicle use.
- Q. Item No. 17 – Paved Site Restoration: Asphalt Overlay
1. Measurement shall be on the basis of square yard of asphalt placed.
 2. This item includes all materials, equipment, labor, hauling, testing and incidentals required for the Contractor to overlay asphalt on the existing roadway in accordance with the Contract Documents. This includes bituminous surface placment and filling joints as required. The pavement restoration shall be in accordance with the General Notes. This pay item will only be used for the asphalt overlay in accordance with the Paving Plan.
 3. Payment for this item will be on the basis of square yard of asphalt overlay placed, complete in place ready for vehicle use.

R. Item No. 18 – Paved Site Restoration: Asphalt Milling

1. Measurement shall be on the basis of square yard of asphalt milled.
2. This item includes all materials, equipment, labor, hauling, testing and incidentals required for the mechanical removal of the surface course of the existing roadways, as designated on the paving plan. The asphalt shall be milled to an average depth of 1-1/2" in accordance with the General Notes.
3. Payment for this item will be on the basis of square yard of asphalt milled.

S. Item No. 19 – Paved Site Restoration: Roadway Shoulders

1. Measurement shall be on the basis of linear feet of roadway shoulder restored.
2. This item includes all material, equipment, labor, hauling, testing and incidentals required for the Contractor to restore the roadway shoulders with gravel as shown on detail 3/C-9005 – Typical Road Section – Crowned for Existing Granular Base.
3. Payment shall be on the basis of linear footage of shoulder restored, complete in place.

T. Item No. 20 – Roadway Ditch Restoration - ECB

1. Measurement shall be on the basis of linear feet of roadway ditch restored with Erosion Control Blanket.
2. This item includes all material, equipment, labor, hauling, testing, and incidentals required for the Contractor to restore the roadway ditches along the access road from Ashgrove Pike, currently the gravel roadway, as shown on sheet C-0401. This item will not be used for the installation of any Erosion Control Blanket placed outside of the Ashgrove Pike access road roadway ditches. This item will include excavation to meet ditch details, and the installation of erosion control blanket as shown on Sheet C-9003.
3. Payment shall be on the basis of linear feet of roadway ditch restored with Erosion Control Blanket.

U. Item No. 21 – Roadway Ditch Restoration - TRM

1. Measurement shall be on the basis of linear feet of roadway ditch restored with Turf Reinforcement Mat.
2. This item includes all material, equipment, labor, hauling, testing, and incidentals required for the Contractor to restore the roadway ditches along the access road from Ashgrove Pike, currently the gravel roadway, as shown on sheet C-0401. This item will not be used for the installation of any Turf Reinforcement Mat placed outside of the Ashgrove Pike access road roadway ditches. This item will include excavation to meet ditch details, and the installation of turf reinforcement mat as shown on Sheet C-9003.
3. Payment shall be on the basis of linear feet of roadway ditch restored with Turf Reinforcement Mat.

V. Item No. 22 – Roadway Ditch Restoration - Riprap

1. Measurement shall be on the basis of linear feet of roadway ditch restored with riprap.
2. This item includes all material, equipment, labor, hauling, testing, and incidentals required for the Contractor to restore the roadway ditches along the access road from Ashgrove Pike, currently the gravel roadway, as shown on sheet C-0401. This item will not be used for the installation of any riprap placed outside of the Ashgrove Pike access road roadway ditches.

This item will include excavation to meet ditch details, and the installation of riprap as shown on Sheet C-9003.

3. Payment shall be on the basis of linear feet of roadway ditch restored with riprap.

W. Item No. 23– Roadway Subgrade Repairs

1. Measurement shall be on the basis of cubic yards for roadway subgrade repairs.
2. This item includes all material, equipment, labor, hauling, and incidentals required for the Contractor to repair the plant access on the east side of West Hickman Creek and the stone base access road on the west side of West Hickman Creek in accordance with Contract Documents. This will include undercutting any areas where pumping occurs, placing a new granular base in accordance with the Contract Documents along the access road from Ashgrove Pike and the existing entrance road to the treatment plant. No payment will be made for damage to the existing roadway outside of the designated haul route.
3. Payment shall be on the basis of cubic yards of subgrade repaired.

X. Item No. 24 – Allowance: Miscellaneous Site Improvements

1. An undefined allowance has been established for Owner selected site improvements. This shall include all necessary labor, equipment, labor, hauling, testing, and incidentals required to perform all Work involved in Owner selected Miscellaneous Site Improvements

Y. Item No. 25 – Roadway Asphalt Repair

1. Measurement shall be on the basis of tons of asphalt installed as required to maintain the existing plant entrance road from Ashgrove Pike on the east side of West Hickman Creek.
2. This item includes all material, equipment, labor, hauling, testing, and incidentals required for installation of the asphalt repairs as required to maintain a safe all-weather driving surface, in accordance with the Contract Documents.
3. Payment shall be on the basis of unit price bid per ton, complete in place. A weigh ticket must be provided.

Z. Item No. 26 – Alternate 1 - Builder's Risk Insurance

1. Measurement shall be on the basis of lump sum.
2. This item includes all cost to the Contractor to obtain Builder's Risk Insurance in accordance with Section 00600 – Bonds and Certificates.
3. Payment shall be on the lump sum price. LFUCG reserves the right to deduct the cost from the total bid in accordance with Section 00410 – Bid Form.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01040 - COORDINATION

PART 1 - GENERAL

1.01 REQUIREMENTS

- A. The Contractor shall allow the Owner or his agents, and other project Contractors or their agents, to enter upon the work for the purpose of constructing, operating, maintaining, removing, repairing, altering, or replacing such pipes, sewers, conduits, manholes, wires, poles, or other structures and appliances which may be required to be installed at or in the work. The Contractor shall cooperate with all aforesaid parties and shall allow reasonable provisions for the prosecution of any other work by the Owner, or others, to be done in connection with his work, or in connection with normal use of the facilities.
- B. Each Contractor shall cooperate fully with the Owner, the Engineer, and all other Contractors employed on the Work, to effect proper coordination and progress to complete the project on schedule and in proper sequence. Insofar as possible, decisions of all kinds required from the Engineer shall be anticipated by the Contractor to provide ample time for inspection, or the preparation of instructions.
- C. Each Contractor shall assume full responsibility for the correlation of all parts of his work with that of other Contractors. Each Contractor's superintendent shall correlate all work with other Contractors in the laying out of work. Each Contractor shall lay out his own work in accordance with the Drawings, Specifications, and instructions of latest issue and with due regard to the work of other Contractors.
- D. Monthly general progress coordination meetings will be held at regularly scheduled times convenient for all parties involved. These meetings are in addition to specific meetings held for other purposes, such as special pre-installation meetings. Representation at each meeting by every part currently involved in coordination or planning for the work of the entire project is requested. Meetings shall be conducted in a manner that will resolve coordination problems. Results of the meetings shall be recorded and copies distributed to everyone in attendance and to others affected by decisions or actions resulting from each meeting.
- E. The Contractor will be responsible for coordinating with the West Hickman Wastewater Treatment Plant personnel and Superintendent Jim Worten, for any work which will affect normal daily operation of the wastewater treatment plant.
- F. The Contractor will be responsible for maintaining all wastewater conveyance to the wastewater treatment plant at all times. Contractor shall be responsible for bypass pumping if necessary. Bypass pumping must be coordinated with the Owner and Engineer in accordance with Section 01520 – 2.01 M.
- G. The Contractor shall be responsible for maintaining a minimum of 15 feet of clearance from all Kentucky Utility transmission and distribution wires during construction. The 15 foot clearance includes both horizontal and vertical clearance.
- H. There shall be no disturbance of soil within 25 feet of any Kentucky Utilities transmission or distribution electrical poles.
- I. The Contractor shall notify Kentucky Utilities distribution prior to any blasting occurring within 100 feet of the lines.
- J. There will be no blasting within the Kentucky Utilities Transmission easement. The easement is defined on the site plans. Kentucky Utilities Transmission shall be notified prior to any blasting. No blasting shall occur north of the Kentucky Utilities easement.

- K. The Contractor shall provide Columbia Gas with a Blasting Data Sheet for review and approval, if any blasting will occur within 300 feet of an active gas line.
- L. Contact Gayle Walters with Columbia Gas of Kentucky at 859.361.8903 forty-eight (48) hours prior to excavating around existing high pressure gas line.
- M. No blasting will be allowed within 30 feet of a Kentucky American Water water line. Kentucky American Water shall be notified of any blasting.
- N. Kentucky Utilities Distribution, Rodney Brock, shall be notified of any soil disturbance within 10 feet of a distribution pole.
- O. The Contractor shall be responsible for bracing the 24" Kentucky American Water distribution when crossing it with the influent sewers The Contractor must submit a bracing plan to Kentucky American Water and notify Kentucky American Water when the bracing has been installed for an inspection by a Kentucky American Water Engineer.
- P. The Contractor shall provide the Engineer and all utilities a blasting plan by a professional blaster.
- Q. A clearance of 18-inches must be maintained between the 24" Kentucky American Water Company and the sewer lines. The 18-inches is measured from the bottom of the Kentucky American Water main and the top of the influent gravity main.
- R. There is a Marathon Pipeline Co. 24-inch crude oil line located in Veterans Park between manholes MH 3A and MH-3B. No blasting to occur within 600 feet of the crude oil line.
- S. A fiber optic is located onsite. The Contractor will be responsible for locating and protecting the fiber optic. If the fiber optic is hit, contact Robert Bowman with LFUCG, DWQ 859-425-2456.
- T. The poles located at the entrance on Ashgrove Pike are owned by Windstream Communications. The contact at Windstream is Steve Johnson.

1.02 COORDINATION OF CRAFTS, TRADES, AND SUBCONTRACTORS

- A. The Contractor shall coordinate the work of all crafts, trades and subcontractors engaged on the Work, and he shall have final responsibility as regards the schedule, workmanship and completeness of each and all parts of the work.
- B. Each Subcontractor is expected to be familiar with the General requirements and all sections of the detailed Specifications for all other trades and to study all Drawings and Specifications applicable to his work to the end that complete coordination between trades will be effected. Consult the Engineer if conflicts exist on the Drawings.
- C. Contractor's Superintendent, or his designee who is employed by Contractor, must be on site at all times when work is being performed, except for periods which will not exceed 1 hour.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01200 - PROJECT MEETINGS

PART 1 - GENERAL

1.01 PRECONSTRUCTION MEETING

- A. A preconstruction meeting will be held after Award of Contract, but prior to starting work at the site. Contractor's Project Manager and Site Superintendent are required to attend, as are representatives of all major subcontractors. Progress schedule update shall be submitted in advance of each meeting.

1.02 PROGRESS MEETINGS

- A. Progress meetings will be held monthly at the Division of Water Quality offices during the performance of the Work. Additional progress meetings may be called as progress of work dictates. Prior to each progress meeting, Contractor shall submit a progress report summarizing the work completed over the past month and providing a look ahead at the work to be done over the next month.
- B. Minimum Agenda for meeting shall include:
 - 1. Review and approve minutes of previous meetings.
 - 2. Review progress of Work since last meeting.
 - 3. Review proposed 30 day construction schedule.
 - 4. Note and identify problems which impede planned progress.
 - 5. Develop corrective measures and procedures to regain planned schedule.
 - 6. Revise construction schedule as indicated and plan progress during next work period.
 - 7. Maintaining of quality and work standards.
 - 8. Complete other current business.
 - 9. Schedule next progress meeting.

1.03 SPECIAL MEETINGS

- A. Owner or Engineer may schedule special meetings at the site or at Division of Water Quality offices to resolve construction issues. Contractor and when appropriate, subcontractors, shall attend upon request. No additional compensation shall be paid for meeting attendance.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01210 - ALLOWANCES

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. This Section includes administrative and procedural requirements governing allowances. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Defined allowances. Defined allowances include equipment, systems, or services that have been selected by the Owner from a designated supplier. These will be handled in accordance with paragraph 1.06 of this specification.
 - 2. Undefined allowances. Undefined allowances are intended for work which has an unknown scope at the time of bidding. These will be handled in accordance with paragraph 1.07 of this specification.
- C. The following allowances shall be included in the Contractor's bid:
 - 1. Eutek Headcell Grit System - \$XXX,XXX
 - 2. Control Touch SCADA Integration- \$XXX,XXX
 - 3. Brick for Nitrification Gallery Stair Building - \$4,000
 - 4. Miscellaneous Site Improvements - \$3,500,000

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.03 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, Contractor shall advise Engineer of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Engineer's request, obtain proposals for each allowance for use in making final selections and include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by the Engineer from the designated supplier.

1.04 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.05 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.06 DEFINED ALLOWANCES

- A. Defined allowances shall include cost to Contractor of specific products and materials ordered by the Contractor under allowance and shall include taxes, freight, and delivery to the project site.
- B. Contractor's costs at the Project site for labor, installation, overhead and profit, and similar costs related to the equipment ordered under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Contractor shall not be allowed any markup of subcontractors work or materials under the allowances. Markup shall be included as part of the Contract sum and not part of the allowance.

1.07 UNDEFINED ALLOWANCES

- A. Undefined allowances shall include work for which the scope is not yet determined. The allowance amount is not guaranteed and is solely for the purpose of determining an initial Contract Price.
- B. Once the scope of work is defined, the Contractor shall present cost and schedule as listed in 1.04.A above.

1.08 UNUSED MATERIALS

- A. Contractor shall be responsible for returning unused materials purchased under an allowance to the manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
- B. When it is not economically practical to return material for credit, Contractor shall be responsible for preparing and delivering unused material to Owner's designated storage location. Otherwise, disposal of unused material shall be Contractor's responsibility.

PART 2 - PRODUCTS

(NOT USED)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.02 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

END OF SECTION

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.01 REQUIREMENTS

A. Progress Schedule

1. Within thirty (30) days after execution of the Agreement, but at least 20 days prior to submitting the first application for a progress payment, the Contractor shall prepare and submit three (3) copies of his proposed progress schedule to the Engineer for review and approval.
2. If so required, the schedule shall be revised until it is approved by the Engineer.
3. The schedule shall be updated monthly, depicting progress to the last day of the month and three (3) copies submitted to the Engineer not later than the fifth day of the month with the application for progress payment.
4. The schedule shall be prepared in the form of a horizontal bar chart showing in detail the proposed sequence of the work and identifying construction activities for each structure and for each portion of work.
5. The schedule shall be time scaled, identifying the first day of each week. The Schedule shall be provided with estimated dates for Early Start, Early Finish, Late Start and Late Finish as applicable. The work shall be scheduled to complete the Project within the Contract time. The Late Finish date shall equal the Contract Completion Date.
6. The schedule shall show duration (number of days) and float for each activity. Float shall be defined as the measure of leeway in starting or completing a scheduled activity without adversely affecting the project completion date established by the Contract Documents.
7. The updated schedule shall show all changes since the previous submittal.
8. All revisions to the schedule must reviewed and commented on by the Engineer.

B. Equipment and Material Orders Schedule

1. Contractor shall prepare and submit three (3) copies of his schedule of principal items of equipment and materials to be purchased to the Engineer for review and approval.
2. If so required, the schedule shall be revised until it is approved by the Engineer.
3. The schedule shall be updated monthly and three (3) copies submitted to the Engineer not later than the fifth day of every month with the application for progress payment.
4. The updated schedule shall be based on the Progress Schedule developed under the requirements of Paragraph 1.01(A) of this Section.
5. The schedule shall be in tabular form with appropriate spaces to insert the following information for principal items of equipment and materials:
 - a. Dates on which Shop Drawings are requested and received from the manufacturer.
 - b. Dates on which certification is received from the manufacturer and transmitted to the Engineer.

- c. Dates on which Shop Drawings are submitted to the Engineer and returned by the Engineer for revision.
- d. Dates on which Shop Drawings are revised by manufacturer and resubmitted to the Engineer.
- e. Date on which Shop Drawings are returned by Engineer annotated either "Furnish as Submitted" or "Furnish as Corrected".
- f. Date on which accepted Shop Drawings are transmitted to manufacturer.
- g. Date of manufacturer's scheduled delivery.
- h. Date on which delivery is actually made.

C. Working Drawings

1. Within thirty (30) days after the Notice to Proceed, Contractor shall prepare and submit three (3) copies of his preliminary schedule of Working Drawing submittals to the Engineer for review and approval. If so required, the schedule shall be revised until it is approved by the Engineer.
2. Working Drawings include, but are not limited to, Shop Drawings, layout drawings in plan and elevation, installation drawings, etc. Contractor shall be responsible for securing all of the information, details, dimensions, Drawings, etc., necessary to prepare the Working Drawings required and necessary under this Contract and to fulfill all other requirements of his Contract. Contractor shall secure such information, details, Drawings, etc., from all possible sources including the Drawings, Working Drawings prepared by subcontractors, Engineers, suppliers, etc.
3. In the event that the Engineer is required to provide additional engineering services as a result of a substitution of materials or equipment by the Contractor, the additional services will be provided in accordance with Section 01010 - Summary of Work, and will be covered in supplementary or revised Drawings which will be issued to the Contractor. All changes indicated that are necessary to accommodate the equipment and appurtenances shall be incorporated into the Working Drawings submitted to the Engineer.
4. Shop Drawings and Manufactured Item Information
 - a. Contractor shall submit for review by the Engineer Shop Drawings for all fabricated work and for all manufactured items required to be furnished by the Contract Documents.
 - b. Structural and all other layout Drawings prepared specifically for the Project shall have a plan scale of not less than 1/4-inch = 1 foot.
 - c. The submitted documents shall provide information indicating that the materials are in conformance with the Technical Specifications and Contract Documents.
 - d. Where manufacturer's publications in the form of catalogs, brochures, illustrations or other data sheets are submitted in lieu of prepared Shop Drawings, such submittals shall specifically indicate the item for which approval is requested. Identification of items shall be made in ink, and submittals showing only general information are not acceptable.
5. Contractor Responsibilities
 - a. All submittals from subcontractors, manufacturers or suppliers shall be sent directly to the Contractor for checking. Contractor shall thoroughly check all Drawings for accuracy and conformance to the intent of the Contract Documents. Drawings found

to be inaccurate or otherwise in error shall be returned to the subcontractors, manufacturers, or suppliers by the Contractor for correction before submitting them to the Engineer.

- b. All submittals shall be bound, dated, properly labeled and consecutively numbered. Information on the label shall indicate Specification Section, Drawing number, subcontractors', manufacturer's or supplier's name and the name or type of item the submittal covers. Each part of a submittal shall be marked and tabulated.
 - c. Working Drawings shall be submitted as a single complete package including all associated drawings relating to a complete assembly of the various parts necessary for a complete unit or system.
 - d. Shop Drawings shall be submitted as a single complete package for any operating system and shall include all items of equipment and any mechanical units involved or necessary for the functioning of such system.
 - e. ALL SUBMITTALS SHALL BE THOROUGHLY CHECKED BY THE CONTRACTOR FOR ACCURACY AND CONFORMANCE TO THE INTENT OF THE CONTRACT DOCUMENTS BEFORE BEING SUBMITTED TO THE ENGINEER AND SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL CERTIFYING THAT THEY HAVE BEEN SO CHECKED. SUBMITTALS WITHOUT THE CONTRACTOR'S STAMP OF APPROVAL WILL NOT BE REVIEWED BY THE ENGINEER AND WILL BE RETURNED TO THE CONTRACTOR. Any comments added to the drawings by the Contractor shall be done in green ink so as to denote any Contractor notes.
 - f. If the submittals contain any departures from the Contract Documents, specific mention thereof shall be made in the Contractor's letter of transmittal. Otherwise, the review of such submittals shall not constitute approval of the departure.
 - g. No materials shall be ordered, fabricated or shipped or any work performed until the Engineer returns to the Contractor the submittals, herein required, annotated either "Furnish as Submitted" or "Furnish as Corrected".
 - h. Where errors, deviations, and/or omissions are discovered at a later date in any of the submittals, the Engineer's prior review of the submittals does not relieve the Contractor of the responsibility for correcting all errors, deviations, and/or omissions.
6. Procedure for Review
- a. Submittals shall be transmitted in sufficient time to allow the Engineer at least thirty (30) working days for review and processing.
 - b. Engineer prefers initial submittals be in electronic media for review. Once the submittal is reviewed, Contractor to provide two (2) paper hardcopies.
 - c. If Contractor does not have capability to submit electronic submittals, then Contractor shall submit a request to Engineer for waiver. In the event a waiver is granted, Contractor shall transmit two (2) prints of each submittal to the Engineer for review for all Drawings greater than 11-inches by 17-inches in size, as well as six (6) copies of all other material.
 - d. Submittal shall be accompanied by a letter of transmittal, in duplicate, containing date, project title, Contractor's name, number and titles of submittals, notification of departures and any other pertinent data to facilitate review.
 - e. Submittals will be annotated by the Engineer in one of the following ways:

"Furnish as Submitted" - no exceptions are taken.

"Furnish as Corrected" - minor corrections are noted and shall be made.

"Revise and Resubmit" - major corrections are noted and a resubmittal is required.

"Rejected" - Based on the information submitted, the submission is not in conformance with the Contract Documents. The deviations from the Contract Documents are too numerous to list and a completely revised submission of the proposed equipment or a submission of other equipment is required.

- f. If a submittal is satisfactory to the Engineer, the Engineer will annotate the submittal "Furnish as Submitted" or "Furnish as Corrected", retain four (4) copies and return remaining copies to the Contractor.
 - g. If a resubmittal is required, the Engineer will annotate the submittal "Revise and Resubmit" and transmit five (5) copies to the Contractor for appropriate action.
 - h. Contractor shall revise and resubmit submittals as required by the Engineer until submittals are acceptable to the Engineer. It is understood by the Contractor that Owner may charge the Contractor the Engineer's charges for review in the event a submittal is not approved (either "Furnish as Submitted" or "Furnish as Corrected") by the third submittal for a system or piece of equipment. These charges shall be for all costs associated with engineering review, meetings with the Contractor or manufacturer, etc., commencing with the fourth submittal of a system or type of equipment submitted for a particular Specification Section.
 - i. Acceptance of a Working Drawing by the Engineer will constitute acceptance of the subject matter for which the Drawing was submitted and not for any other structure, material, equipment or appurtenances indicated or shown.
7. Engineer's Review
- a. Engineer's review of the Contractor's submittals shall in no way relieve the Contractor of any of his responsibilities under the Contract. An acceptance of a submittal shall be interpreted to mean that the Engineer has no specific objections to the submitted material, subject to conformance with the Contract Drawings and Specifications. The Engineer will denote any notes in red ink so as to record his comments on the submittal. Engineer may provide a tabular list of comments referencing the submittal, in lieu of, or in addition to marking the submittal.
 - b. Engineer's review will be confined to general arrangement and compliance with the Contract Drawings and Specifications only, and will not be for the purpose of checking dimensions, weights, clearances, fittings, tolerances, interferences, coordination of trades, etc.
8. Record Working Drawings
- a. Prior to final payment, the Contractor shall furnish the Engineer one complete set of all accepted Working Drawings, including Shop Drawings, for equipment, piping, electrical work, heating system, ventilating system, air conditioning system, instrumentation system, plumbing system, structural, interconnection wiring diagrams, etc.
 - b. Manufacturer's publications, submitted in lieu of prepared Shop Drawings, will not be required in reproducible form. However, three (3) sets of such material shall be furnished by the Contractor to the Engineer.
 - c. Working Drawings furnished shall be corrected to include any departures from previously accepted Drawings.

D. Certified Shop Test Reports

1. Each piece of equipment for which pressure, head, capacity, rating, efficiency, performance, function or special requirements are specified or implied shall be tested in the shop of the manufacturer in a manner which shall conclusively prove that its characteristics comply fully with the requirements of the Contract Documents and applicable test codes and standards. Contractor shall keep the Engineer advised of the scheduling of shop tests (at least three weeks minimum advance notice) so that the Engineer may arrange for the witnessing or inspection at the proper time and place.
2. The contractor shall secure from the manufacturers five (5) paper copies and two (2) electronic copies of the actual test data, the interpreted results and a complete description of the testing facilities and testing setup, all accompanied by a certificate of authenticity sworn to by a responsible official of the manufacturing company and notarized. These reports shall be forwarded to the Engineer for review.
3. In the event any equipment fails to meet the test requirements, the manufacturer shall make all necessary changes, adjustments or replacements and the tests shall be repeated, at no additional cost to the Owner or Engineer, until the equipment test requirements are acceptable to the Engineer.
4. No equipment shall be shipped to the Project until the Engineer notifies the Contractor, in writing, that the shop test reports are acceptable

E. Operation and Maintenance Manuals

1. See Section 01780 for requirements.

F. Construction Photographs

1. The Contractor shall take photographs at the locations and at such stages of the construction as directed by the Engineer. Digital format shall be used. Provide all pictures for a given period on a CD or DVD.
2. Provide the equivalent of 36 different exposures per month for the duration of the Contract time. When directed by the Engineer, frequency of photographs may be increased to weekly sessions provided that the equivalent number of exposures is not exceeded. Engineer may waive requirements for photographs during inactive construction periods in favor of increased photographs during active construction sequences.

G. Stormwater Pollution Prevention Plan (SWPPP)

1. Within thirty (30) days after execution of the Agreement, but at least 20 days prior to submitting the first application for a progress payment, the Contractor shall prepare and submit a sequenced SWPPP. The sequenced SWPPP must align with the Contractor's construction activities.
2. The SWPPP shall be updated monthly, depicting the current SWPPP, submitted to the Engineer not later than the fifth day of the month with the application for progress payment.
3. The Contractor shall submit an updated SWPPP to the Engineer prior to beginning and after completing construction on the following areas:
 - a. The headworks and generator buildings and all associated piping and grading
 - b. The tanks and any associated piping and grading
 - c. The spoils area
 - d. The junction chamber and recycle pump station and any associated piping
 - e. Installation of any stream crossings

- f. Upgrades to the access roadway
- g. The installation of the influent manholes and piping
- h. Installation of the bridge

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01320 - PROGRESS SCHEDULES

PART 1 - GENERAL

1.01 REQUIREMENTS

A. Scheduling Responsibilities:

1. In order to provide a definitive basis for determining job progress, a construction schedule of a type approved by the Owner will be used to monitor the project.
2. Each week the Contractor shall be responsible for preparing the schedule and updating it based on a tentative two week basis. It shall at all times remain the Contractor's responsibility to schedule and direct his forces in a manner that will allow for the completion of the work within the contractual period.

B. Construction Hours: see Section 01010 – Summary of Work – for construction working hours requirements.

C. Progress of the Work:

1. The work shall be started within ten (10) days following the Notice to Proceed and shall be executed with such progress as may be required to prevent delay to other Contractors or to the general completion of the project. The work shall be executed at such times and in or on such parts of the project, and with such forces, material and equipment, to assure completion of the work in the time established by the Contract.
2. The Contractor agrees that whenever it becomes apparent from the current monthly schedule update that delays have resulted and, hence, that the Contract completion date will not be met or when so directed by the Owner, he will take some or all of the following actions at no additional cost to the Owner:
 - a. Increase construction manpower in such quantities and crafts as will substantially eliminate the backlog of work.
 - b. Increase the number of working hours per shift, shifts per working day or days per week, the amount of construction equipment, or any combination of the foregoing to substantially eliminate the backlog of work.
 - c. Reschedule activities to achieve maximum practical concurrency of accomplishment of activities, and comply with the revised schedule.
 - d. The Contractor shall submit to the Owner or the Owner's representative for review a written statement of the steps he intends to take to remove or arrest the delay to the critical path in the accepted schedule.

1.02 CONSTRUCTION SCHEDULE

- A. Within fifteen (15) calendar days of the Notice to Proceed, the Contractor shall submit to the Engineer five (5) copies of his proposed schedule. Schedule shall be Critical Path Method (CPM) type which depicts the Contractor's plan for completing the contract requirements and show work placement in dollars versus contract time. The schedule will be the subject of a schedule review meeting with the Contractor, the Engineer and the Owner or the Owner's representative within one (1) week of its submission. The Contractor will revise and resubmit the schedule until it is acceptable and accepted by the Owner or the Owner's representative.

1.03 CONTRACT COMPLETION TIME

A. Causes for Extensions:

The Contract completion time will be adjusted only for causes specified in this Contract. In the event the Contractor requests an extension of any Contract completion date, he shall furnish such justification and supporting evidence as the Owner or the Owner's representative may deem necessary for a determination as to whether the Contractor is entitled to an extension of time under the provisions of this Contract. The Owner, with the assistance of the Engineer, will, after receipt of such justification and supporting evidence, make findings of fact and will advise the Contractor in writing thereof.

B. Requests for Time Extension:

Each request for change in any Contract completion date shall be initially submitted to the Owner within the time frame stated in the General Conditions. All information known to the Contractor at that time concerning the nature and extent of the delay shall be transmitted to the Owner at that time. Within the time frame stated in the General Conditions but before the date of final payment under this Contract, all information as required above concerning the delay must be submitted to the Owner. No time extension will be granted for requests which are not submitted within the foregoing time limits.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01380 - CONSTRUCTION PHOTOGRAPHS AND VIDEO

PART 1 - GENERAL

1.01 WORK INCLUDED

Provide monthly photographs of the construction throughout the progress of the Work. Provide video of the length of construction area prior to commencement of work, monthly progress, and at completion of work.

1.02 RELATED WORK

- A. General Conditions
- B. Section 01700 - Contract Closeout

1.03 PHOTOGRAPHY

- A. Provide monthly photographs (two sets) of the construction throughout progress of the Work. Provide twenty-four (24) views of Work each month or more as may be necessary to clearly show any new Work.
- B. Take the photographs at the beginning, during, and completion of each element of construction listed below:
 - 1. Unclassified excavation.
 - 2. Trenching.
 - 3. Pipe installation.
 - 4. Structural Fill
 - 5. Foundation construction.
 - 6. All aspects of building construction for all structures onsite.
 - 7. Installation of all equipment, including but not limited to the submersible pumps, Screens, grit, etc.
 - 8. Installation of all electric work
 - 9. Generator installation.
 - 10. All other aspects of construction.

1.04 PRINTS

- A. Color: two (2) prints of each view, bound into separate sets.
- B. Paper: single weight, neutral black image tone, white base.
- C. Finish: matte.
- D. Size: 3" x 5". Mount with binder tabs.
- E. Label each print on back. List project name and Contract number, orientation of view, date and time of view, work being performed, location of work, and Contractor's name.

1.05 DIGITAL PHOTOGRAPHS

All photographs shall be digital. Digital photographs of all views shall be provided on compact disc (CD) or digital video disc (DVD) to the Owner. The CD or DVD shall be included monthly along with the two sets of prints. Digital pictures shall be time and date stamped one labeled the same as prints.

1.06 DIGITAL VIDEO

- A. All video shall be digital. Digital video shall be provided on a compact disc (CD) or digital video disc (DVD) to the Owner. The CD or DVD shall be included monthly with the digital photographs. Digital video shall be time and date stamped.
- B. Initial video shall be completed prior to the arrival of any equipment for construction facilities. The video shall include all existing structures, visible utilities, parking lots, and access roads. Record any existing damage to the facilities.
- C. Final video shall be completed once all equipment and construction facilities have been removed from the sites. The video shall include all items listed above plus all new modifications or alternations.
- D. All video shall provide correct exposure and focus, high resolution and sharpness, maximum depth of field.

1.07 TECHNIQUE

- A. All views shall provide factual presentation of the Work progress.
- B. All photographs shall provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.

1.08 VIEWS

The photographs shall be from varied views that show the most representative sample of the Work progress.

1.09 SUBMITTALS

Submit prints and CD or DVD at the monthly progress meetings unless specifically requested sooner by the Owner or Engineer.

- END OF SECTION -

SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

1.01 REQUIREMENTS

A. Testing Laboratory Services

1. Laboratory and field testing and checking required by the Specifications, including the cost of transporting all samples and test specimens, shall be provided and paid for by the Owner unless otherwise indicated in the Specifications.
2. Materials to be tested include, but are not necessarily limited to the following: cement, concrete aggregate, concrete, onsite and offsite fill, and reinforcing steel.
3. Tests required by the Owner shall not relieve the Contractor from the responsibility of supplying test results and certificates from manufacturers or suppliers to demonstrate conformance with the Specifications.
4. In place testing of compacted materials will be conducted as specified or recommended by Engineer.
5. Procedures
 - a. The Contractor shall plan and conduct his operations to permit taking of field samples and test specimens, as required, and to allow adequate time for laboratory tests.
 - b. The collection, field preparation and storage of field samples and test specimens shall be as directed by the Engineer with the cooperation of the Contractor.
6. Significance of Tests
 - a. Test results shall be binding on both the Contractor and the Owner, and shall be considered irrefutable evidence of compliance or noncompliance with the Specification requirements, unless supplementary testing shall prove, to the satisfaction of the Owner, that the initial samples were not representative of actual conditions.
7. Supplementary and Other Testing
 - a. Nothing shall restrict the Contractor from conducting tests he may require. Should the Contractor at any time request the Owner to consider such test results, the test reports shall be certified by an independent testing laboratory acceptable to the Owner. Testing of this nature shall be conducted at the Contractor's expense.

1.02 IMPERFECT WORK OR MATERIALS

- A. Any defective or imperfect work or materials furnished by the Contractor which is discovered before the final acceptance of the work, as established by the Certificate of Substantial Completion, or during the subsequent guarantee period, shall be removed immediately even though it may have been overlooked by the Engineer and estimated for payment. Any materials condemned or rejected by the Engineer shall be tagged as such and shall be immediately removed from the site. Satisfactory work or materials shall be substituted for that rejected.
- B. The Engineer may order tests of imperfect or damaged work or materials to determine the required functional capability for possible acceptance, if there is no other reason for rejection. The cost of such tests shall be borne by the Contractor; and the nature, tester, extent and supervision of the tests will be as determined by the Engineer. If the results of the tests indicate

that the required functional capability of the work or material was not impaired, consistent with the final general appearance of same, the work or materials may be deemed acceptable. If the results of such tests reveal that the required functional capability of the questionable work or materials has been impaired, then such work or materials shall be deemed imperfect and shall be replaced. The Contractor may elect to replace the imperfect work or material in lieu of performing the tests.

1.03 INSPECTION AND TESTS

- A. The Contractor shall allow the Engineer ample time and opportunity for testing materials to be used in the work. He shall advise the Engineer promptly upon placing orders for material so that arrangements may be made, if desired, for inspection before shipment from the place of manufacture. The Contractor shall at all times furnish the Engineer and his representatives, facilities including labor, and allow proper time for inspecting and testing materials and workmanship. The Contractor must anticipate possible delays that may be caused in the execution of his work due to the necessity of materials being inspected and accepted for use. The Contractor shall furnish, at his own expense, all samples of materials required by the Engineer for testing, and shall make his own arrangements for providing water, electric power, or fuel for the various inspections and tests of structures and material.
- B. Where other tests or analyses are specifically required in other Sections of these Specifications, the cost thereof shall be borne by the party (Owner or Contractor) so designated in such Sections. The Owner will bear the cost of all tests, inspections, or investigations undertaken by the order of the Engineer for the purpose of determining conformance with the Contract Documents if such tests, inspection, or investigations are not specifically required by the Contract Documents, and if conformance is ascertained thereby. Whenever nonconformance is determined by the Engineer as a result of such tests, inspections, or investigations, the Contractor shall bear the full cost thereof or shall reimburse the Owner for said cost. In this connection, the cost of any additional tests and investigations, which are ordered by the Engineer to ascertain subsequent conformance with the Contract Documents, shall be borne by the Contractor.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01510 - TEMPORARY UTILITIES

PART 1 - GENERAL

1.01 REQUIREMENTS

- A. The Contractor shall provide temporary light and power, heating, water service and sanitary facilities for his operations, for the construction operations of his subcontractors on this Project at the site. The temporary services shall be provided for use throughout the construction period.
- B. The Contractor shall coordinate and install all temporary services in accordance with the requirements of the utility companies having jurisdiction and as required by applicable codes and regulations.
- C. At the completion of the work, or when the temporary services are no longer required, the facilities shall be restored to their original conditions.
- D. All costs in connection with the temporary services including, but not limited to, installation, utility company service charges, maintenance, relocation and removal shall be borne by the Contractor at no additional cost to the Owner.

E. Temporary Light and Power

- 1. The temporary general lighting and small power requirements shall be serviced by 120/240 V, 1 phase, 3 wire temporary systems furnished and installed by the Contractor. This service shall be furnished complete with main disconnect, overcurrent protection, meter outlet, branch circuit breakers, and wiring as required; including branch circuit breakers and wiring as required for furnishing temporary power to the subcontractor's field office service connections, all in accordance with the requirements of the servicing power company and applicable standards and codes. The meter for the temporary 120/240 V service for construction purposes shall be registered in the name of the Contractor and all energy charges for furnishing this temporary electric power shall be borne by the Contractor.
- 2. The Contractor shall make all necessary arrangements, and pay for all permits, inspections, and power company charges for all temporary service installations. All temporary systems shall comply with and meet the approval of the local authorities having jurisdiction. All temporary electrical systems shall consist of wiring, switches, necessary insulated supports, poles, fixtures, sockets, receptacles, lamps, guards, cutouts, and fuses as required to complete such installations. The Contractor shall furnish lamps and fuses for all temporary systems furnished by him and shall replace broken and burned out lamps, blown fuses, damaged wiring and as required to maintain these systems in adequate and safe operating condition. All such temporary light and power system shall be installed without interfering with the work of his subcontractors.

When it is necessary during the progress of construction that a temporary electrical facility installed under this Division interferes with construction operations, the Contractor shall relocate the temporary electrical facilities to maintain temporary power as required at no additional cost to the Owner. The Contractor shall be responsible at all times for any damage or injury to equipment, materials, or personnel caused by improperly protected or installed temporary installations and equipment.

- 3. The various subcontractors doing the work at the site shall be permitted to connect into the temporary general lighting system small hand tools, such as drills, hammers, and grinders, provided that:
 - a. Equipment and tools are suitable for 120 V, single phase, 60 Hz operation and operating input does not exceed 1,500 volt-amperes.

- b. Tools are connected to outlets of the system with only one (1) unit connected to a single outlet.
 - c. In case of overloading of circuits, the Contractor will restrict use of equipment and tools as required for correct loading.
4. The Contractor shall keep the temporary general lighting and power systems energized fifteen minutes before the time that the earliest trade starts in the morning and de-energized fifteen minutes after the time the latest trade stops. This applies to all weekdays, Monday through Friday, inclusive, which are established as regular working days.
 5. If the Contractor requires additional power and lighting other than that specified herein (including power for temporary heating equipment) shall furnish an additional service complete with all fuses, cutouts, wiring and other material and equipment necessary for a complete system between the service point and the additional power consumers and shall install his own metering equipment in accordance with the requirements of the servicing power company.
 6. The temporary general lighting system shall be installed progressively in structures as the various areas are enclosed or as lighting becomes necessary because of partial enclosure. Lighting intensities shall be not less than 10 foot candles.
 7. The Contractor shall provide a separate temporary night lighting circuit for construction security. This system shall be energized at the end of each normal working day and de-energized at the start of each normal working day by the Contractor. The system is to be left energized over Saturdays, Sundays, and all holidays. Lighting intensities shall be not less than 2 foot candles.
 8. Electrical welders provided by each trade used in the erection and fabrication of the buildings, structures and equipment shall be provided with an independent grounding cable connected directly to the structure on which the weld is being made rather than adjacent conduit piping, etc.

Electricians and other tradesmen necessary for the required connections and operation of welding equipment and generator, standby generators and similar equipment (and related labor) shall be furnished by the Contractor and his subcontractors.
 9. Upon completion of the work, but prior to acceptance by the Owner, the Contractor shall remove all temporary services, security lighting systems, temporary general lighting systems and all temporary electrical work from the premises.

F. Temporary Heating

1. The Contractor shall provide temporary heating, ventilation coverings and enclosures necessary to properly protect all work and materials against damage by dampness and cold, to dry out the work and to facilitate work in all structures.
2. The equipment, fuel, materials, operating personnel and methods used shall be at all times satisfactory and adequate to maintain critical installation temperatures and ventilation for all work in those areas where the same is required.
3. After any structure is enclosed, the minimum temperature to be maintained is 50°F, unless otherwise specified, where work is actually being performed.
4. Before and during the application of interior finishing, painting, etc., the Contractor shall provide sufficient heat to maintain a temperature of not less than 65°F.
5. Any work damaged by dampness or insufficient or abnormal heating shall be replaced by the Contractor at no additional cost to the Owner.

G. Temporary Sanitary Service

1. Sanitary conveniences, in sufficient numbers, for the use of all persons employed on the work and properly screened from public observation, shall be provided and maintained at suitable locations by the Contractor, all as prescribed by State Labor Regulations and local ordinances. The contents of same shall be removed and disposed of in a manner consistent with local and state regulations, as the occasion requires. Contractor and his subcontractors shall rigorously prohibit the committing of nuisances within, on, or about the work. Sanitary facilities shall be removed from the site when no longer required. Employees shall not use the West Hickman WWTP facilities.

H. Temporary Water

1. The Contractor shall provide temporary water service for construction purposes, sanitary facilities, fire protection, field offices and for cleaning. The Contractor shall make all arrangements for connections to the potable water at the plant site. The Contractor shall pay all charges associated with the connection and all charges for potable water used under this Contract.
2. The Contractor shall supply potable water for his employees either by portable containers or drinking fountains.
3. An adequate number of hose bibbs, hoses, and watertight barrels shall be provided for the distribution of water.
4. Water service shall be protected from freezing and the service shall be extended and relocated as necessary to meet temporary water requirements.

PART 2 - PRODUCTS

(NOT USED)

PART 3 - EXECUTION

(NOT USED)

END OF SECTION

SECTION 01515 - FIELD OFFICES

PART 1 - GENERAL

1.01 CONTRACTOR'S FIELD OFFICE

- A. The Contractor shall establish and maintain a field office on this project and have available at the office a responsible representative who can officially receive communications from the Owner and the Engineer. The Contractor shall have one complete, up-to-date set of Drawings, Specifications and Contract Documents (including all Addenda and Change Orders) in this office at all times, available for reference at any time. The office shall be provided with telephone service, toilet facilities, light, air conditioning and heat; the cost of which shall be borne by the Contractor. Notices, instructions, orders, directions or other communications from the Engineer, left at this office, shall be considered as received by the Contractor.
- B. Field office and utilities shall be in accordance with all applicable codes and ordinances.

1.02 RESIDENT REPRESENTATIVE'S FIELD OFFICE

- A. Field office is required as specified below:
 1. The Contractor shall provide and maintain a field office for the exclusive use of the Owner's Resident Representative (RR). The facilities shall be available for his use during the entire duration of the Project, and shall not be disturbed, moved, or interrupted without the Owner's approval. The office shall be a separate structure containing at least 600 square feet of floor area, sealed from the weather, completed and ready for occupancy within thirty (30) days following the Notice to Proceed with the Project. Trailer shall be divided into one office and conference room. The office shall be erected on a location approved by the Engineer. The Contractor shall arrange for the office to be cleaned using a qualified, professional cleaning service at least weekly in a manner satisfactory to the Engineer. A mobile field office trailer minimum of 12 feet wide and 50 feet long is acceptable if it contains the required facilities. Contractor shall respond to and address any maintenance issue that arises at the RR's field office within 24 hours.
 2. All doors and windows shall be equipped with locking devices to prevent unauthorized entry, and all keys to the door locks shall be loaned to the Engineer for his use during the life of the project. Main entrance to office shall have a 72 square foot minimum covered porch with a separate roof and rainproof seal to the main structure. The office shall contain adequate heating, air conditioning, and ventilating facilities. Adequate electric lights shall be provided with a wall receptacle on each of the four walls. Functional, totally enclosed water closet and lavatory shall be provided. An individual, direct-line telephone service equipped with an outside bell shall be located as directed for the exclusive use of the Engineer (for up to 4 persons and one facsimile equipment). An individual, direct high-speed internet service (DSL or cable) shall be provided and located as directed for exclusive use of the RR (networked for up to 4 persons). Telephone service for all calls related to the work including long distance, all heat, light, power, internet, water and sanitary facilities, well-maintained access road and parking (for up to 4 vehicles shall be furnished and paid for by the Contractor. All supplies including wastebasket heavy duty liners, floor entry mats, mud-cleaning brushes, paper towels, toilet paper, copying machine paper (all sizes) shall be provided by the Contractor for the full duration of the Contract.
 3. A 24-inch by 36-inch plywood sign shall be erected on the outside wall of the field office in a location determined by the Engineer. The sign shall be painted white with green, 3-inch high lettering, and neatly arranged identifying this as the field office.

4. The following office furniture and equipment shall be furnished:

Qty	Item
2	Flat top desks, 2-1/2 x 5 feet, with drawers at each end
1	Plywood drawing table, 3 feet x 6 feet tilt top with drafting stool
8	Straight chairs (padded stacking type)
3	Four-drawer, legal size steel filing cabinet with lock and key (HON 210P Series Full-suspension Files)
2	Large (23-gallon) metal or heavy duty plastic wastebaskets with tops
3	Wastebaskets (28-quart)
1	Mobile rack from which to hang drawings, including related appurtenances
2	Wall-mounted fire extinguishers
1	Electric water cooler with 5-gallon bottle water supply and disposable drink cups
2	Metal office folding tables 30 inches x 60 inches (minimum)
1	Metal office folding table 30 inches x 96 inches (minimum)
2	Bookcases with 4 shelves, 3 feet wide
1	Steel storage cabinets (72"H x 36"W x 24"D) w/ four adjustable shelves & locks
3	18 inch square lockers by 6 feet high
1	First Aid Cabinet conforming to the OSHA requirements for an office of up to 15 persons or a construction site of up to 5 persons.
1	Automatic telephone message recorder
2	Tilt/swivel type desk chairs
1	4 cu. ft. capacity refrigerator
1	1.4 cu. ft. countertop microwave with double-oven cart
1	Copying/Printer/Scanner/Facsimile machine, with local service contract
1	Office hard drive 500 GB minimum) and router networked for up to 4 persons with high-speed internet and 4-in-1 printer

5. The Contractor shall have the RR's field office set up and fully operational within 30 days after the date of execution of the Contract. On completion of the project, the field office shall be removed from the site as a part of the Contractor's demobilization. The site shall be restored.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01520 - MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION

PART 1 - GENERAL

1.01 REQUIREMENTS

- A. The sanitary sewer system shall be maintained in continuous operation during the entire construction period of this Contract as hereinafter specified. The intent of this section is to outline the minimum requirements necessary to provide continuous transference of wastewater throughout the construction period.
- B. Work under this Contract shall be scheduled and conducted by the Contractor so as to not reduce the quality of near-by water streams or cause odor or other nuisance except as explicitly permitted hereinafter. In performing the work shown and specified, the Contractor shall plan and schedule his work to meet the plant and collection system operating requirements, and the constraints and construction requirements as outlined in this Section. No discharge of raw or inadequately treated wastewater shall be allowed. The Contractor shall pay all civil penalties, costs, and assessments associated with any discharge of raw or inadequately treated wastewater associated with the Contractor's work.
- C. The Contractor shall be responsible for coordinating the general construction and for ensuring that permanent or temporary power is available for all existing, proposed, and temporary facilities that are required to be on line at any given time.
- D. The Contractor has the option of providing additional temporary facilities that can eliminate a constraint, provided it is done without cost to the Owner and provided that all requirements of these Specifications are fulfilled and approved by the Engineer.

1.02 TEMPORARY BYPASS PUMPING

- A. Requirements for this section shall apply to all pumping required for Contractor to perform tie-ins, shutdowns, etc. for construction of the work. Temporary bypass pumping shall be performed in accordance with this section unless noted otherwise herein. Temporary pumping system design calculations and equipment information shall be submitted for review by Engineer per Section 01300. Calculations shall be stamped by a professional engineer registered in the Commonwealth of Kentucky.
- B. Contractor shall furnish, install, maintain, and operate temporary bypass pumping facilities as required to complete the Work. Contractor shall be responsible for all construction necessary to accommodate pumps and piping including but not limited to structure modifications, pump base construction, pipe supports, etc.
- C. The Contractor shall perform a test run of the bypass pumping set-up before being allowed to continue with the full scale bypass pumping.
- D. Contractor shall design the temporary bypass pumping facilities to convey flows from the upstream manholes where existing manhole or sewer tie-ins, replacement, or modifications will be conducted in a manner that will prevent backup of the existing system.
- E. All tie-ins, replacement, or modifications shall be performed during low flow conditions.
- F. All tie-ins, replacement, or modifications Work shall be accomplished as quickly as possible. If Work required extends beyond 8-hours or weather causes higher flows in the existing system during the Work, the new Work shall be stopped and the existing system shall be placed back into service. The new Work shall be properly protected from damage. Any damage to the new Work or damage to surrounding areas caused by the new Work shall be repaired or replaced at the Owner's decision by the Contractor at the Contractor's sole expense.

- G. Contractor shall provide all power, fuel, maintenance materials, parts, and other expendables in order to maintain temporary pumping through the duration of the Work.
- H. Contractor shall provide one standby pump equal in capacity to the largest pump installed. If temporary pumping requires non-identical pumps in series, a standby pump of each type shall be provided. Temporary control system shall start standby pump on high level and dial-out to local contact who will respond and be on-site within an hour to check and address problem. High-high level shall also alarm and dial-out indicating that standby pump is not maintaining level. Temporary pumping system shall be provided by company that has spare pumps ready to be delivered and installed locally if problems occur.
- I. Contractor shall provide standby power or 48-hour on-site fuel storage capacity for diesel engine type pumps to ensure continuous operation at all times.
- J. Contractor shall provide sound attenuation for temporary pumping facilities to limit noise levels to no more than 85 dBA at a distance of 21 feet from the noise source.
- K. Temporary pumping system shall remain fully operational until all modifications are complete and approved by Owner or Engineer.
- L. Following successful completion of the new Work, Contractor shall remove all temporary pumps, piping and appurtenances and restore area and/or structures to original condition prior to start of work.
- M. The Contractor shall schedule bypass pumping in regular monthly progress meetings, or a minimum of two (2) weeks before a scheduled bypass. The Contractor shall be responsible for notifying the Engineer of bypass pumping 48 hours in advance for coordination with the Division of Water Quality Project Manager and Division of Water. The Contractor will be responsible to filling required forms for coordination with the Division of Water Quality Project Manager and Division of Water. The bypass form will be provided to the Contractor after the Notice to Proceed.

1.03 MAINTENANCE OF PLANT OPERATION

- A. This project involves modifications of the existing systems and plant expansion work, both of which interface with the existing treatment plant. Plant operations and finished water quality must be maintained throughout construction.
- B. The Contractor will be responsible for supplying a sequence of construction shop drawing to the engineer for review prior to the beginning of any construction activities. The Contractor must note and follow the guidelines and requirements listed below:
 - a. In general, each existing process or item of equipment cannot be removed from service until a new, like system is operational.

1.04 SUBMITTALS

- C. The Contractor shall submit a sequence of construction prior to the beginning of any construction activities.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01530 - PROTECTION OF EXISTING FACILITIES

PART 1 - GENERAL

1.01 REQUIREMENTS

- A. Contractor shall be responsible for the preservation and protection of property adjacent to the work site against damage or injury as a result of his operations under this Contract. Any damage or injury occurring on account of any act, omission or neglect on the part of the Contractor shall be restored in a proper and satisfactory manner or replaced by and at the expense of the Contractor to an equal or superior condition than previously existed.
- B. Contractor shall be responsible for locating all underground utilities in accordance with applicable regulation. Locations and elevations of all existing utilities shall be accurately marked on record drawings.
- C. Contractor shall comply promptly with such safety regulations as may be prescribed by the Owner or the local authorities having jurisdiction and shall, when so directed, properly correct any unsafe conditions created by, or unsafe practices on the part of, his employees. In the event of the Contractor's failure to comply, the Owner may take the necessary measures to correct the conditions or practices complained of, and all costs thereof will be deducted from any monies due the Contractor. Failure of the Engineer to direct the correction of unsafe conditions or practices shall not relieve the Contractor of his responsibility hereunder.
- D. In the event of any claims for damage or alleged damage to property as a result of work under this Contract, the Contractor shall be responsible for all costs in connection with the settlement of or defense against such claims. Prior to commencement of work in the vicinity of property adjacent to the work site, the Contractor, at his own expense, shall take such surveys as may be necessary to establish the existing condition of the property. Before final payment can be made, the Contractor shall furnish satisfactory evidence that all claims for damage have been legally settled or sufficient funds to cover such claims have been placed in escrow, or that an adequate bond to cover such claims has been obtained.

1.02 PROTECTION OF WORK AND MATERIAL

- A. During the progress of the work and up to the date of final payment, the Contractor shall be solely responsible for the care and protection of all work and materials covered by the Contract.
- B. All work and materials shall be protected against damage, injury or loss from any cause whatsoever, and the Contractor shall make good any such damage or loss at his own expense. Protection measures shall be subject to the approval of the Engineer.

1.03 BARRICADES, WARNING SIGNS AND LIGHTS

- A. The Contractor shall provide, erect and maintain as necessary, strong and suitable barricades, danger signs and warning lights along all roads accessible to the public, as required by the Manual on Uniform Traffic Control Devices or as required by the authority having jurisdiction, to insure safety to the public. All barricades and obstructions along public roads shall include reflective material, shall be illuminated at night, and all lights for this purpose shall be kept burning from sunset to sunrise.
- B. Contractor shall provide and maintain such other warning signs and barricades in areas of and around their respective work as may be required for the safety of all those employed in the work, the Owner's operating personnel, or those visiting the site.

1.04 EXISTING UTILITIES AND STRUCTURES

- A. The term existing utilities shall be deemed to refer to both publicly-owned and privately-owned utilities such as electric power and lighting, telephone, water, gas, storm drains, sanitary sewers and all appurtenant structures.
- B. Where existing utilities and structures are indicated on the Drawings, it shall be understood that all of the existing utilities and structures affecting the work may not be shown and that the locations of those shown are approximate only. It shall be the responsibility of the Contractor to ascertain the actual extent and exact location of existing utilities and structures. In every instance, the Contractor shall notify the proper authority having jurisdiction and obtain all necessary directions and approvals before performing any work in the vicinity of existing utilities.
- C. Prior to beginning any excavation work, the Contractor shall, through field investigations, determine any conflicts or interferences between existing utilities and new utilities to be constructed under this project. This determination shall be based on the actual locations, elevations, slopes, etc., of existing utilities as determined in the field investigations, and locations, elevation, slope, or other information of new utilities as shown on the Drawings. If an interference exists, the Contractor shall bring it to the attention of the Engineer as soon as possible. If the Engineer agrees that an interference exists, he shall develop a plan to address the interference as required, and obtain the Owner's approval. Additional costs to the Contractor for this change shall be processed through a Change Order as detailed elsewhere in these Contract Documents. In the event the Contractor fails to bring a potential conflict or interference to the attention of the Engineer prior to beginning excavation work, any actual conflict or interference which does arise during the Project shall be corrected by the Contractor, as directed by the Engineer, at no additional expense to the Owner.
- D. The work shall be carried out in a manner to prevent disruption of existing services and to avoid damage to the existing utilities. Temporary connections shall be provided, as required, to insure uninterrupted of existing services. Any damage resulting from the work of this Contract shall be promptly repaired by the Contractor at his own expense in a manner approved by the Engineer and further subject to the requirements of any authority having jurisdiction. Where it is required by the authority having jurisdiction that they perform their own repairs or have them done by others, the Contractor shall be responsible for all costs thereof.
- E. Where excavations by the Contractor require any utility lines or appurtenant structures to be temporarily supported and otherwise protected during the construction work, such support and protection shall be provided by the Contractor. All such work shall be performed in a manner satisfactory to the Engineer and the respective authority having jurisdiction over such work. In the event the Contractor fails to provide proper support or protection to any existing utility, the Engineer may, at his discretion, have the respective authority to provide such support or protection as may be necessary to insure the safety of such utility, and the costs of such measures shall be paid by the Contractor. This is not a pay item.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01540 - DEMOLITION AND REMOVAL OF EXISTING STRUCTURES AND EQUIPMENT

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. This Section covers the demolition, removal, and disposal of structures, pavement, curbs, sidewalk, and any existing equipment. The Contractor shall furnish all labor, materials and equipment to demolish and remove structures and equipment designated to be removed on Drawings.

1.02 TITLE TO EQUIPMENT AND MATERIALS

- A. Contractor shall have no right or title to any of the equipment, materials or other items to be removed from the existing structures unless authorized by Owner.

1.03 CONDITION OF STRUCTURES AND EQUIPMENT

- A. The Owner does not assume responsibility for the actual condition of structures and equipment to be demolished and removed.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 DEMOLITION AND REMOVALS

- A. The removal of all equipment and piping, and all materials from the demolition of structures shall, when released by the Owner and Engineer, shall be done by the Contractor and shall become the Contractor's property, unless otherwise noted, for disposition in any manner not contrary to the Contract requirements and shall be removed from the site to the Contractor's own place of disposal.
- B. Any equipment piping and appurtenances removed without proper authorization, which are necessary for the operation of the existing facilities shall be replaced to the satisfaction of the Engineer at no cost to the Owner.
- C. Excavation caused by demolitions shall be backfilled with fill free from rubbish and debris.
- D. All materials removed by demolition or excavation shall be lawfully and properly handled and disposed according to applicable local, state, and federal laws. Where materials shall be disposed at landfill, manifests and documentation shall be provided to Owner showing / documenting that materials have been properly handled and disposed.
- E. Manhole frames and covers that have been removed shall become the property of the Contractor and shall be disposed on in a legal manner.

END OF SECTION

SECTION 01550 - SITE ACCESS AND STORAGE

PART 1 - GENERAL

1.01 REQUIREMENTS

A. Access Roads

1. The Contractor shall construct and maintain such temporary access roads as required to perform the work of this Contract.
2. Access roads shall be located within the property lines of the Owner unless the Contractor independently secures easements for his use and convenience. Contractor shall submit written documentation to the Engineer for any Contractor secured easements across privately held property. Easement agreement shall specify terms and conditions of use and provisions for site restoration. A written release from the property owner certifying that all terms of the easement agreement have been complied by the Contractor shall be furnished to the Engineer prior to final payment.
3. Existing access roads used by the Contractor shall be suitably maintained by the Contractor at his expense during construction. Contractor shall not be permitted to restrict Owner access to existing facilities. Engineer may direct Contractor to perform maintenance of existing access roads when Engineer determines that such work is required to insure all weather access by the Owner.
4. The Contractor will maintain the primary roads to be free of mud and dirt. All mud and dirt carried from the access roads to the primary roads shall be washed and cleaned.
5. The Contractor shall obtain and pay all cost associated with any bonds required by the Kentucky Department of Transportation for the use of State maintained roads.
6. Contractor shall maintain the road surface of the plant access road from Ashgrove Pike throughout construction. This shall include undercutting and backfilling areas which have failed or pumped, at the direction of the Engineer. Maintenance shall include patching of potholes with asphalt using "cold patch" or "hot mix", whichever is available during the maintenance period. The Contractor shall be reimbursed for the maintenance of the haul road using unit pay items. Any additional pavement outside of the designated haul route that needs repair during construction or after construction shall be incidental to the project, and will not be paid for by the Owner.
7. Gravel roadway on-going maintenance shall be performed on the existing gravel roadway on the west side of West Hickman Creek as necessary throughout construction, and as directed by the Engineer. On-going maintenance includes initial and on-going stabilization of the drainage ditches and undercutting and backfilling areas which have failed or pumped, at the Direction of the Engineer.

B. Parking Areas

1. Contractor shall construct and maintain suitable parking areas for his construction personnel on the project site where approved by the Engineer and the Owner.

C. Restoration

1. At the completion of the Work, the surfaces of land used for access roads and parking areas shall be restored by the Contractor to its original condition and to the satisfaction of the Engineer.

D. Traffic Regulations

1. Contractor shall obey all traffic laws and comply with all the requirements, rules and regulations of the Kentucky Transportation Cabinet, LFUCG, and other local authorities having jurisdiction to maintain adequate warning signs, lights, barriers, etc., for the protection of traffic on public roadways.

E. Storage of Equipment and Materials

1. Contractor shall store his equipment and materials at the job site in accordance with the requirements of the Contract Documents, and as hereinafter specified. All equipment and materials shall be stored in accordance with manufacturer's recommendations and as directed by the Owner or Engineer, and in conformity to applicable statutes, ordinances, regulations and rulings of the public authority having jurisdiction.
2. Contractor shall secure a site for staging area and material storage, including portable restroom facilities. Contractor shall not store materials or encroach upon private property without the written consent of the owners of such private property. Use of public lands must be with the written approval of the Owner.
3. Contractor shall not store unnecessary materials or equipment on the job site, and shall take care to prevent any structure from being loaded with a weight which will endanger its security or the safety of persons.
4. Materials shall not be placed within ten (10) feet of fire hydrants. Gutters, drainage channels and inlets shall be kept unobstructed at all times.
5. Contractor shall provide adequate temporary storage buildings/facilities, if required, to protect materials or equipment on the job site.
6. Contractor shall provide Engineer with copy of agreement with property owner of staging area. Contractor will be responsible for all restoration. Agreement between Contractor and property owner shall include language holding the Owner harmless from responsibility and liability.
7. The Contractor shall conform with the Floodplain Construction Permit in regards to storage of material within the floodplain and floodway.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01560 - TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 - GENERAL

1.01 GENERAL

- A. Provide and maintain equipment and temporary construction, as necessary to provide controls over environmental and safety conditions at the construction site and adjacent areas. Remove physical evidence of temporary facilities at completion of Work.
- B. Prohibited Construction Activities:
 - 1. Disposing of excess or unsuitable excavated material in wetlands or floodplains, even with the permission of the property owner.
 - 2. Locating stockpile storage areas in environmentally sensitive areas.
 - 3. Indiscriminate, arbitrary, or capricious operation of equipment in any stream corridors, any wetlands, any surface waters, or outside the construction limits.
 - 4. Pumping of sediment-laden water from trenches or other excavations directly into any surface waters, any stream corridors, any wetlands, or storm sewers; all such water will be properly filtered or settled to remove silt prior to release.
 - 5. Discharging pollutants such as chemicals, fuels, lubricants, bituminous materials, raw sewage and other harmful waste into or alongside of rivers, streams, impoundments, or into natural or manmade channels leading thereto.
 - 6. Permanent or unspecified alteration of the flow line of any stream.
 - 7. Damaging vegetation outside of the construction area.
 - 8. Disposal of trees, brush, and other debris in any stream corridors, any wetlands, any surface waters, or at unspecified locations.
 - 9. Open burning of project debris without a permit.
 - 10. Discharging injurious silica dust concentrations into the atmosphere resulting from breaking, cutting, chipping, drilling, buffing, grinding, polishing, shaping or surfacing closer than 200 feet to places of residences or commercial, professional, quasi-public or public places of human occupation.
 - 11. Storing construction equipment and vehicles and/or stockpiling construction materials on property, public or private, not previously authorized for such purposes as noted in Section 01550.
 - 12. Running well point or pump discharge lines through private property or public property and rights-of-way without an easement or the written permission of the property owner and the consent of the ENGINEER.
 - 13. Non-compliance with the Contractor's, OSHA's, or the Owner's safety requirements.
 - 14. Operations entailing the use of vibratory hammers or compactors outside the hours listed in Section 01010 - Summary of Work, or outside the hours allowed for construction by local ordinances or regulations.

1.02 SAFETY ADVISORY

- A. Scope: Sewer Installation
 - 1. Maintaining jobsite safety
 - 2. Maintaining traffic safety
- B. LFUCG-funded projects have a contractual and legal obligation for performance and breach of contract in regard to the safety of all exposed personnel. Reference the Occupational Safety Health Administration (OSHA) Multi Employer Citation Policy: Multi-employer Worksites, The Creating Employer, The Exposing Employer, The Correcting Employer, The Controlling Employer, Multiple Roles.
- C. The Contractor shall at all times conduct the work safely in order to assure a safe work site. The Contractor shall be responsible for the safety of the Contractor's employees, agents and subcontractors, Owner's personnel and all other personnel or persons at the work site. The Contractor shall be responsible for the adequacy and safety of all construction methods or procedures and the safe prosecution of the work.
- D. The Contractor shall be responsible at all times to conduct the work and keep the work site in compliance with federal, state, and local safety Laws and Regulations, including but not limited to Occupational Safety and Health (OSHA) requirements. This includes shaft drilling operations, concrete moving and placement, confined space entry requirements for trench construction, including use of a trench box or other shoring to support trench walls and proper means of exit from an excavation.
- E. The Contractor shall have an authorized and competent safety representative as defined above on the work site at frequent and regular intervals, or more often, as conditions require. Failure to have such a person at the site as specified herein constitutes an unsafe practice.
- F. The Contractor shall be responsible to suspend Work whenever a Work method or procedure or condition at work site is unsafe.
- G. The Contractor shall submit a written notification to the Owner of any accident or injury. Such notification shall include the Contractor's investigation and what measures are appropriate to avoid such accidents. Payment applications will not be authorized until such notice is provided.
- H. Failure of the Contractor to comply with any provision of this Specification section or the Owner's safety requirements or any federal, state or local safety Laws and Regulations constitute just cause for the Owner to order suspension of Work.
- I. None of the provisions of the section are intended to, nor shall be construed to, create any duty or responsibility on the Owner or Engineer to provide or enforce safety requirements of the Contractor. The duty, responsibility, and liability for safety shall remain with the Contractor.

1.03 AIR POLLUTION AND NOISE CONTROL

- A. Contractor's vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA standards and in no case will noise levels be permitted which interfere with the work of the Owner or others.
 - 1. Construction activities will be limited to hours specified in Section 01010 – Summary of Work.
 - 2. Construction equipment will be provided with intake silencers and mufflers, as required by safety standards.
 - 3. All construction vehicles should be equipped with proper emissions control equipment.

4. Periodically check equipment and machinery for proper tuning to minimize exhaust emissions and noise.

1.04 DUST CONTROL

- A. Contractor shall be responsible for controlling objectionable dust caused by his operation of vehicles and equipment, clearing or for any reason whatever. Contractor shall apply water or use other methods subject to the Engineer's approval which will keep dust in the air to a minimum. Dust control measures shall be implemented multiple times throughout each working day if necessary.

1.05 PEST AND RODENT CONTROL

- A. Provide rodent and pest control as necessary to prevent infestation of construction or storage area.
 1. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

1.06 WATER CONTROL

- A. Contractor shall comply with the Storm Water Pollution Prevention Plan (SWPPP) approved by LFUCG.
- B. Provide methods to control surface water and water from excavations and structures to prevent damage to the Work, the site, or adjoining properties.
- C. Provide, operate and maintain equipment and facilities of adequate size to control surface water.
- D. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas and in conformance with all environmental requirements.

1.07 POLLUTION CONTROL

- A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.
- B. Provide equipment and personnel, perform emergency measures required to contain any spillages, and to remove contaminated soils or liquids.
 1. Excavate and dispose of any contaminated earth offsite, and replace with suitable compacted fill and topsoil.
- C. Take special measures to prevent harmful substances from entering public waters.
 1. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
- D. Provide systems for control of atmospheric pollutants.
 1. Prevent toxic concentrations of chemicals.
 2. Prevent harmful dispersal of pollutants into the atmosphere.
- E. All Contractor's equipment used during construction shall conform to all current federal, state and local laws and regulations.

1.08 EROSION AND SEDIMENT CONTROL

- A. See Section 02372 for erosion and sediment control requirements.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01570 - TRAFFIC REGULATION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Construction parking control.
- B. Flagmen.
- C. Flares and lights.
- D. Haul routes.
- E. Removal.

1.02 RELATED SECTIONS

- A. Section 01005 – Special Conditions
- B. Section 01530 – Barriers

1.03 SUBMITTAL

- A. Contractor to submit a Traffic Control Plan to the Engineer for review prior to the commencement of construction.

PART 2 - PRODUCTS

2.01 SIGNS AND DEVICES

- A. Traffic Cones and Drums, Signage, Flares and Lights: as required/approved by federal, state, and local jurisdictions.
- B. Flagman Equipment: as required by federal, state, and local jurisdictions.
- C. All signs and control of traffic shall be in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways, latest edition, and safety requirements shall comply with the Permits Manual.

PART 3 - EXECUTION

3.01 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles and Owner's operations.
- B. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.
- C. Prevent parking on or adjacent to access roads or in non-designated areas.

3.02 TRAFFIC CONTROL

- A. Whenever and wherever, in the Engineer's opinion, traffic is sufficiently congested or public safety is endangered, Contractor shall furnish uniformed officers to direct traffic and to keep traffic off the highway area affected by construction operations.
- B. Contractor shall abide by county and state regulations governing utility construction Work.
- C. Traffic control shall be provided according to the Kentucky Department of Highways Manual on Uniform Traffic Control Devices for Streets and Highways and County requirements.
- D. The Contractor shall be responsible for complying with appropriate temporary traffic control as described in the latest edition of the Manual on Uniform Traffic Control Devices, in accordance with the KYTC Encroachment Permit.
- E. The Contractor shall advise the Engineer and KYTC District 7 Public Information Officer and local media of the location and duration of any proposed lane closures, a minimum of three (3) days prior to the closure. The KYTC District 7 Information Officer's contact information is NatashF.Lacy@ky.gov, or (all perm859) 246-2355.
- F. No more than one (1) traveled-lane shall be blocked or obstructed during normal working hours. All signs and flaggers during lane closures shall conform with the Manual on Uniform Traffic Control Devices.
- G. When necessary to block one (1) traveled-lane of Ashgrove Pike, the normal working hours shall be between 9:00 am and 3:30 pm. No lanes shall be blocked during normal adverse weather conditions (rain, snow, fog, etc.).
- H. No nonconstruction equipment or vehicles or office trailers shall be allowed on the right of way during working hours.
- I. The right of way shall be left free and clear of equipment, material, and vehicles during non-working hours.
- J. All workers within the right of way shall wear high-visibility safety apparel that meets the performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled "American National Standards for Safety Apparel and Headwear."

3.03 FLAGMEN

Provide trained and equipped flagmen to regulate traffic when construction operations or traffic encroach on public traffic lanes.

3.04 FLARES AND LIGHTS

Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

3.05 HAUL ROUTES

- A. Consult with authorities, establish public thoroughfares to be used for haul routes and site access.
- B. Confine construction traffic to designated haul routes.
- C. Provide traffic control at critical areas of haul routes to regulate traffic and minimize interference with public traffic.

3.06 REMOVAL

Remove equipment and devices when no longer required.

- END OF SECTION -

SECTION 01580 – PROJECT IDENTIFICATION AND SIGNS

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall provide signs near the site of the Work. The sign shall set forth the description of the Work and the names of the Owner, Engineer, and Contractor.

PART 2 - PRODUCTS

2.01 IDENTIFICATION SIGN

- A. Basic design shall be as shown in the sample on page 01580-2 below, and shall include at a minimum the names of the Project, the Owner, the Contractor, and the Engineer. This sign shall be 3' x 6' and provided and installed by the Contractor.
- B. "Working Hard" sign (as shown on page 01580-3) shall be provided by the Owner and mounted and installed by the Contractor. Contractor shall provide posts and backing.
- C. Colors shall be as selected by the Engineer.
- D. Number Required: Two (2)

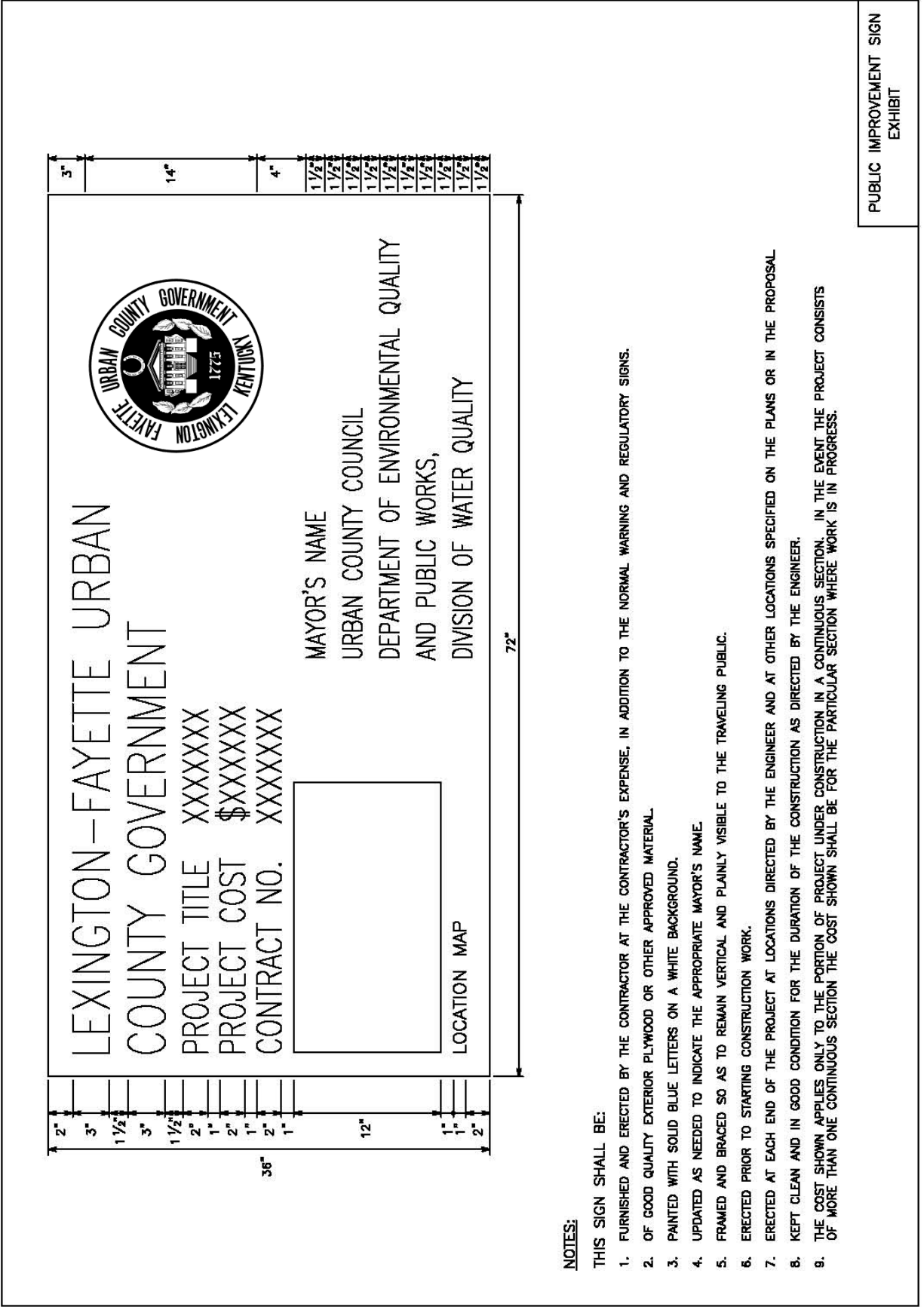
PART 3 - EXECUTION

3.01 INSTALLATIONS

- A. Signs shall be installed at locations specified by the Engineer and installed in accordance with the detail below.

3.02 MAINTENANCE

- A. The signs shall be maintained in good condition until the completion of the Project and then removed by the Contractor.



PUBLIC IMPROVEMENT SIGN
EXHIBIT

NOTES:

THIS SIGN SHALL BE:

1. FURNISHED AND ERECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, IN ADDITION TO THE NORMAL WARNING AND REGULATORY SIGNS.
2. OF GOOD QUALITY EXTERIOR PLYWOOD OR OTHER APPROVED MATERIAL.
3. PAINTED WITH SOLID BLUE LETTERS ON A WHITE BACKGROUND.
4. UPDATED AS NEEDED TO INDICATE THE APPROPRIATE MAYOR'S NAME.
5. FRAMED AND BRACED SO AS TO REMAIN VERTICAL AND PLAINLY VISIBLE TO THE TRAVELING PUBLIC.
6. ERECTED PRIOR TO STARTING CONSTRUCTION WORK.
7. ERECTED AT EACH END OF THE PROJECT AT LOCATIONS DIRECTED BY THE ENGINEER AND AT OTHER LOCATIONS SPECIFIED ON THE PLANS OR IN THE PROPOSAL.
8. KEPT CLEAN AND IN GOOD CONDITION FOR THE DURATION OF THE CONSTRUCTION AS DIRECTED BY THE ENGINEER.
9. THE COST SHOWN APPLIES ONLY TO THE PORTION OF PROJECT UNDER CONSTRUCTION IN A CONTINUOUS SECTION. IN THE EVENT THE PROJECT CONSISTS OF MORE THAN ONE CONTINUOUS SECTION THE COST SHOWN SHALL BE FOR THE PARTICULAR SECTION WHERE WORK IS IN PROGRESS.



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WORKING HARD
TO IMPROVE YOUR NEIGHBORHOOD
Your Sanitary Sewer Fees Are Making Lexington A Better Place To Live

END OF SECTION

SECTION 01631 - PRODUCTS AND SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. General: Substitution of materials and/or equipment is defined in the General Conditions and more fully hereinafter.
- B. Substitutions: The Contractor's requests for changes in the products, materials, equipment and methods of construction required by the Contract Documents are considered requests for "substitutions", and are subject to the requirements specified herein. The following are not considered as substitutions:
 - 1. Revisions to the Contract Documents, where requested by the Owner and Engineer are considered as "changes" not substitutions.
 - 2. Substitutions requested during the bidding period, which have been accepted prior to the Contract Date, are included in the Contract Documents and are not subject to the requirements for substitutions as herein specified.
 - 3. Specified Contractor options on products and construction methods included in the Contract Documents are choices available to the Contractor and are not subject to the requirements for substitutions as herein specified.
 - 4. Except as otherwise provided in the Contract Documents, the Contractor's determination of and compliance with governing regulations and orders as issued by governing authorities do not constitute "substitutions" and do not constitute a basis for change orders.

1.02 SUBMITTALS

- A. The information required to be furnished for evaluation of product substitution will be as follows:
 - 1. Performance capabilities, and materials and construction details will be evaluated based upon conformance with the Specifications. Products that do not conform with the Specification shall not be accepted.
 - 2. Manufacturer's production and service capabilities, and evidence of proven reliability will be acceptable if the following is furnished.
 - a. Written evidence that the manufacturer has not less than (3) years experience in the design and manufacture of the substitute product.
 - b. Written evidence of at least one application, of a type and size similar to the proposed substitute product, in successful operation in a wastewater treatment plant or collection system for a period of at least one year.
 - c. In lieu of furnishing evidence of a manufacturer's Experience and successful operation of an application of the product to be substituted, the Contractor has the option of furnishing a cash deposit or bond which will guarantee replacement if the product the furnished does not satisfy the other requirements specified in this section. The amount of each deposit or bond will be subject to the approval.
 - 3. Specific reference to characteristics either superior or inferior to specified requirements will be evaluated based on their net effect on the project. Products with any characteristics inferior to those specified will not be acceptable unless offset by

characteristics that, in the opinion of the Engineer, will cause the overall effect of the product on the project to be at least equal to that of those specified.

1.03 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same generic kind, from a single source, for each unit of work.
- B. Compatibility of Options: Compatibility of products is a basic requirement of product selection. When the Contractor is given the option of selecting between two or more products for use on the project, the product selected must be compatible with other products previously selected, even if the products previously selected were also Contractor options. The complete compatibility between the various choices available to the Contractor is not assured by the various requirements of the Contract Documents, but must be provided by the Contractor.
- C. The detailed estimate of operating and maintenance costs will be evaluated based on comparison with similar data on the specified products. Proposed substitute products which have an operating and maintenance cost that, in the opinion of the Engineer, exceeds that of the specified products will not be considered equal and will not be acceptable.
- D. All equipment provided under this Contract shall meet all the requirements of the Federal and/or State Occupational Health Acts. Each equipment supplier shall submit to the Engineer certification that the equipment furnished is in compliance with OSHA.
- E. The design, testing, assembly and methods of installation of the wiring materials, electrical equipment and accessories proposed under this Contract shall conform to the National Electrical Code and to applicable State and local requirements. UL listing and labeling shall be adhered to under this Contract. Any equipment that does not have a UL, FM, CSA, or other listed testing laboratory label shall be furnished with a notarized letter signed by the supplier stating that the equipment furnished has been manufactured in accordance with the Nation Electrical Code and OSHA requirements. Any additional cost resulting from any deviation from code or local requirements shall be borne by the Contractor.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. General: Deliver, store, and handle products in accordance with manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft. Control delivery schedules to minimize long-term storage at the site and to prevent overcrowding of construction spaces. In particular 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.
 - 1. Deliver products to the site in the manufacturer's sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
 - 2. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
 - 3. Store heavy materials away from the project construction in a manner that will not endanger the supporting construction.

PART 2 - PRODUCTS

2.01 GENERAL PRODUCT COMPLIANCE

A. General: Requirements for individual products are indicated in the Contract Documents; compliance with these requirements is in itself a Contract Requirement. These requirements may be specified in any one of several different specifying methods, or in any combination of these methods. These methods include the following:

1. Proprietary
2. Descriptive
3. Performance
4. Compliance with Reference Standards

Compliance with codes, compliance with graphic details and similar provisions of the Contract Documents also have a bearing on the review and approval outcome.

B. Procedures for Selecting Products: Contractor's options in selecting products are limited by requirements of the Contract Documents and governing regulations. They are not controlled by industry traditions or procedures experienced by the Contractor on previous construction projects.

2.02 SUBSTITUTIONS

A. Conditions: Contractor's request for substitution will be received and considered when extensive revisions to the Contract Documents are not required, when the proposed changes are in keeping with the general intent of the Contract Documents, when the request is timely, fully documented and properly submitted, and when one or more of the following conditions is satisfied, all as judged by the Engineer; otherwise the requests will be returned without action except to record non-compliance with these requirements.

1. The Engineer will consider a request for substitution where the request is directly related to an "or equal" clause or similar language in the Contract Documents.
2. The Engineer will consider a request for substitution where the specified product or method cannot be provided within the Contract Time. However, the request will not be considered if the product or method cannot be provided as a result of the Contractor's failure to pursue the work promptly or to coordinate the various activities properly.
3. The Engineer will consider a request for substitution where the specified product or method cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
4. The Engineer will consider a request for a substitution where a substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. These additional responsibilities may include such considerations as additional compensation to the Engineer for redesign and evaluation services, the increased cost of other work by the Owner or separate contractors, and similar considerations.
5. The Engineer will consider a request for substitution when the specified product or method cannot be provided in a manner which is compatible with other materials of the work, and where the Contractor certifies that the substitution will overcome the incompatibility.

6. The Engineer will consider a request for substitution when the specified product or method cannot be properly coordinated with other materials in the work, and where the Contractor certifies that the proposed substitution can be properly coordinated.
 7. The Engineer will consider a request for substitution when the specified product or method cannot receive a warranty as required by the Contract Documents and where the Contractor certifies that the proposed substitution receive the required warranty.
 8. The Contractor shall reimburse the Owner any costs for review by the Engineer of proposed product substitutions which require major design changes, as determined by the Owner, to related or adjacent work made necessary by the proposed substitutions.
- B. Work-Related Submittals: Contractor's submittal of and the Engineer's acceptance of shop drawings, product data or samples which relate to work not complying with requirements of the Contract Documents, does not constitute an acceptable or valid request for a substitution, nor approval thereof.

2.03 GENERAL PRODUCT REQUIREMENTS

- A. General: Provide products that comply with the requirements of the Contract Documents and that are undamaged and, unless otherwise indicated, unused at the time of installation. Provide products that are complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
1. Standard Products: Where they are available, 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 replacement parts or additional amounts of a product at a later date, either for maintenance and repair or replacement, provide standard, domestically produced products for which the manufacturer has published assurances that the products and its parts are likely to be available to the Owner at a later date.

2.04 MATERIALS

- A. Safety Guards: All belt or chain drives, fan blades, couplings, vertical or horizontal drive shafts, and other moving or rotating parts shall be covered on all sides by a safety guard. Safety guards shall be fabricated from 16 gauge or heavier galvanized or aluminum-clad sheet steel or ½ inch mesh galvanized expanded metal. Each guard shall be designed for easy installation and removal and painted safety yellow.
1. All necessary supports and accessories shall be provided for each guard, Supports and accessories, including bolts. Shall be hot-dipped galvanized.
 2. All safety guards in outdoor locations shall be designed to prevent the entrance of rain and dripping water.
- B. Equipment Bases: A cast iron or welded steel baseplate shall be provided for all equipment and motor assemblies. Each baseplate shall support the unit and its drive assembly, shall be of a neat design with pads for anchoring the units, shall have a raised lip all around, and shall have a threaded drain connection. Bases shall be fully braced to withstand shock loads and resist buckling. Necessary safety guard mounting shall be provided as part of the equipment base.

PART 3 - EXECUTION

3.01 INSTALLATION OF PRODUCTS

- A. General: Except as otherwise indicated in individual sections of these Specifications, comply with the manufacturer's instructions and recommendations for installation of the products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other work. Clean exposed surfaces and protect surfaces as necessary to ensure freedom from damage and deterioration at Time of Acceptance.

END OF SECTION

SECTION 01731 - CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes procedural requirements for cutting and patching existing structures.
- B. The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the work or to make its parts fit together properly.
- C. The Contractor shall not damage or endanger any portion of the Work or the Work of the Owner or any separate contractors by cutting, patching or otherwise altering any work, or by excavation.
- D. Any cutting of existing structures or facilities shall be approved in advance by Owner or Engineer. Approval shall not impact Contractor's full liability for any damage caused.

1.02 QUALITY ASSURANCE

- A. Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.

1.03 WARRANTY

- A. Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials, to the extent practicable.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the functional performance of existing materials.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

3.02 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

3.03 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.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
 - 5. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

END OF SECTION

SECTION 01740 - CLEANING

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. Maintain premises free from accumulations of waste, debris, and rubbish.
- B. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces. Leave project clean and ready for occupancy.

1.02 RELATED DOCUMENTS

- A. Cutting and Patching: Section 01731.
- B. Project Closeout: Section 01770.
- C. Cleaning for Specific Products of Work: Specification Section for that work.

1.03 SAFETY REQUIREMENTS

- A. Hazards Control:
 - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile noxious substances.
- B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on project site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute cleaning to ensure that building, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.

- C. At reasonable intervals during progress of work, clean site and public properties, and dispose of waste materials, debris and rubbish.
- D. Provide on-site containers for collection of waste materials, debris and rubbish.
- E. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off Owner's property.
- F. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- G. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

3.02 FINAL CLEANING

- A. Employ experienced workmen, or professional cleaners, for final cleaning.
- B. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces.
- C. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials, from sight-exposed interior or exterior finished surfaces; polish surfaces so designated to shine finish.
- D. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
- E. Broom clean paved surfaces; rake clean other surfaces of grounds.
- F. Maintain cleaning until project, or portion thereof, is occupied by Owner.

END OF SECTION

SECTION 01770 - PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Liquidated Damages: Supplemental General Conditions
- B. Cleaning: Section 01740.
- C. Project Record Documents: Section 01785.

1.02 SUBSTANTIAL COMPLETION

- A. In order to initiate project closeout procedures, the Contractor shall submit the following:
 - 1. Written certification to Engineer that project is Substantially Complete.
 - 2. List of major items to be completed or corrected.
- B. Engineer will make an inspection within seven (7) days after receipt of certification, together with Owner's Representative.
- C. Should Engineer consider that work is Substantially Complete:
 - 1. Contractor shall prepare, and submit to Engineer, a list of items to be completed or corrected, as determined by the inspection.
 - 2. Engineer will prepare and issue a Certificate of Substantial Completion, containing:
 - a. Date of Substantial Completion.
 - b. Contractor's list of items to be completed or corrected, verified and amended by Engineer.
 - c. The time within which Contractor shall complete or correct work of listed items.
 - d. Time and date Owner will assume possession of work or designated portion thereof.
 - e. Responsibilities of Owner and Contractor for:
 - 1) Insurance
 - 2) Utilities
 - 3) Operation of Mechanical, Electrical, and Other Systems.
 - 4) Maintenance and Cleaning.
 - 5) Security.
 - f. Signatures of:
 - 1) Engineer
 - 2) Contractor
 - 3) Owner

3. Owner occupancy of Project or Designated Portion of Project:
 - a. Contractor shall:
 - 1) Obtain certificate of occupancy.
 - 2) Perform final cleaning in accordance with Section 01740.
 - b. Owner will occupy Project, under provisions stated in Certificates of Substantial Completion.
 4. Contractor: Complete work listed for completion or correction, within designated time.
- D. Should Engineer consider that work is not Substantially Complete:
1. Engineer shall immediately notify Contractor, in writing, stating reasons.
 2. Contractor: Complete work, and send second written certification to Engineer, certifying that Project or designated portion of Project is substantially complete.
 3. Engineer will reinspect work.
- E. Should Engineer consider that work is still not finally complete:
1. Engineer shall notify Contractor, in writing, stating reasons.
 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send third written notice to the Engineer certifying that the work is complete.
 3. Engineer and Owner will reinspect work at Contractor's expense.

1.03 FINAL INSPECTION

- A. Contractor shall submit written certification that:
1. Contract Documents have been reviewed.
 2. Project has been inspected for compliance with Contract Documents.
 3. Work has been completed in accordance with Contract Documents.
 4. Equipment and systems have been tested in presence of Owner's Representative and are operational.
 5. Project is completed, and ready for final inspection.
- B. Engineer will make final inspection within seven (7) days after receipt of certification.
- C. Should Engineer consider that work is finally complete in accordance with requirements of Contract Documents, he shall request Contractor to make Project Closeout submittals.
- D. Should Engineer consider that work is not finally complete:
1. Engineer shall notify Contractor in writing, stating reasons.
 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to Engineer certifying that work is complete.

3. Engineer will reinspect work.

1.04 CLOSEOUT SUBMITTALS

- A. Project Record Documents: To requirements of Section 01785.
- B. Guarantees, Warranties and Bonds: To requirements of particular technical Specifications and Section 01782.

1.05 INSTRUCTION

- A. Instruct Owner's personnel in operation of all systems, mechanical, electrical, and other equipment.

1.06 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit final applications in accordance with requirements of General Conditions.

1.07 FINAL CERTIFICATE FOR PAYMENT

- A. Engineer will issue final certificate in accordance with provisions of general conditions.
- B. Should final completion be materially delayed through no fault of Contractor, Engineer may issue a Semi-Final Certificate for Payment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01780 – OPERATIONS AND MAINTENANCE MANUALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Compile product data and related information appropriate for Owner's maintenance and operation of equipment furnished under the Contract. Prepare operating and maintenance data as specified.
- B. In addition to maintenance and operations data, the manufacturer's printed recommended installation practice shall also be included. If not part of the operations and maintenance manual, separate written installation instructions shall be provided, serving to assist the Contractor in equipment installation.
- C. Related requirements specified elsewhere:
 - 1. Submittals: Section 01300.
 - 2. Project Closeout: Section 01770.
 - 3. Project Record Documents: Section 01785.
 - 4. Warranties and Bonds: Section 01782.

1.02 FORM OF SUBMITTALS

- A. Prepare data in the form of an instructional manual for use by Owner's personnel.
- B. Format:
 - 1. Size: 8-1/2 in. x 11 in.
 - 2. Paper: 20 pound minimum, white.
 - 3. Text: Manufacturer's printed data.
 - 4. Photo copies must be clear and legible.
 - 5. Drawings:
 - a. Provide reinforced punched binder tab, bind in with text.
 - b. Fold large drawings to the size of the text pages where feasible.
 - c. For flow or piping diagrams that cannot be detailed on the standard size drawings, a larger, appropriate size drawing may be submitted and supplied in a properly marked map packet.
 - 6. Provide fly-leaf for each separate product, or each piece of operating equipment.
 - a. Provide typed description of product, and major component parts of equipment.
 - b. Provide indexed tabs.
 - 7. Cover: Identify each volume with types or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List:

- a. Title of Project.
 - b. Identity of separate structure as applicable.
 - c. Identity of general subject matter covered in the manual.
- C. Binders:
1. Commercial quality, durable and cleanable, 3-hole, 3" or 4" D-ring binders, with oil and moisture resistant hard covers.
 2. When multiple binders are used, correlate the data into related consistent grouping.
 3. Imprinted on the front cover and side of each binder shall be the name of the Plant, the Contract Number and Volume Number.
 4. Binders shall be new and not recycled form a prior data manual.
- D. Each Equipment O & M manual shall be provided with an electronic disk, matching the content of the final approved printed O & M manual. The information shall be saved in a single pdf file, with bookmarks for each chapter, section, appendices, etc., as well as each piece of equipment. Where numerous pieces of equipment may be addressed within a section, a second tier of bookmarks shall be provided to allow quick access to each piece of equipment or key piece of information.

1.03 SUBMITTAL SCHEDULE

- A. Submit one (1) copy of preliminary draft of proposed formats and outlines of contents prior to operation of equipment. Engineer will review draft and return with comments.
- B. Submit one (1) copy of completed data for final review prior to the completion of the Contract and before payment in excess of 90% of the total Contract amount is authorized.
- C. Provide two (2) copies plus pdf on CD of approved completed O & M Manual in final form ten (10) days prior to final inspection or acceptance to the Owner. Final version of each manual shall reflect any changes made during testing and start-up of equipment.

1.04 QUALITY ASSURANCE

- A. Preparation of data shall be done by personnel:
 1. Trained and experienced in maintenance and operation of the described products.
 2. Completely familiar with requirements of this Section.
 3. Skilled as a technical writer to the extent required to communicate essential data.
 4. Skilled as a draftsman competent to prepare required drawings.

1.05 CONTENTS OF MANUAL

- A. Each item of equipment shall be placed in a logical sequential order, as listed or ordered in the Contract Documents.
- B. Content, for each unit of equipment and system, as appropriate:
 1. Detailed description of the process and operation procedures as applicable.
 2. Instructions for all components of the equipment whether manufactured by the supplier or

not, including valves, controllers and other miscellaneous components.

3. Description of unit and component parts.
 - a. Function, normal operating characteristics, and limiting conditions.
 - b. Performance curves, engineering data and tests.
 - c. Complete nomenclature and commercial number of all replaceable parts.
 - d. Exploded and/or sectional drawing views.
 - e. Equipment model number.
4. Operating procedures:
 - a. Start-up, break-in, routine and normal operating instructions.
 - b. Regulation, control, stopping, shutdown and emergency instructions.
 - c. Summer and winter operating instructions.
 - d. Special operating instructions.
5. Maintenance Procedures:
 - a. Routine operations.
 - b. Guide to "trouble-shooting".
 - c. Disassembly, repair and reassembly.
 - d. Alignment, adjusting and checking.
 - e. Preventative maintenance schedule.
 - f. Recommended spare parts list and quantities.
 - g. Equipment parts list.
 - h. Local service center.
6. Servicing and Lubrication schedule.
 - a. List of lubricants required.
 - b. Lubrication procedures.
 - c. Lubrication schedule.
7. Internal and external wiring and piping diagrams numbered to correspond to the installation.
8. Description of sequence of operation by control supplier.
9. Original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.
 - a. Predicted life of parts subject to wear.

10. As-installed control diagrams by controls supplier.
 11. Each Contractor's coordination drawings.
 - a. As-installed color coded piping diagrams.
 12. Charts of valve tag numbers, with the location and function of each valve.
 13. Other data as required under pertinent sections of Specifications.
- C. Content, for each electrical system, as appropriate:
1. Description of system and component parts.
 - a. Function, normal operating characteristics, and limiting conditions.
 - b. Performance curves, engineering data and tests.
 - c. Complete nomenclature and commercial number of replacement parts.
 2. Circuit directories of panel boards.
 - a. Electrical service.
 - b. Controls.
 - c. Communications.
 3. As-installed color-coded wiring diagrams.
 4. Operating procedures:
 - a. Routine and normal operating instructions.
 - b. Sequences required.
 - c. Special operating instructions.
 5. Maintenance procedures:
 - a. Routine operations.
 - b. Guide to "trouble-shooting".
 - c. Disassembly, repair and reassembly.
 - d. Adjustment and checking.
 6. Manufacturer's printed operating and maintenance instructions.
 7. List of original manufacturer's recommended spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
 8. Other data as required under pertinent sections of Specifications.
- D. Prepare and include additional data when the need for such data becomes apparent during instruction of Owner's personnel.

- E. Additional requirements for operating and maintenance data: The respective section of Specifications.
- F. The Contractor must provide as part of the O & M Manual a videotape of any training completed by the equipment representative.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01782 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. Compile specified warranties and bonds.
- B. Compile specified service and maintenance contracts.
- C. Co-execute submittals when so specified.
- D. Review submittals to verify compliance with Contract Documents.
- E. Submit to Engineer for review and transmittal to Owner.

1.02 RELATED DOCUMENTS

- A. Bid Bond: Instructions to Bidders.
- B. Performance and Payment Bonds: General Conditions and Supplemental General Conditions.
- C. Guaranty: General Conditions and Supplemental General Conditions.
- D. General Warranty of Construction: General Conditions.
- E. Project Closeout: Section 01770.
- F. Warranties and Bonds required for specific products: As listed herein.
- G. Provisions of Warranties and Bonds, Duration: Respective specification sections for particular products.

1.03 SUBMITTALS REQUIREMENTS

- A. Assemble warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors.
- B. Furnish two (2) original signed copies.
- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
 - 1. Product, equipment or work item.
 - 2. Firm name, address and telephone number.
 - 3. Scope
 - 4. Date of beginning of warranty, bond or service and maintenance contract.
 - 5. Duration of warranty, bond or service and maintenance contract.
 - 6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure.

b. Instances which might affect the validity of warranty or bond.

7. Contractor name, address and telephone number.

1.04 FORM OF SUBMITTALS

A. Prepare in duplicate packets.

B. Format:

1. Size 8-1/2 in. x 11 in., punch sheets for 3-ring binder.

a. Fold larger sheets to fit into binders.

2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS."
List:

a. Title of Project

b. Name of Contractor

C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.05 TIME OF SUBMITTALS

A. For equipment or component parts of equipment put into service during progress of construction:

1. Submit documents within 10 days after inspection and acceptance.

B. Otherwise make submittals within 10 days after date of substantial completion, prior to final request for payment.

C. For items of work, where acceptance is delayed materially beyond the Date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing the date of acceptance as the start of the warranty period.

1.06 SUBMITTALS REQUIRED

A. Submit warranties, bonds, service and maintenance contracts as specified in the respective sections of the Specifications.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01785 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 MAINTENANCE OF DOCUMENTS

- A. Maintain at job site, one copy of:
 - 1. Contract Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Reviewed Shop Drawings
 - 5. Change Orders
 - 6. Other Modifications to Contract
- B. Store documents in approved location, apart from documents used for construction.
- C. Provide files and racks for storage of documents.
- D. Maintain documents in clean, dry, legible condition.
- E. Do not use record documents for construction purposes.
- F. Make documents available at all times for inspection by Engineer and Owner.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Submittals: Section 01300.

1.03 MARKING DEVICES

- A. Provide colored pencil or felt-tip marking pen for all marking.

1.04 RECORDING

- A. Label each document "PROJECT RECORD" in 2-inch high printed letters.
- B. Keep record documents current.
- C. Do not permanently conceal any work until required information has been recorded.
- D. Contract Drawings: Legibly mark to record actual construction:
 - 1. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - 2. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - 3. Field changes of dimension and detail.
 - 4. Changes made by Change Order or Field Order.

5. Details not on original Contract Drawings.
- E. Specifications and Addenda: Legibly mark up each section to record:
1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 2. Changes made by Change Order or Field Order.
 3. Other matters not originally specified.
- F. Shop Drawings: Maintain as record documents; legibly annotate shop drawings to record changes made after review.

1.05 SUBMITTALS

- A. At completion of project, deliver two hard copies and one CD with pdf of all record documents to Engineer.
- B. 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. Certification that each Document as Submitted is Complete and Accurate.
 6. Signature of Contractor, or His Authorized Representative.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION