

## **Division 4**

## **Specifications**

### **Section 3: Construction Standards**

#### **3.4 Flow Interruption**

- A. A flow interruption plan shall be submitted for CCWA review and approval.
- B. No excavation activities shall commence until a flow interruption plan is approved by CCWA.
- C. Flow interruption may be completed using plugging and/or bypass pumping methods. Use upstream manholes for bypass pumping. Newly installed 36" sanitary sewer segments (manhole to manhole) may receive flow as soon as all testing is completed and accepted.
- D. The following list provides average flows that are to be considered when planning flow interruption.
  - 1. 36" Outfall at Station 3+75 at Existing MH 3: 9,100 gpm
  - 2. 36" Outfall at Station 27+56.38 at Existing MH 8: 9,100 gpm
  - 3. 36" Outfall at Station 55+92.37 at Existing MH 16: 8,400 gpm
  - 4. 36" Outfall upstream of Station 89+60.20: 8,400 gpm
  - 5. 8" Service Connection (Tie-In No. 1): 100 gpm
  - 6. 6" Service Connection (A): 100 gpm
  - 7. 8" Service Connection (B): 300 gpm
  - 8. 8" Service Connection (C): 300 gpm
  - 9. 8" Service Connection (D): 100 gpm
  - 10. 8" Service Connection (E): 100 gpm
  - 11. 6" Service Connection (Existing MH 8): minimal
  - 12. 8" Service Connection (F): 300 gpm
  - 13. 8" Service Connection (G): 100 gpm
  - 14. 12" Service Connection (H): 1,000 gpm
  - 15. 8" Service Connection (I): 100 gpm
  - 16. 4" Service Connection (J): minimal
  - 17. 8" Service Connection (K): 100 gpm
  - 18. 8" Service Connection (L): 300 gpm
  - 19. 6" Service Connection (M): minimal
  - 20. 8" Service Connection (N): 500 gpm
  - 21. 8" Service Connection (O): 300 gpm
  - 22. 8" Service Connection (P): 300 gpm
  - 23. 8" Service Connection (Q): 100 gpm
  - 24. 8" Service Connection (R): 100 gpm
  - 25. 8" Service Connection (S): 100 gpm

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26. 8" Service Connection (T): 100 gpm
- E. The flow interruption plan shall indicate the following as a minimum:
1. Flow interruption method; flow bypass or plugging.
  2. Map that shows manholes/structures affected; this includes plugging/suction points, flow discharge points, space required for pump(s) set up and route for discharge piping.
  3. Indicate pump(s) and piping size; pumping capacity shall be capable of handling peak flows. Provide a single pump system curve that represents all pumps at a single pumping location; the pump system curve shall show the system can meet or exceed the anticipated peak flow.
  4. Emergency response plan to be followed in the event of a failure of the system.
- F. Furnish, install and maintain redundant pumps, automated emergency call services, appurtenances, bypass piping and fuel required to maintain existing flows and services. All pumps used shall be fully automatic self-priming units that do not require the use of foot-valves or vacuum pumps in the priming system. The pumps may be electric, or diesel powered. All pumps used must be capable of running dry. Bypass pumping systems will be equipped to be operated continuously 24 hours per day. Each pump shall have its own suction piping; two or more pumps cannot be manifolded together sharing a single suction line. No more than two (2) pump discharge hoses shall be used for the bypass/diversion. If the flow exceeds the capacity of 2 hoses, then rigid piping shall be used. The rigid piping shall consist of HDPE or steel pipes with suitably pressure rated couplings to withstand twice the maximum system pressure or 50 psi, whichever is greater. Under no circumstances will aluminum irrigation type piping or glued PVC pipe be allowed.
- G. Pumped sewage shall be in an enclosed hose or pipe that is adequately protected from traffic. Install traffic rated hose/ramp assemblies where discharge crosses paved surfaces and entrances to businesses/residential properties.
- H. All pump/engine assemblies shall be fully enclosed and equipped with sound suppression systems.

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- I. All bypass pump suction point locations and discharge point locations shall be covered/sealed to prevent odor.
- J. All bypass pumps shall be installed with the bottom of the skids out of or above the 100-year flood elevation. Piping crossing swamps and creeks shall be installed above the 100-year flood elevation and secured to a ridged structure. All other piping within the 100-year flood elevation shall be secured to prevent pipe movement during rain events and flooding.
- K. Install temporary fence (8-feet in height) around bypass pumps, suction point locations and discharge point locations to provide precautionary measures for the protection of persons or property.
- L. A bypass pumping “drill” shall be performed by the Contractor to demonstrate system readiness if requested by CCWA. The drill shall demonstrate the incorporation of all standby equipment to handle flows when the main pump set is switched off. Provisions to accommodate any of the CCWA’s review comments following the drill shall be adhered to in full at no additional cost.
- M. The Contractor shall take all necessary steps to eliminate the overflow of sewerage. In the event of an overflow of sewerage, the Contractor shall be responsible for cleanup of the area and all other pertinent activities as required by the Georgia Environmental Protection Division (GAEPD). All costs of these restoration/cleanup activities shall be the responsibility of the Contractor. In the event that funds are expended by the CCWA related to these activities the Contractor shall reimburse the CCWA for any and all such costs including but not limited to the costs expended by the CCWA for fines levied by the GAEPD.
- N. The Contractor shall be responsible for damage to public or private property due to flow interruption. All costs of restoration/cleanup activities shall be the responsibility of the Contractor. In the event that funds are expended by the CCWA related to these activities the Contractor shall reimburse the CCWA for any and all such.
- O. The Contractor will indemnify and hold harmless the CCWA for any fines or third-party claims for personal or property damage arising from flow interruption that is the responsibility of the Contractor. Should fines subsequently be imposed as a result of any flow interruption for which the

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Contractor is fully or partially responsible, the Contractor shall pay all such fines and all of the legal, engineering, and administrative costs in defending such fines and claims associated with flow interruption.

#### **3.5 Dewatering**

- A. Contractor shall provide an excavation dewatering plan for CCWA review and approval.
- B. Refer to "Geotechnical Investigation Report, Clayton County Water Authority, Jesters Creek East Outfall Replacement Phase 1, Jonesboro, Clayton County, Georgia, dated November 16, 2018.
- C. Provide dewatering systems as necessary to maintain excavations dry at all times during construction.
- D. Water withdrawn from excavations or dewatering systems shall be filtered using containerized sedimentation systems, filter bags and/or filter tubes.
- E. Install appropriate erosion control measures as may be necessary.
- F. Sediment collected within the systems shall be disposed of offsite.

#### **3.6 Vibration Monitoring**

- A. Contractor shall prepare a vibration monitoring plan for CCWA review.
- B. Monitor Buildings #1, #2, #3 and #4 as shown on the Construction Drawings for vibration damage during construction in accordance with industry standards.
- C. Monitoring shall take place during excavation work, pipe installation, manhole installation, backfilling, compaction and grading at each location.
- D. Complete a pre-construction survey of the existing structures to establish a baseline of existing damage prior to the start of any construction. Complete the following as a minimum.
  - 1. Complete a thorough walkthrough as part of the assessment.
  - 2. Complete documentation (notes, photographs, videos) of existing distress, and measurements of pre-existing cracks in foundations and walls outside and inside of structures.