

January 13, 2025

TO: All Bidders under Invitation to Bid No. 24-101685

FROM: Department of Purchasing and Contracting, DeKalb County, Georgia

ADDENDUM NO. 7

ITB No. 24-101685 Small Diameter Sewer Cleaning (Three (3) Year Multiyear Contract) is hereby amended as follows:

1. Bidders must DELETE the Price Schedule on page 21 of the solicitation, and REPLACE with the attached Exhibit 1, Price Schedule – Revised 1.13.2025 **or the bidder will be deemed non-responsive.**
2. Bidders must DELETE the Technical Specifications for Sewer System Cleaning in the solicitation, and REPLACE with the attached Exhibit 2, Technical Specifications for Sewer System Cleaning – Revised 1.13.2025.
3. We have revised some of the responses to questions previously submitted for this ITB that were addressed in Addendum #5. The questions and the revised responses appear below:

25.	Question:	<i>“If pricing adjustments are not agreed by Contractor & Owner, can the Contractor exit the contract after the initial contract period is complete with no penalty? If so, will the Owner please confirm the initial contract period?”</i>
	Answer:	There is no initial contract period. Stipulations for Termination of Contract are under General Terms and Conditions Section U.

49.	Question:	<i>“Section 01510-2.01 mentions sonar equipment. Will this contract require sonar inspection?”</i>
	Answer:	There are line items for cleaning and CCTV verification of sewer main > 18” and ≤ 24”. Depending on flow level, use of sonar may be needed for cleaning verification. Generally, sonar alone will be used where depth of flow in the sewer exceeds seventy-five (75%) percent of overall diameter and the level of the flow will be artificially increased, without the risk of flooding, to ensure that the pipe is completely surcharged. Please see the attached Exhibit 2, Revised Technical Specifications for Sewer System Cleaning.

4. It is the responsibility of each bidder to ensure that he or she is aware of all addenda issued under this ITB. Please sign and return this addendum, **otherwise bidder will be deemed non-responsive.** You may contact Tiffany Reid, Procurement Agent, at tmreid@dekalbcountyga.gov before the bids are due to confirm the number of addenda issued.

5. All other conditions remain in full force and effect.

Tiffany Reid
Procurement Agent
Department of Purchasing and Contracting

ACKNOWLEDGEMENT

Date: _____

The above Addendum No. 7 to ITB No. 24-101685 is hereby acknowledged:

(Company Name)

(Printed Name of Bidder's Authorized Signer)

(Signature of Bidder's Authorized Signer)

(Title)

EXHIBIT 1

PRICE SCHEDULE – REVISED 1.13.2025

ITEM NO. BY SPEC. SECT.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
Division 2 – Site Work					
Traffic Control					
01015-01	Work Zone Staging and Traffic Control: FC 17-Urban Collector Street (per link)	15	EA	\$ _____	\$ _____
01015-02	Work Zone Staging and Traffic Control: FC 16-Urban Minor Arterial Street (per link)	30	EA	\$ _____	\$ _____
01015-03	Work Zone Staging and Traffic Control: FC 14-Urban Principal Arterial Street (per link)	15	EA	\$ _____	\$ _____
Locate an Expose Manhole					
01545-1	Steel Traffic Plate Installation	200	EA	\$ _____	\$ _____
01545-2	Steel Traffic Plate Maintenance	200	Week	\$ _____	\$ _____
02607#-1	Locate and Expose Buried Manhole, Street	200	EA	\$ _____	\$ _____
02607#-2	Locate and Expose Buried Manhole, Non-Street	200	EA	\$ _____	\$ _____
Sanitary Sewer Cleaning					
02956#-1	Cleaning & CCTV Cleaning Verification ≤ 8” Diameter Pipe, Inside the Right of Way/Highway	3,680,000	LF	\$ _____	\$ _____
02956#-2	Cleaning & CCTV Cleaning Verification > 8” - 18” Diameter Pipe, Inside the Right of Way/Highway	280,000	LF	\$ _____	\$ _____
02956#-3	Cleaning & CCTV Cleaning Verification > 18” ≤ 24” Diameter Pipe, Inside the Right of Way/Highway	40,000	LF	\$ _____	\$ _____
02956#-4	Cleaning & CCTV Cleaning Verification ≤ 8” Diameter Pipe, Outside the Right of Way/Highway	3,680,000	LF	\$ _____	\$ _____
02956#-5	Cleaning & CCTV Cleaning Verification > 8” - 18” Diameter Pipe, Outside the Right of Way/Highway	280,000	LF	\$ _____	\$ _____

02956#-6	Cleaning & CCTV Cleaning Verification > 18" ≤ 24" Diameter Pipe, Outside the Right of Way/Highway	40,000	LF	\$ _____	\$ _____
02956#-7	Manhole Cleaning, Additional Depth	7,000	VF	\$ _____	\$ _____
02956#-8	Remove Protruding Connection	200	EA	\$ _____	\$ _____
ITEM NO. BY SPEC. SECT.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
As Needed Basis					
Emergency Flow Bypass Pumping (As Needed Basis)					
01520-1	Bypass Pumping ≤ 12" Diameter Pipe with Flow > 25% and < 50%	10,000	LF	\$ _____	\$ _____
01520-2	Bypass Pumping, ≤ 12" Diameter Pipe with Flow ≥ 50%	5,000	LF	\$ _____	\$ _____
01520-3	Bypass Pumping, > 12" Diameter Pipe	8,000	LF	\$ _____	\$ _____
01520-4	Bypass Pumping Maintenance and Operation	320	HR	\$ _____	\$ _____
Access Road and Easement Cleaning					
02110-1	12' Wide Construction Access Road, Install & Remove	5,000	LF	\$ _____	\$ _____
02110-2	Easement Clearing Light	10,000	SY	\$ _____	\$ _____
02110-3	Easement Clearing Medium	10,000	SY	\$ _____	\$ _____
02110-4	Easement Clearing Heavy	2,000	Cal in	\$ _____	\$ _____
02542-01	Silt Fence – Type C, Single Row	12,000	LF	\$ _____	\$ _____
02542-02	Silt Fence – Type C, Double Row	24,000	LF	\$ _____	\$ _____
Subtotal				\$ _____	
Allowance					
01020-1	Allowance (shall not exceed 10% of the Subtotal amount)	1	LS	\$ _____	\$ _____
Total				\$ _____	

(END OF REVISED PRICE SCHEDULE)

Technical Specifications ITB No. 24-101685

for

Small Diameter Sewer Cleaning

January, 2025

Owner:



DeKalb County

Department of Watershed Management

178 Sams Street

Decatur, Georgia 30030

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SECTION 01010
SUMMARY OF WORK

PART 1 – GENERAL

1.01 PURPOSE AND NEED

- . DeKalb County Department of Watershed Management's (DWM) Wastewater Collection and Transmission System (WCTS) includes an estimated 2,700 miles of sanitary sewer lines, 66 lift stations and 70,000 manholes. Per the Consent Decree (CD) entered with the United States Environmental Protection Agency (EPA), the County has established a gravity line preventative maintenance program as part of the Maintenance Management System (MMS) Program. A routine mechanical cleaning program is established based on mechanical cleaning needs in coordination with the hydraulic cleaning program.

The County utilizes Cityworks, a Computerized Maintenance Management System (CMMS), to track its maintenance data. The County routinely maintains contracts with private contractors specializing in WCTS maintenance. The private firms augment the County's WCTS maintenance capacity allowing the County to meet targeted goals. DWM inspectors oversee contract activities and videos that are submitted by the contractor to document activities conducted.

Note: For all urgent conditions observed, the Contractor shall remain onsite until County personnel arrive unless directed otherwise by the DWM Project Manager. An urgent condition may include an active Sanitary Sewer Overflow, missing manhole lid in street, etc. The Contractor can leave one hour **after** contacting Dispatch and DWM representatives, as long as area is not such that can cause harm to general public or an issue that poses a physical safety risk. The Contractor will be paid by way of a Work Change Directive.

- A. The work will be within roads' rights-of-way and off-road easements. The work activities, as required of these Contract Documents, are listed and generally described as follows:

1. Cleaning & CCTV Cleaning Verification: Cleaning work orders – conduct hydraulic cleaning of designated gravity sewer line segments (including upstream and downstream manholes) and provide a post-cleaning CCTV inspection to verify that the cleaning provided has been performed in accordance with the Cleaning Specifications.

The CCTV Cleaning Verification will provide a video that will verify that the pipe segment cleaned as well as the upstream and downstream manholes are free of roots, grease, and other sediments and blockages. If the pipe cannot be cleaned to the standards specified, that segment will be raised to the Program Manager level for consideration of differing methods of cleaning.

2. Reconnoiter the assigned areas to identify potential issues that may prevent or delay scheduled cleaning/verification work from being performed. This includes obtaining Right of Entry (ROE), identifying areas in need of easement clearing or access, identifying traffic control and permits needed, noting manholes that cannot be located, etc.

Perform Site Work to Locate & Expose Buried Manholes that will enable the cleaning crews to work without experiencing delays. In traffic areas the Contractor will coordinate excavations in the road with County staff and

properly plate the excavation when the difference between manhole lid and top of pavement is greater than 1-inch to protect the traveling public. The Contractor will also maintain the plate until such time as the manhole can be properly adjusted to grade or for the duration of the contract, whichever comes first.

- B. The Contractor shall have adequate equipment and/or resources to execute the work orders on and off the roadway. The Contractor will be required to coordinate the work with DWM Outreach and local residents through the use of door hangers and will be required to obtain rights-to-enter where that work extends onto easements traversing private property.
- C. This is a multi-year contract that the County anticipates awarding to multiple Contractors, dependent upon the number of bids received and accepted by the County. All quantities represented on each line item of the Bid Form are the estimated total quantities for the scope of work to be done under each line item for the life of this Contract. The Bidders are informed that the actual estimated quantities to be awarded in a contract to each successful bidder could vary dependent on the number of successful bidders. The County reserves the right to distribute the estimated quantities based on project needs to include but not limited to: priority, location, etc.
- D. The Program Manager will, prior to start-up, provide Cityworks training to the Contractor personnel. All assignments will be provided through Cityworks as the contract work proceeds.
- E. The Work will include, but is not limited to, the following work activities to perform the Cleaning & CCTV Cleaning Verification and to gain access as further defined in the Specifications of this Contract:
 - 1. Data Management and associated QA/QC. (See Specification Section 01030, 3.01, paragraph I). The Contractor's attention is called to the data submittal, The deliverables required under the Contract include an Access database and video media with files linked to the database. The assets listed in the database submittal are vetted with GIS asset IDs, Access database file links to electronic media, etc. As the submittal is data, there must be a precise match with the County's GIS system, the work order(s), video links, etc.
 - 2. Cleaning of sewer mains.
 - a. The Contract includes work within the roadway and outside of the roadway on easements across private property. The Contractor must have off-road capabilities for the CCTV equipment and an easement reel(s) for cleaning.
 - b. The Contractor will be responsible for the provision of traffic control in accordance with the Manuel on Uniform Traffic Control Devices where needed.
 - 3. Locating and Exposing manholes to facilitate assessment. Installation and maintenance of traffic plates will be required for those manholes exposed in traffic areas.
 - 4. Provide continuous bypass pumping as directed.
 - 5. Asset (sewer main and manhole) locating.
 - 6. Site Restoration as a result of providing access to assets, including but not limited to removal and/or replacement of pavement, hardscape & landscaping features.
 - 7. Coordination with DWM's Community Outreach requirements which are meant to minimize impact to the citizens of DeKalb County.

8. Coordination with DWM's DOT contact representative for permitting.
 9. Coordination with work by others.
 10. Daily inspection status reporting using web-based mobile devices interacting with Cityworks.
- F. All Work shall be performed in accordance with the requirements of the Contract Documents.

1.02 PROJECT LOCATION

- . The Work is required at multiple locations County-wide.

1.03 WORK COORDINATION

- . The Contractor shall coordinate the Work with third parties (such as public utilities, other DeKalb County departments, and emergency service providers) in areas where such parties may have rights to underground property or facilities; and request maps or other descriptive information as to the nature and locations of such underground facilities or property.
- A. The Contractor shall coordinate the Work with owners of private and public property where access is required for the performance of the work. The Contractor will be required to obtain authorized access from property owners and provide documentation to the Program Manager of such authorization as further described in the Contract Documents. For Sanitary Sewer Overflow (SSO) related work, the Contractor will be authorized to work under the Emergency Powers claimed by DWM for the spill location, but is expected to make contact with and receive a right-to-enter from private property owners whose property the work force will be affecting.
- B. The County, through the Program Manager, will work with the Contractor to assign and schedule the work in a logical and efficient format. However, all items in this contract shall be priced so each item can be assigned independently or combined with other items at the County's sole discretion in regard to both quantity and scope. There shall be no consideration of any claim for extra payment arising from a decision by the County in how it assigns, what it assigns and to whom it assigns potential work orders under this contract. Work may or may not be contiguous.

1.04 CONDITIONS AT THE SITES

- . The Contractor shall make all necessary investigations to determine the existence and location of underground utilities and surface impacts that may be caused due to assessment activities.
- A. The Contractor will be held responsible for any damage to and for maintenance and protection of existing utilities, structures, and personal property.
- B. Nothing in these Contract Documents shall be construed as guarantee utilities are not located within the area of the operations.

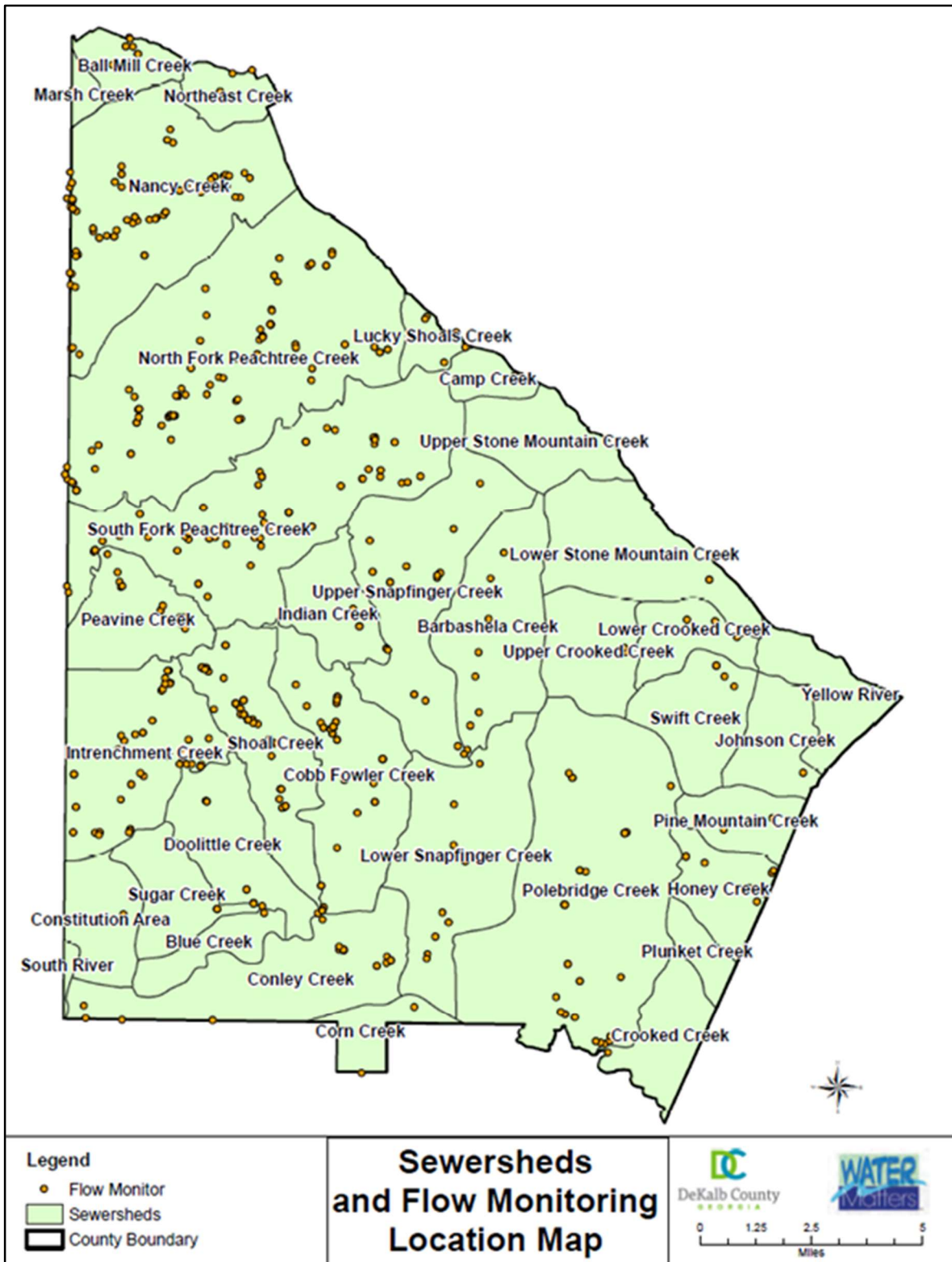
PART 2 – PRODUCTS

(not used)

PART 3 – EXECUTION

(not used)

Attachment A – Flow Monitor Location Map



SECTION 01015
CONTROL OF WORK

PART 1 – GENERAL

1.01 SECTION INCLUDES

This section includes the general use of the site including properties inside and outside of the right of way, work affecting existing utilities, roadways, streets, driveways, and traffic patterns. This section also includes requirements for notification to adjacent landowners and occupants.

1.02 PERSONNEL – COOPERATION WITHIN THIS CONTRACT

- A. The Contractor shall furnish the manpower and equipment efficient, appropriate and large enough to secure a satisfactory quality of work and a rate of progress which will ensure the completion of the work within the time stipulated in the Contract Documents and comply with interim milestones specified in Section 1.02B. The Contractor is required to self-perform a minimum of Fifty percent (50%) of the Total Work for assigned primary technology. The Contractor is also required to perform Work assigned with a linear footage ratio of sixty percent (60) inside of Right-of-Way and forty (40) percent outside of Right-of-Way for the duration of the project. If at any time such project progression appears to the County to be inefficient, inappropriate, or insufficient for securing the quality of work required or for producing the rate of progress aforesaid, he or the Program Manager may order the Contractor to increase the project equipment and/or manpower, revision of Right-of-Way ratios, and the Contractor shall conform to such order. Failure of the County to give such order shall in no way relieve the Contractor of his obligations to secure the quality of the work and rate of progress required.
- B. Milestone – Cleaning & Verification: The Contractor is expected to complete 1/3 of the quantities appropriated for Sanitary Sewer Cleaning by the end of the 1st year following notice to proceed. The Contractor is expected to complete an additional 1/3 during the 2nd year, and the final 1/3 during the 3rd year.
1. The County has prepared the bid documents / contract to reflect quantities needed to ensure the WCTS is well maintained and meets the County requirements as it relates to the ongoing Consent Decree. Therefore, it is required for contractors to meet the agreed upon contractual amounts on a monthly basis. This will be measured by the financial expenditure on a monthly basis or “monthly burn rate”. The monthly burn rate will be defined as the contract amount for primary technology (not including contingency) divided by the number of months in the contract term. For this contract, primary technology is Cleaning & Verification. This monthly figure will be considered a 100% burn rate and all further references to burn rate shall use this as the benchmark.
 - Contractor shall reach a monthly burn rate of at least 50% by the end of the second month, a burn rate of at least 65% by the end of the 4th month and shall maintain a minimum burn rate of 85%

beginning in month 7 and continuing throughout the end of the contract.

2. Failure to achieve 85% in any month past month 7 from contract's Notice to Proceed date, shall require Contractor to immediately (within 7 calendar days) present a detailed, itemized Action Plan to return to an acceptable burn rate including adding equipment, personnel, crews, sub-contractors or other. Failure to maintain 85% for a second continuous month will generate a final warning to Contractor from the County and will reflect in the Quarterly Evaluation. Failure to maintain 85% for any additional months after approval of Contractor-submitted Action Plan may result in termination for cause, of the contract.
3. Contractor is required to perform reconnaissance with or without DWM/CDPMT representative(s) to assess work needed. If a cost proposal is required, there shall be no fees associated for the preparation and submittal of said cost proposal.

PART 2 – PRODUCTS

(not used)

PART 3 – EXECUTION

3.01 INSTALLATION

A. PRIVATE LAND

The Contractor shall not enter or occupy any private land outside of easements or easements crossing private land, except by permission of the property owner and the County per the Public Notification requirements listed in all applicable Specification Sections.

The Contractor will be required to coordinate the work with DWM Outreach and local residents through the use of door hangers and will be required to obtain rights-to-enter where that work extends onto easements traversing private property. An executed "Right-of-Entry" form will be required from each property traversed unless entry is specifically authorized by the Program Manager.

For SSO related work, the Contractor will be authorized to work under the Emergency Powers claimed by DWM for the spill location, but is expected to make contact with and receive a right-to-enter from private property owners whose property the work force will be affecting.

B. MAINTENANCE OF TRAFFIC

1. Temporary Traffic Control shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) including necessary certifications as indicated in the Manual for responsible individuals (MUTCD Part 6C.01.03).
2. Unless permission to close the street is received in writing from the proper authority, all Contractor operations creating hazards to the traveling public will require all things necessary to protect the public including the provision of temporary ways, erect wheel guards or fences, or other measures for safety.

3. Detours around construction or assessment will be subject to the approval of the County and/or Program Manager and permitting authority. Where detours are permitted, the Contractor shall provide all necessary barricades and signs as required to divert the flow of traffic. While traffic is detoured, the Contractor shall expedite operations to minimize impacts to the flow of traffic. Allowable periods when traffic is being detoured will be strictly controlled by the County.
4. The Contractor shall take precautions to prevent injury to the public. Uniformed police officers from the jurisdiction in which the work is being performed are required where temporary traffic control extends through a signalized intersection and/or when required as a requirement of the permitting authority. Working hours for a particular location may be restricted due to the amount of traffic and may require night work. The Contractor shall be fully responsible for damage or injuries whether or not police protection has been provided. The jurisdictional payment for a uniformed police officer necessary to perform traffic control where authorized and/or directed by the Program Manager will be reimbursed to the Contractor via the monthly pay request process when those charges and supporting documents indicating date, location, hours, and payment are submitted for payment and verified by the Program Manager.
5. Excavations within the roadway, where the difference between manhole lid and top of pavement is greater than 1-inch, will be securely plated with plates of proper size to protect the excavation. The Contractor will inspect and maintain these plates daily until the Program Manager approves the removal.

C. WORK WITHIN GDOT RIGHT-OF-WAY

1. All highway utilities and traffic controls are to be maintained and work shall conform to the rules and regulations of the authorities, including the use of standard signs and other provisions of the Manual on Uniform Traffic Control Devices.
2. The Contractor shall furnish all such bonds or checks required by the highway authorities to ensure proper restoration of paved areas.

D. CARE AND PROTECTION OF PROPERTY

1. The Contractor shall be responsible for the preservation of all public and private property and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, misconduct in the execution of the work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition similar or equal to that existing before the damage was done. Pre and post photographs of the access route across the property are recommended.
2. All sidewalks disturbed by the Contractor's operations shall be restored to their original condition by the use of similar or comparable materials. All curbing shall be restored in a condition equal to the original construction and in accordance with the best modern practice.
3. Along the location of this work all fences, walks, bushes, trees, shrubbery, and other physical features shall be protected and restored in a thoroughly workmanlike manner. Fences and other features removed by the Contractor shall be replaced in the original location as soon as conditions permit. All grass

areas beyond the limits of construction damaged by the Contractor shall be regraded and seeded or sodded to match existing ground cover.

4. The protection, removal, and replacement of existing physical features along the line of work shall be a part of the work under the Contract, and all costs in connection therewith shall be included in the unit and/or lump sum prices established under the items in the Contract Documents.

E. PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES

1. The Contractor shall assume full responsibility for the protection of all buildings, structures, and utilities, public or private, including poles, signs, services to buildings, utilities in the street, such as pipes, water pipes, hydrants, sewers, drains, and electric and telephone cables. The Contractor shall carefully support and protect all such structures and utilities from injury of any kind. Any damage resulting from the Contractor's operations shall be repaired by the Contractor at their expense.
2. Protection and temporary removal and replacement of existing utilities and structures as described in this Section shall be considered as extra work and all costs in connection therewith shall be as outlined in the Contract Documents.

F. WATER FOR CONSTRUCTION PURPOSES

The approval of the County shall be obtained before County water is used. Hydrants shall only be operated under the supervision of the County. Contractor shall be responsible for obtaining a hydrant meter from the County for this water use as directed by the Program Manager. Contractor shall be responsible for all costs and water consumption charges associated with the use of a hydrant meter(s). The Contractor will provide a monthly summary of water use.

G. SANITARY LANDFILL

The Contractor is responsible for the proper removal and disposal of any debris and sedimentation in the existing sewers, laterals, and manholes, etc., attributable to his work under this Contract. The debris and liquids are to be disposed of properly in accordance with all applicable laws. Debris and liquids type and quantities are to be tracked in the daily Contractor diary. Hauling and disposal costs will be borne by the Contractor. The Contractor will coordinate with the Sanitation Department and acquire an account for waste disposal at the Seminole Landfill. The Sanitation Department requires a DeKalb County Business License to open an account at the landfill. The Department of Watershed Management will assist the Contractor as needed in acquiring the account. The Contractor will provide a monthly summary of dumping quantities.

H. MAINTENANCE OF FLOW

The Contractor shall at his own cost, provide for the flow of sewers, drains, and water courses interrupted during the progress of the work. The entire procedure of maintaining existing flow shall be fully discussed with the County well in advance of the interruption of any flow.

3.02 **CLEANUP**

During the course of the work, the Contractor shall keep the site of his operations in as clean and neat a condition as possible. The Contractor, at his own cost, shall dispose of any and all residues resulting from the construction work and, at the conclusion of the work; the Contractor shall remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures, and any other refuse remaining from the construction operation. The Contractor shall leave the entire work site in a neat and orderly condition.

END OF SECTION

SECTION 01020
ALLOWANCES

PART 1 – GENERAL

1.01 SECTION INCLUDES

This section includes administrative and procedural requirements governing allowances.

1.02 QUALIFICATIONS AND REQUIREMENTS

- A. Contractor agrees that the allowance is for the sole use of the County to cover approved unanticipated costs and other items associated with the work.
- B. Allowances are included in the Bid Tab for miscellaneous modifications, additional work necessary to provide access to the system and for unforeseen conditions.
- C. Procedures for submitting and handling Change Orders are included in General Requirements of these Contract Documents.
 - 1. For work covered under this Section, the Contractor will provide a cost proposal for the work to be accomplished under the allowance and for consideration by the Program Manager. No work will be authorized without a written Work Directive issued by the County/Program Manager.
 - 2. Related expenses not associated with current pay items may be submitted for consideration for approval under this section to the Program Manager.
- D. The allowance does not include incidental labor required to assist the County, or costs for retesting on failure of previous tests and inspections. The allowance does not include costs of services listed or proposed by Contract Documents.
- E. Any unused allowances will be returned to the County.

1.03 SCHEDULE OF ALLOWANCES

The Allowance will include but not be limited to the following:

- A. Unforeseen Conditions:
 - 1. Miscellaneous work to be accomplished at the direction of the County. It shall include items of work consistent with and related to the project not indicated in the Contract Documents but may be necessary to the successful completion of the contractual agreement. It is expected the work under this item will be accomplished utilizing pay items indicated in the Bid Tab.
 - 2. All work performed under this section shall comply with the various sections of these specifications as appropriate to the specific items involved. This work shall be further described, by the County, in written form and/ or supplemental exhibits. In any event, no work will be allowed under this section without the prior written approval of the County/Program Manager.
- B. County Directed Additional Work:
 - 1. Provides for related sewer work to be performed in conjunction with this project at the direction of the County. All work performed under this section shall

comply with the various sections of these specifications and industry standards appropriate to the specific items involved. This work shall be further described, by the County, in written form and/or on modifications to the Contract Documents or supplemental exhibits. In any event, no work will be allowed under this section without the prior written approval by the County.

- C. County Directed Site Restoration/Landscaping/Access
 - 1. Provides for site restoration work, erosion & sediment control, access construction, etc. on private or County property outside the scope of the bid items necessary to enable the contracted cleaning and CCTV verification work. Site restoration shall only be considered for payment where property has been damaged during the course of the work, not due to contractor negligence.
- D. Other Work
 - 1. Provides for other work required under the Contract but not included in a category above.

1.04 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form of a site/activity specific cost proposal.
- B. Submit invoices or delivery slips to indicate quantities of materials delivered for use in fulfillment of each allowance.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

END OF SECTION

SECTION 01025
MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 SECTION INCLUDES

Methods of measurement and payment for items of work under the Bidder's Unit Price Form.

1.02 SUMMARY

- . The total bid price shall cover all work required by the Contract Documents. All costs in connection with the proper and successful completion of the work, including all materials, equipment, supplies, and appurtenances; providing all equipment and tools; and performing all necessary labor and supervision to fully complete the work, shall be included in the unit prices bid.
- A. All work not specifically set forth as a pay item in the Bidder's Unit Price Form shall be considered subsidiary obligations of the Contractor and all costs in connection therewith shall be included in the unit prices bid.
- B. All quantities stipulated in the Bidder's Unit Price Form or other Contract Documents are estimated and are to be used only
 1. As a basis for estimating the probable cost of the Work.
 2. For the purpose of comparing the bids submitted for the Work.
- C. All estimated quantities stipulated in the Bidder's Unit Price Form are total quantities for the life of the contract. The County anticipates awarding the contract to multiple Contractors and quantities will be divided amongst the Contractors. The Bidders are informed that the actual estimated quantities to be awarded in a contract to each successful bidder could vary dependent on the number of successful bidders. The County reserves the right to distribute the estimated quantities based on project needs to include but not limited to priority, location, etc. Goals listed in the Contract documents will apply toward the actual quantities awarded to the bidder.
- D. The basis of payment for work and materials will be the actual amount of work done and materials furnished. Payment for cleaning and cleaning-related activities or any other items of work for payment will be made on a linear foot, vertical foot, square foot, square yard, cubic yard, ton, hour, or each based on the Contractor's measurement, contingent on verification by the County or County's Representative. Contractor agrees he will make no claim for damages, anticipated profits, or otherwise on account of any difference between the amounts of work actually performed and materials actually furnished.
- E. Pay requests for work performed shall be itemized by asset. The pay request should list each asset by County ID number, describe the work performed per the payment bid form, provide the unit cost, and provide the extended cost. When seeking partial payment where work was attempted and could not be completed, adequate information should be provided on the pay request to justify the amount requested. Work performed on pipes should be listed in a separate table from work performed on manholes. The Program Manager will provide an example of the table format.

- F. When submitting pay requests for periodic payment, the following documentation should be submitted at a minimum:
1. Contractor Payment Checklist
 2. Application for Payment Form (AIA DOCUMENT G702 · APPLICATION AND CERTIFICATION FOR PAYMENT · 1992 EDITION · AIA® · © 1992 or later)
 3. Payments Summary Sheet (Excel file with date, asset ID, and units for each payment line item submitted for payment)
 4. LSBE Report(s)
 5. Photo Documentation of Activities Illustrating Pre and Post Conditions

Additional instructions and/or requirements may be provided by the Program Manager at the project Kick-off meeting.

1.03 MEASUREMENT AND PAYMENT

Cleaning & CCTV Cleaning Verification, Sanitary Sewer. Cleaning will be by assignment by the Program Manager. Measurement for payment will be per linear foot (LF), measured along the centerline of the pipe, from centerline of structure to the end of survey or centerline of structure to centerline of structure, whichever is applicable. Lengths will be as recorded in the CCTV Cleaning Verification survey. Payment will constitute full compensation for authorized Cleaning & CCTV Cleaning Verification, completed and approved per Specification Section a 01510# and 02956#. No payment will be made for any unauthorized Cleaning & CCTV Cleaning Verification. No separate payment will be made for mobilization/demobilization that might be required to perform the Cleaning & CCTV Cleaning Verification. Maintenance of traffic and associated traffic control measures required for the work shall be included in the unit price unless it is billable under the separate traffic control line items. Any reconnaissance necessary to perform work shall be included in the unit price. No separate payment will be made for data delivery and/or data quality control. Costs shall include, but not limited to, labor, equipment, transportation, setup, tools, notifications, and all other related procedures and materials necessary to complete the Cleaning & CCTV Cleaning Verification in accordance with Specification Sections 01510# and 02956#.

For estimating purposes, the Contractor is to consider the upstream and downstream manholes to be 15 vertical feet (VF) in depth as measured from the invert of the manhole to the top of the frame. The Contractor will include the cleaning of the upstream and downstream manhole in the price bid for Cleaning & CCTV Cleaning Verification. A pay item is provided for the payment for vertical footage in excess of the 15 VF manhole height in case such incident is encountered. Measurement for payment will be the difference between the vertical height of the actual manhole cleaned less 15 VF. No correction will be made for manholes less than 15 VF in height.

The work under this pay item will not be considered complete until the pipe that is cleaned has a complete and acceptable CCTV Cleaning Verification that will confirm that the pipe/manhole is clean (free of all roots, grease, deposits, obstructions, etc.).

Cleaning and CCTV Cleaning Verification will be paid under Contract items as follows:

1. (Bid Item 02956#-1) Cleaning & CCTV Cleaning Verification, Sanitary Sewer, ≤ 8" diameter, Inside the Right-of-Way/Highway

2. (Bid Item 02956#-2) Cleaning & CCTV Cleaning Verification, Sanitary Sewer, >8" diameter and ≤ 18" diameter, Inside the Right-of-Way/Highway
 3. (Bid Item 02956#-3) Cleaning & CCTV Cleaning Verification, Sanitary Sewer, >18" diameter and ≤ 24" diameter Inside the Right-of-Way/Highway
 4. (Bid Item 02956#-4) Cleaning & CCTV Cleaning Verification, Sanitary Sewer, ≤ 8" diameter, Outside the Right-of-Way/Highway
 5. (Bid Item 02956#-5) Cleaning & CCTV Cleaning Verification, Sanitary Sewer, >8" diameter and ≤ 18" diameter, Outside the Right-of-Way/Highway
 6. (Bid Item 02956#-6) Cleaning & CCTV Cleaning Verification, Sanitary Sewer, >18" diameter and ≤ 24" diameter, Outside the Right-of-Way/Highway
 7. (Bid Item 02956#-7) Manhole Cleaning, Additional Depth.
- A. **(Bid Item 02956#-8) Remove Protruding Lateral.** Measurement for payment will be per each (EA) for each protruding service lateral removed. Payment will constitute full compensation for cutting and/or grinding down protruding service laterals, including, but not limited to, labor, equipment, transportation, tools, and all other related procedures and materials necessary to produce the results specified in Section 02956#. Contractor will advise the Program Manager in writing prior to proceeding.
- B. **Bypass Pumping.** Measurement for payment will be per linear foot (LF) of the size and flow classification category for bypass pumping and temporary flow control. Payment will be full compensation for furnishing all labor, materials, equipment, setup, removal, cleanup, maintenance and operation, and incidentals necessary to produce the results specified in Section 01520.

Bypass Pumping relates to bypassing lines as necessary to perform the work required. The intent of this work is for emergency use only. Hourly operational cost will not be considered for payment unless approved by the Program Manager.

All bypass pumping will be considered as continuous. The Contractor will maintain the flow in the bypass from the time of installation and initial start to the time the bypass is decommissioned. The pay items listed below for Bypass Pumping will include all costs associated with engineering (including Professional Engineer signing and sealing of plans when necessary), providing, installing, maintaining, fueling, and operating the installed system.

Bypass Pumping will be paid under Contract Items as follows

1. (Bid Item 01520-1): Bypass Pumping ≤ 12" Diameter Pipe with Flow >25% and <50%: Work will be paid per LF in accordance with the requirements of Section 01520.
2. (Bid Item 01520-2): Bypass Pumping ≤ 12" Diameter Pipe with Flow ≥50%: Work will be paid per LF in accordance with the requirements of Section 01520.
3. (Bid Item 01520-3): Bypass Pumping > 12" Diameter Pipe for All Flows: Work will be paid per LF in accordance with the requirements of Section 01520.
4. (Bid Item 01520-4): Bypass Pumping Maintenance and Operation: Work will be paid per hour in accordance with the requirements of Section 01520. The hourly cost are those hours required to operate and maintain continuous flow in the bypass system utilizing minimal personnel from initial startup to the time flow is restored to the sanitary sewer. Maintenance items (fuel, etc.) will be

included in the price bid for linear foot for Bypass Pumping for the diameter and sizes required.

- C. **Locate and Expose Buried Manholes, Street and Non- Street.** Measurement for payment will be per each (EA) manhole for locating the manhole, exposing and removing the cover. Payment will constitute full compensation for all costs for uncovering each manhole and includes, but is not limited to, labor, equipment, transportation, tools, and all other related procedures and materials necessary to produce the results specified in Sections 02607#. Maintenance of traffic and associated traffic control measures required for the work shall be included in the unit price unless in high traffic areas billable under separate traffic control line item.

Note that manholes located as indicated on the County's mapping system and covered with a small layer of forest litter and/or a thin layer of soil or grass and where the location is apparent does not represent a "buried" manhole for "Locate & Expose" purposes.

Locate and Expose Buried Manholes will be paid under contract items as follows:

1. (Bid Item 02607#-1): Locate and Expose Buried Manhole, Street. Work will be paid per EA in accordance with the requirements of Section 02607#.
2. (Bid Item 02607#-2): Locate and Expose Buried Manhole, Non-Street. Work will be paid per EA in accordance with the requirements of Section 02607#.

- D. **Steel Traffic Plate.** Measurement for payment will be per each (EA) steel plate required as specified in Section 01545 after locating and exposing a buried manhole in traffic locations through furnishing, installing, and maintaining a steel plate as a temporary cover. Payment will constitute full compensation for all costs for furnishing, installing, and maintaining a steel covering over the exposed area in travel areas and includes, but is not limited to, labor, equipment, transportation, tools, and all other related procedures and materials necessary to produce the results specified in Section 01545. Maintenance of traffic and associated traffic control measures required for the work shall be included in the unit price. The Contractor will be required to physically check traffic plates installed on a weekly basis and perform any necessary maintenance as part of the price bid/Week for Steel Traffic Plate Maintenance (Pay Item 01545-2),

Note that no payment will be made for manholes that are exposed and do not require installation of a steel traffic plate as described in Section 01545.

Steel Traffic Plate Installation and Removal and Maintenance will be paid under contract items as follows:

1. (Bid Item 01545-1): Steel Traffic Plate Installation and Removal: Work will be paid per EA in accordance with the requirements of Section 01545. Payment will be due once steel traffic plate is removed.
2. (Bid Item 01545-2): Steel Traffic Plate Maintenance: Work will be paid per Week in accordance with the requirements of Section 01545. The first maintenance inspection will begin one week after installation occurs and every week thereafter until the plate is removed.

For purposes of this pay item a week is defined as a 7 calendar day period.

- E. **Construction Access Road (Bid Item 02110-1):** Measurement for payment will be per linear foot (LF) of a 12- foot Access Road suitably installed and maintained per the Manual of Erosion and Sediment Control of Georgia latest edition (modified by width and no "construction entrance"). Payment shall constitute full compensation for all

costs associated with installation, drainage, maintenance, repair, and removal of the Access Road. Access Road Construction shall be as approved by the Program Manager. The Contractor is reminded that off-road equipment is required for cleaning and assessment under this contract.

- F. **Easement Clearing, Light & Medium (Bid Item 02110-2 and 02110-3):** Measurement for payment will be per square yard (SY) for the type of classification category of clearing as agreed to by the Program Manager. Payment will constitute full compensation for easement clearing, including, but not limited to labor, equipment, transportation, tools, and other related procedures and materials necessary to remove vegetation and other debris on or near the surface of the ground in the construction area to produce the results specified in Section 02110. Easements will be cleared of debris or obstructions impeding access to work areas. Maintenance of traffic and associated traffic control measures required for the work shall be included in the unit price. The Contractor and Program Manager will inspect the site and agree upon the level of clearing and the appropriate pay item prior to the work.
- G. **Easement Clearing, Heavy (Bid Item 02110-4):** Measurement for payment will be per caliper inch for the type of classification category of cleaning. Payment will constitute full compensation for all associated costs including, but not limited to, labor, equipment, transportation, tools, and other related procedures and materials necessary to remove vegetation and other debris on or near the surface of the ground in the construction area to produce the results specified in Section 02110. Easements will be cleared of debris or obstructions impeding access to work areas. Maintenance of traffic and associated traffic control measures required for the work shall be included. The Contractor and Program Manager will inspect the site and agree upon the level of clearing and the appropriate pay item prior to the work. Where required, Erosion & Sediment Control BMP's will be paid as a separate item.
- H. **Work Zone Staging and Traffic Control (Per Link)-** Traffic control measures for work in low-traffic/residential areas shall be included in the unit price. Additional traffic control measures required for work in high-traffic/commercial areas will be paid for separately when authorized by the Program Manager, as follows.

Payment will be remitted for furnishing, installation, maintenance and removal of temporary traffic control per link of roadway based upon the current functional classification of the affected roadway as defined by the Federal Highway Administration per day. A roadway link is defined by two nodes or intersections. In the event a single work zone spans one or more intersections, the average link length will be used to determine the eligible quantity or work zones for payment. Each unit price bid shall include all but not be limited to furnishing, installation, maintenance and removing all traffic control devices, temporary signage, temporary pavement markings and shall include flagging and other means necessary for safe guidance and protection of vehicular and pedestrian traffic through the Work Zone per site based upon the functional classification and site conditions. All traffic control measures and plans shall conform to the requirements of the Manual on Uniform Traffic Control Devices (MUTCD), Part 6 (Temporary Traffic Control), latest edition, as published by the US DOT / FHWA. The above referenced bid items are applicable to rehabilitation work within roadways with the following functional classifications:

1. (Bid Item 01015-01) FC17-Urban Collector Street
2. (Bid Item 01015-02) FC16-Urban Minor Arterial Street
3. (Bid Item 01015-03) FC14-Urban Principal Arterial Street

Functional Classification Maps for the Atlanta Metro Counties are available through

Georgia's Department of Transportation (GADOT) website at:

<http://www.dot.ga.gov/DS/Data>

In the event that a functional classification assignment conflict exists between the drawings and the GADOT, the GADOT classification shall preside. The Contractor shall submit proposed traffic control plans to required regulatory agencies and they shall grant approval before the Work begins. Notification to begin Work shall require at least 48-hour notice to the appropriate agency and the Owner. Traffic control for roadways with "local" or "rural" functional classifications are considered incidental to the Work and the cost shall be included in the unit price for the Work performed. These type roadways shall meet MUTCD requirements. No separate payment will be made for traffic control roadways with functional classification other than those stated herein, unless otherwise authorized by the Owner for exceptional circumstances.

- I. Silt Fence: Measurement for payment will be made per linear foot (LF) for Type C silt fence single or double row as required, suitably installed and maintained in accordance with the Manual of Erosion and Sediment Control of Georgia, Latest Edition. Payment shall constitute full compensation for all costs associated with Silt Fence, including, but not limited to installation, maintenance, repair, and removal.
 - 1. (Bid Item 02542-01): Silt Fence – Type C, Single row
 - 2. (Bid Item 02542-02): Silt Fence – Type C, Double row
- J. Hydrant Meter/Water Consumption Charges: No measurement for payment will be made. The Contractor will pay all fees associated with the acquisition, monthly charges, and water consumption associated with the Contract. The Contractor will report the water usage to the Project Manager monthly.
- K. Sanitary Landfill: No measurement for payment. The Owner has designated the Seminole Road Landfill as the location for the disposal of wastes generated under this Contract. The Contractor will pay all disposal fees associated with the utilization of the County's Seminole Road Landfill. The Contractor will report the monthly tare weight totals for Seminole Road Landfill to the Project Manager monthly.

END OF SECTION

SECTION 01030
SPECIAL PROJECT PROCEDURES

PART 1 – GENERAL

1.01 SECTION INCLUDES

This section includes responsibilities and requirements of the Contractor specific to this project.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

3.01 INSTALLATION

- A. The Contractor shall provide labor and material in a timely manner and of sufficient quantities to result in the performance of, but not limited to, the following:
1. Daily removal of all sanitary debris, work debris and trash resulting from any work activities identified within the Contract Documents. Disposal locations for any sanitary debris and/or hazardous materials shall be approved prior to disposal. Disposal of sanitary debris and/or hazardous materials shall be disposed only at approved locations. Manifests of hauling and disposal of such material shall be submitted to the Program Manager by the Contractor.
 2. Coordinate with all trades and other County or Program Manager work that may occur at or near the project location as generally described below.
 3. It is this Contractor's responsibility to advise the Program Manager as to any discrepancies in the work of others prior to starting the work.
 4. All field engineering and layout required for this work shall be the responsibility of this Contractor. The Contractor is expected to utilize off-road equipment so as to reduce the necessity for non-cleaning & CCTV cleaning verification work.
 5. All protection of finished work, including the work of others shall be the responsibility of this Contractor.
 6. The Contractor agrees to attend meetings promptly and their company will be represented with an authorized field representative, data manager, and an authorized office representative capable and responsible for committing to delivery, manpower and completion dates for their work orders.
 7. The Contractor agrees all forms and reports (including technical data reports and forms) required by the County and Program Manager will be completed as required of these Specifications or as otherwise directed. Failure to submit these completed on time could result in a delay in payment.
 8. The Contractor agrees all Change Order work will be agreed upon in writing and signed by the Program Manager and the County before this work will begin.
 9. The Contractor agrees to properly protect all materials and County assets from damage resulting from Contractor's work activities and assumes responsibility

to replacement of such materials at their cost. This cost will be assessed by back charge and incorporated into a change order by the end of the month.

10. The Contractor agrees to properly protect all materials from damage by weather and assumes responsibility to replacement of such materials at their cost.
11. The Contractor agrees to work within the defined work hours of the County being typically 8:00 a.m. to 5 p.m. or other hours as directed by the County or Program Manager to adhere to the requirements of the Work, including those related to Public Outreach and Notification. The Contractor agrees to perform all necessary overtime to get their work back on schedule if necessary. If due to this Contractor's failure to perform in a timely manner, premium time is required by any other Contractor(s) to bring the project back to the original schedule, the cost of such premium time shall be borne solely by the Contractor.
12. The Contractor agrees to provide certificates of insurance prior to their mobilization. Prior to commencing work provide a current copy of the workman's compensation and liability insurance certificate.
13. The Contractor assumes responsibility for insurance coverage on all their equipment and tools against theft and damage. No claims will be registered against the County for loss of same. The Contractor will not lien the project for payment of any claims on equipment loss or damage due to vandalism or any other form.
14. The Contractor will abide by all OSHA requirements and/or instruction from the Program Manager and/or supervising and/or competent field personnel to make a safe work area. OSHA requirements to be the minimum safety level accepted.
15. Contractor agrees to respond to all Contractor change notifications within 24 hours and further to provide the Program Manager and/or County with the complete change estimate cost data within 7 calendar days.
16. Contractor shall provide fulltime onsite supervision of their work.
17. Contractor agrees with the performance schedule for each Cleaning & CCTV Cleaning Verification work order as established by the Program Manager and will provide any necessary measures required to achieve and maintain this schedule at no additional cost to the County Program Manager and County's Representative.
18. Contractor agrees to provide all required submittals and receive approvals relative to crew supervisory personnel, manpower safety and training certifications, and equipment specifications prior to performing any field work. The Contractor will not occupy any assigned job site without a properly badged workforce and having other permissions including an approved Traffic Control Plan.

B. RESPONSIBILITY FOR OVERFLOWS/SPILLS AND DAMAGE TO PROPERTY AND UTILITIES:

1. It shall be the responsibility of the Contractor to schedule and perform the Work in a manner not causing or contributing to incidences of sanitary sewer overflows (SSOs) as defined in the latest Consent Decree.
2. In the event the Contractor's activities cause or contribute to SSOs, the Contractor shall immediately take appropriate action to contain and/or stop the overflow; cleanup the spillage, and disinfect the area affected by the SSO. Simultaneously, the Contractor will notify the County's Dispatch Center, the County, and the Program Manager to provide information concerning location, cause, volume of the SSO, and assessment whether the spill entered a stream or storm drain. The Contractor shall be familiar with the details of spill response referred to in the Sanitary Sewer Overflow Contingency and Emergency Response Plan (CERP) approved by County. This document can be found on Department of Watershed Management website under the Consent Decree Program or upon request to the County or Program Manager.
3. The Contractor shall indemnify and hold harmless the County and the County's Representatives (including the Program Manager) for any fines or third-party claims for personal or property damage arising out of an SSO that is fully or partially the responsibility of the Contractor, including the legal, engineering, and administrative expenses of the County and County's Representatives (including the Program Manager) in defending such fines and claims.
4. Any equipment stuck or left in the sewer line/lateral shall be retrieved by the Contractor within twenty-four (24) hours. If not retrieved within 24 hours, the Contractor is responsible for monitoring the line to ensure the equipment does not cause an SSO. The Contractor is expected to use due caution when cleaning and assessing the sewer line segments. The Contractor shall make numerous attempts to recover any lodged equipment without causing additional harm to the sanitary sewer structure(s). Equipment stuck in the line due to the Contractor's negligence will require that equipment be recovered at the sole expense of the Contractor. DWM shall not be financially responsible for any Point Repairs derived from such lodged equipment with the exception if the equipment was lodged in the system due to poor pipe condition. The Contractor shall present CCTV video of the pipe condition when making a claim. DWM will review the video and Contractor activities to make a decision as to causation and liability. DWM will provide inspection services to ensure such extraction point repair is completed in compliance with the County's sanitary sewer guidelines. Any damage to the Contractor's equipment is the Contractor's sole responsibility. If the equipment is stuck or left in the sewer line/lateral causes an SSO (including building backup), then the Contractor is liable for the SSO/backup and all associated damages.
5. The County (and the Program Manager) reserves the right to make any repairs or retrieve any equipment and charge the Contractor accordingly.

C. EXISTING UNDERGROUND PIPING, STRUCTURES, AND UTILITIES

1. The attention of the Contractor is drawn to the fact that during any earth disturbing activity, the possibility exists of the Contractor encountering various water, gas, telephone, electrical, or other utility lines not indicated. The Contractor shall exercise extreme care before and during any land disturbing activity to locate and flag these lines so as to avoid damage to the existing

lines. Should damage occur to an existing line, the Contractor shall repair the line at no cost to the County.

2. The locations of existing underground piping structures and utilities are shown without express or implied representation, assurance, or guarantee that they are complete or correct or that they represent a true picture of underground piping to be encountered.
3. The existing piping and utilities that interfere with any cleaning or CCTV cleaning verification shall be rerouted by others. Before any piping and utilities not shown on the Drawings are disturbed, the Contractor shall notify the Program Manager of the location of the pipeline or utility and shall reroute or relocate the pipeline or utility as directed.
4. The Contractor shall exercise care in locating existing piping and utilities. All utilities, which do not interfere with complete work, shall be carefully protected against damage. Any existing utilities damaged in any way by the Contractor shall be restored or replaced by the Contractor at its expense as directed by the Program Manager.

D. HAZARDOUS LOCATIONS

1. The existing wet wells, manholes and related areas may be considered hazardous locations, in that explosive concentrations of sewage gas may be present. Compliance with 29 CFR 1910 and 1926 is required at all work locations.

E. WATER FOR CONSTRUCTION PURPOSES

1. Water as required for the work identified in the Contract will be furnished by the County if readily available connections are present and only as approved by the Program Manager. There shall be installed in each and every connection to the County's potable water supply, a backflow preventer and calibrated metering device meeting the requirements of the County. The Contractor is expected to pay all fees associated with the meter usage (monthly charge, consumption fee, etc.). The Contractor will report monthly water consumption to the Program Manager on a monthly basis.

F. SANITARY LANDFILL

Sanitary Landfill facilities located at the County's Seminole Road Landfill will be provided to the Contractor for the proper disposal of cleanings and other debris generated through the work. The Contractor is responsible for the proper removal and disposal of any debris and sedimentation in the existing sewers, laterals, and manholes, etc., attributable to his work under this Contract. The debris and liquids are to be disposed of properly in accordance with all applicable laws. The Contractor will coordinate with the Sanitation Department and acquire an account for waste disposal at the Seminole Landfill. The Sanitation Department requires a DeKalb County Business License to open an account at Seminole Road Landfill. The Sanitation Department requires a DeKalb County Business License to open an account at the landfill. The Department of Watershed Management will assist the Contractor as needed in acquiring the account. Debris and liquids type and quantities are to be tracked in the daily Contractor diary. The Contractor is expected to pay all disposal fees associated with the landfill. The Contractor

will report the monthly tare weights for Seminole Road Landfill usage to the Program Manager on a monthly basis.

G. CITYWORKS

1. All work on this project will be assigned, tracked, monitored and documented using Cityworks. Prior to start of any assignment the Contractor will provide appropriate employees for Cityworks training at no cost to the County. The Contractor will be required to identify assigned work orders, provide updates to work orders received, and closeout completed work orders via the County's Cityworks asset management platform as work progresses.
2. The Contractor shall update the daily progress at the end of the workday. It is recommended to update the work order while the work is being done in the field. The intent is for the Contractor's work progress performed during the day to be entered and viewable to the Program Manager by the start of the Contractor's next workday.
3. The number of fields to be filled out and information to be attached to the Work Orders will vary based on technology but will include at a minimum, update of status, actual start, and actual finish.
4. The Contractor shall provide field and office staff names and email addresses to the Program Manager for login access to the Cityworks platform, and Contractor will be responsible for providing a computer or tablet with internet access for use of the system. The Program Manager will provide access to the site, technical support, and training of up to three hours of instruction detailing how the Contractor shall receive and populate the work orders. The Contractor will provide appropriate employees for training at no cost to the County.

H. SCHEDULE

1. For inspection purposes the Contractor will provide a Daily Schedule for crews providing the starting location and service output for the various crews working. This schedule will be submitted to the County early the day before work is scheduled, or before 8:00 PM the previous day at a minimum so as to assist the County in scheduling Inspector assignments. Distribution of 72 hour notifications (Door Hangers) for all Work to be performed will also be included on Daily Schedules
2. In addition, the Contractor will provide a three week look ahead schedule, every two weeks for the duration of the Contract to be discussed at the Bi-Weekly Progress Meetings. This schedule should indicate planned staffing and crew activity activities associated with the Contract during each two- week period.
3. The Contractor will be issued work assignments based upon various assessment technologies within a geographical area. The Contractor is expected to perform a field review of the work assigned and provide the County with a schedule for completion of that assignment. This schedule must take into account field conditions found on inspection, the need for jurisdictional permits, jurisdictional police officers, rights-to-enter, access issues (fences,

dogs, people, terrain, brush, et al) and the Contractor's plan to remedy the conditions so as to expedite the work.

I. DATA DELIVERABLE REQUIREMENTS

1. The Contractor is expected and required to perform quality control on all deliverables before submitting to the Program Manager/County. This may include, but is not limited to, ensuring all data naming conventions as described in the specifications are met and consistent, all media files listed in the submitted databases are included, and any work that could not be completed is addressed. Contractors QC activities will be discussed at project meetings. Failure to meet data requirements may result in a delay of payment.
2. Cleaning & Verification Data:
 - a. This data will be submitted weekly; The data will include in the file name, the name of the area assignment and the date of cleaning/CCTV verification for the last entry.
 - b. The data will not be consolidated with previous data submittals
 - c. Prior to submitting the data, the Contractor will QC the databases
3. Data submittals will include a transmittal letter noting databases delivered in the submittal.
4. The County reserves the right to have DWM or third party contractors to perform CCTV in addition to Contractor's verification efforts to confirm that cleaning has been performed.

END OF SECTION

SECTION 01041
PROJECT COORDINATION

PART 1 – GENERAL

1.01 SECTION INCLUDES

The work under this Section includes the requirements of the Contractor to use standard methods of construction planning, coordination, inspection, scheduling and cost value documentation necessary for the proper and complete performance of the Work.

1.02 RELATED SECTIONS

This Section applies to the work of every division and every section of these Specifications.

1.03 QUALIFICATIONS AND REQUIREMENTS

Management of the Project shall be through the use of standard methods of construction planning, inspection, scheduling and cost value documentation.

1.04 RESPONSIBILITY FOR COORDINATION

- A. Carefully coordinate work with all other contractors and/or subcontractors to ensure proper and adequate interface of the work of other maintenance, assessment, and rehabilitation activities at or near the assigned sewer collection and transmission system and every section of these Specifications.
- B. The Contractor shall coordinate operations with all utility companies in or adjacent to the area of Contractor's work. The Contractor shall require said utilities to identify in the field their property and provide drawings as necessary to locate them.
- C. The Contractor shall schedule the Contractor's Work so the Contractor does not interrupt the operation of any existing facility, including water mains and sewers. In the event certain tie-ins or other operations make it absolutely necessary to interrupt the operation of existing facilities, the County will be notified and such work will be done at a time and in a manner acceptable to the County/Program Manager.
- D. The Contractor shall coordinate with all property owners and governing authorities impacted by the execution of work activities as to not prevent access or cause service interruptions to critical public institutions such as hospitals, schools, police and fire services, etc. and any other businesses deemed necessary for public welfare and safety. The Contractor shall notify the Program Manager of any related coordination efforts required prior to commencing work activities that may cause impacts. For off road work which includes land disturbance, even on an easement, the County requires that the Contractor notify the landowner of the property on which the Contractor intends to occupy and obtain a right-to-enter from that owner prior to beginning work.
- E. The County owns and maintains a series of flow monitors and associated equipment throughout the sewer collection system. As such, the Contractor shall immediately notify the Program Manager whenever the Contractor is no less than five (5) business days Work away from a manhole where flow monitoring equipment is installed. The Program Manager will work with the County to have the equipment removed prior to the Contractor performing any Cleaning & CCTV Cleaning Verification on the manhole

or connecting sewer mains in which flow monitoring equipment is located. Upon successful completion of the Contractor's Work, the Contractor shall notify the Program Manager within twenty-four (24) hours to have the flow monitoring equipment properly re-installed and calibrated. Contact the Program Manager for locations of flow monitoring equipment within project assignment areas. Should the Contractor locate flow monitoring equipment in manholes or locations deviant from the proved locations, the Contractor shall immediately notify the Program Manager of the discrepancy and no Work shall be completed by the Contractor until the County is able to successfully remove the equipment to allow Work to continue.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

3.01 PREPARATION

- A. Inspection
 - 1. Prior to performing any work under a section, the Contractor shall carefully inspect the installed work of other trades and verify all such work is complete to the point where the work under the section may properly commence.
 - 2. The Contractor shall verify all materials, equipment and products to be installed under a section may be installed in strict accordance with the original design and pertinent reviewed shop drawings.
- B. Discrepancies
 - 1. In the event of discrepancy, immediately notify the Program Manager.

3.02 REQUIREMENTS

- A. The Contractor shall coordinate the work with the County/Program Manager so the construction will not restrain or hinder the operation of existing water or wastewater facilities. If at any time, any portion of the water or wastewater facilities are scheduled to be out of service, the Contractor must obtain prior approval from the County as to the date, time, and length of time that such facilities are out of service.
- B. Connections to the existing facilities, temporary service interruptions and/or alteration of existing facilities will be made at times when the piping, asset, or facility involved is not in use, or at times, as established by the County, when the piping, asset, or facility involved can be conveniently interrupted for the period needed to execute the work activity involved.
- C. After having coordinated the work with the County/Program Manager, the Contractor shall notify the Program Manager of the time, time limits, and methods of each connection or alteration and have the approval of the Program Manager before any work is undertaken on the connections or alterations.
- D. Before any roadway or facilities are blocked off, the County's/Program Manager's approval shall be obtained to coordinate operations for water and wastewater facilities and assets, and any signage, plating, bypass pumping, sinking of bypass conduits,

ramping, stream crossings, or any other temporary accommodation work shall be implemented by the Contractor as directed by the Program Manager.

3.03 PUBLIC NOTIFICATION

- A. Public notification is critical and compliance with the public notification criteria is a prerequisite for the Work, especially when performing Work on sewers in easements which pass through private properties. Notification must be provided to all property occupiers/owners likely to be affected including residential, commercial and institutional (schools, hospitals, nursing homes, etc.). At a minimum, the following steps shall be taken:
1. The Contractor shall print and distribute pre-approved advance notice door hangers 72 hours before conducting Work, such as CCTV or Cleaning. Expedited Work may only require 24 hours' notice before conducting Work upon approval by County. The Contractor shall distribute the door hangers to the property owners (residential, commercial and institutional) in the affected area(s). The advance notice door hangers shall be customized by Public Outreach to suit this project and will be provided to the Contractor for printing prior to project's commencement. The Contractor must notify Public Outreach before notification to the property owners. If the Work is delayed, the Contractor must re-distribute door hangers.

For sanitary sewer overflow (SSO) related work, the Contractor will be authorized to work under the Emergency Powers claimed by DWM for the spill location, but is expected to make contact with and receive a right-to-enter from private property owners whose property the work force will be affecting.
 2. The Contractor is responsible for utilizing the Right of Entry (ROE) Protocol as a guide to obtain the ROE and/or Permission form from property owners.
 - a. The Contractor is responsible for distributing pre-approved ROE forms if land disturbance will occur on the owner's property. Stipulation required by property owner to address land disturbance are to be attached to ROE as necessary. Secured signatures from affected property owners on the ROE forms are needed prior to conducting Work activities such as CCTV and/or Cleaning.
 - b. The Contractor is responsible for distributing pre-approved ROE forms and securing signatures from affected property owners if access is needed to an owner's property and no land disturbance will occur. The ROE form is needed prior to conducting Work such as CCTV and/or Cleaning.
 - c. The Contractor will utilize the ROE/Permission Form Cover letter to accompany both the ROE and/or Permission form.
- B. The Contractor shall keep a daily log of the distribution of the door hangers. This shall be maintained and submitted to the County and/or Program Manager upon request.
- C. The Contractor shall also utilize Cityworks to update the status of: the distribution of door hangers, and the ROE and/or Permission form needed at a particular address.

- D. The Contractor shall alert the appropriate County, Program Manager and/or personnel of their work locations on a daily basis.
- E. The Contractor will provide and place “Right-of-Way” signs in prominent locations where the Work is planned 24-hours in advance of commencing the inspection. Signs will be a minimum of 24 inches wide by 18 inches high with letters a minimum of 2 inches high. Signs will be supported at a minimum of 12 inches above grade by integral metal frames. Wording on the signs shall be similar to the following:
CLEANING AND/OR ASSESSMENT WILL BE CONDUCTED ON “date” and “time.” Contact “person” with “company” at “phone number” for additional information.

END OF SECTION

**SECTION 01060
REGULATORY REQUIREMENTS**

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Contractors general responsibilities for adhering to all county, state, and federal regulatory divisions rules, regulations, and laws even when plans do not indicate required permitting actions required for the project.
- B. Permits and Responsibilities: The Contractor shall, without additional expense to the County, comply with any applicable federal, state, County and municipal laws, codes and regulations, in connection with the execution of the Work.
- C. The Contractor shall take proper safety and health precautions to protect the Work, the workers, the public and the property of others.
- D. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the Work, except for any completed unit of work thereof which may heretofore have been accepted.
- E. Business Licenses: The Contractor shall provide the County, on the proper form, proof of being licensed to do business within DeKalb County; proof of proper business licenses shall also be provided by the Contractor for any and all subcontractors coming under the jurisdiction of this Contract.

1.02 ROADWAY PERMITTING

- A. The Contractor is responsible for obtaining road opening permits from the DeKalb County Department of Public Works Transportation Division at (770) 492-5222, including providing any required restoration bonds.
- B. The Contractor is responsible for supplying all data and/or supporting documentation to the County when the County is obtaining road opening permits or traffic interruption requests required by the GDOT. The Contractor is not permitted to make any type of cuts on roadways requiring a permit from the GDOT until such time as the permit is provided and prominently displayed on-site. All documents necessary for said application must be provided by the Contractor to the County and Program Manager. The Contractor is responsible for inputting schedule and other required information into the State's web-based system.
- C. Traffic control shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), latest edition.

1.03 EPD stream buffer Permits Activities

- A. Buffers on state waters are valuable in protecting and conserving land and water resources, therefore buffers should be protected. The buffer variance process will apply to all projects legally eligible for variances and to all state waters having vegetation wrested from the channel by normal stream flow, provided adequate erosion control measures are incorporated in the project plans and specifications and

are implemented. The following activities do not require application to or approval from the Division:

1. stream crossings for water lines or stream crossing for sewer lines occurring at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream and cause a width of disturbance of not more than 50 feet within the buffer; or
2. where drainage structures must be constructed within the twenty-five (25) foot buffer area of any state water not classified as a trout stream; or
3. where roadway drainage structures must be constructed within the twenty-five (25) foot buffer area of any state waters or the fifty (50) foot buffer of any trout stream; or
4. construction of public water system reservoirs

1.04 ACOE Permits for MISCELLANEOUS Activities

- A. Section 404 of the Clean Water Act requires all dredge and fill activities affecting the Nation's waters, including wetlands and other special aquatic sites to be permitted by a Nationwide Permit (NWP), Regional Permit, or Individual Permit, unless otherwise exempted.
- B. All Department of Army Corps of Engineers (ACOE) Permits shall be obtained by the County. The Contractor shall be responsible for complying with all required permits and shall perform restoration activities where temporary dewatering of areas is required.
- C. The ACOE has the authority to review project work within the Nation's water and to issue individual permits or approve the use of Nationwide and Regional Permits. The Environmental Protection Agency (EPA), Georgia Environmental Protection Division (EPD) and other natural resource agencies provide a key role in the review and establishing conditions of the permits.
- D. Work in jurisdictional waters, jurisdictional wetlands and bank stabilization activities shall not commence until all permits have been issued.
- E. Some NWPs require project proponents to notify ACOE district engineers prior to commencing NWP activities. These notifications are called pre-construction notifications (PCNs), and they provide district engineers with opportunities to confirm whether or not the proposed activities qualify for NWP authorization. For most NWPs, the district engineer has to respond to a notification within 45 days of receipt of a complete PCN (see General Condition 31). If, after reviewing the PCN, the district engineer determines the proposed activity qualifies for NWP authorization, the district engineer issues an NWP verification letter to the project proponent. The NWP verification may contain special conditions ensuring the NWP activity results in minimal individual and cumulative effects on the aquatic environment and the Corps public interest review factors.

1.05 Quality Assurance

- A. Contractor shall perform all work under this Section in accordance with all pertinent Rules and regulations including, but not necessarily limited to, those stated herein and these Specifications, the more stringent provisions shall govern.
- B. The Contractor shall allow access to ACOE, EPA and other enforcing personnel should they wish to visit the work sites. This includes assisting with transportation as may be required along easements, if necessary.

PART 2 – PRODUCTS

2.01 Materials

- A. Materials required to comply with these regulations shall include bank stabilization materials, materials for construction of temporary roads or crossings, sandbags and rebar for reconstruction of beaver dams, mats for temporary road access.
- B. Mats consist of wooden, rubber or metal structures capable of distributing the weight of heavy equipment to prevent soil displacement in wetland conditions.

PART 3 – EXECUTION

3.01 GENERAL

Provide all materials and promptly take actions necessary to achieve effective compliance with regulations in accordance with Section 404 of the Clean Water Act, the enforcing agency (ACOE) and these Specifications.

3.02 EPD STREAM BUFFER PERMIT CONDITIONS

Variance applications will be reviewed by the Director only where the applicant provides reasonable evidence that impacts to the buffer have been avoided or minimized to the fullest extent practicable and only in the following cases:

- A. The project involves the construction or repair of a structure which, by its nature, must be located within the buffer. Such structures include dams, public water supply intake structures, detention/retention ponds, wastewater discharges, docks including access ways, boat launches including access ways, and stabilization of areas of public access to water; or
- B. The project will result in the restoration or enhancement to improve water quality and/or aquatic habitat quality; or
- C. Buffer intrusion is necessary to provide reasonable access to a property or properties; or
- D. The intrusion is for gravity-flow sewer lines that cannot reasonably be placed outside the buffer, and stream crossings and vegetative disturbance are minimized; or

- E. Crossing for utility lines, including but not limited to gas, liquid, power, telephone, and other pipelines, provided the number of crossings and the amount of vegetative disturbance are minimized; or
- F. Recreational foot trails and viewing areas, providing impacts to the buffer are minimal; or
- G. The project involves construction of one (1) single family home for residential use by the owner of the subject property and, at the time of adoption of this rule, there is no opportunity to develop the home under any reasonable design configuration unless a buffer variance is granted. Variances will be considered for such single family homes only if construction is initiated or local government approval is obtained prior to the effective date of this rule; or
- H. For non-trout waters, the proposed land disturbing activity within the buffer will require a permit from the United States Army Corps of Engineers under Section 404 of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1344, and the Corps of Engineers has approved a mitigation plan to be implemented as a condition of such a permit; or
- I. For non-trout waters, a plan is provided for buffer intrusion showing, even with the proposed land disturbing activity within the buffer, the completed project will result in maintained or improved water quality downstream of the project; or
- J. For non-trout waters, the project with a proposed land disturbing activity within the buffer is located in, or upstream and within ten linear miles of, a stream segment, or,
- K. Listed as impaired under Section 303(d) of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1313(d) and a plan is provided showing the completed project will result in maintained or improved water quality in such listed stream segment and the project has no adverse impact relative to the pollutants of concern in such stream segment; or
- L. For non-trout waters, the proposed land disturbing activity within the buffer is not eligible for a permit from the United States Army Corps of Engineers under Section 404 of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1344, includes required mitigation in accordance with current EPD "Stream Buffer Variance Mitigation Guidance" document, and involves:
 - 1. piping, filling, or re-routing of non-jurisdictional Waters of the U.S.; or
 - 2. stream buffer impacts due to new infrastructure projects adjacent to state waters (jurisdictional and non-jurisdictional Waters of the U.S.). This criterion shall not apply to maintenance and/or modification to existing infrastructure, which are covered under 391-3-7.05(2)(a).
 - 3. If the buffer impact will be temporary, the buffer variance request shall include the following information at a minimum:
 - a. A site map including locations of all state waters, wetlands, floodplain boundaries and other natural features, as determined by field survey.
 - b. A description of the shape, size, topography, slope, soils, vegetation and other physical characteristics of the property.
 - c. A dated and numbered detailed site plan showing the locations of all structures, impervious surfaces, and the boundaries of the area of soil

disturbance, both inside and outside of the buffer. The exact area of the buffer to be impacted shall be accurately and clearly indicated.

- d. A description of the project, with details of the buffer disturbance, including estimated length of time for the disturbance and justification for why the disturbance is necessary.
 - e. A calculation of the total area and length of buffer disturbance.
 - f. A letter from the issuing authority (if other than the Division and as applicable) stating it is aware of the project.
 - g. An erosion, sedimentation and pollution control plan, where applicable.
 - h. Proposed mitigation, if any, for the buffer disturbance and a restoration and re-vegetation plan, if applicable.
 - i. Any other reasonable information related to the project the Division may deem necessary to effectively evaluate the variance request. Division shall determine if this information is needed within 20 business days of receipt.
 - j. Application shall be on forms provided by the Division.
4. If the buffer impact will be permanent, the buffer variance request shall include all of the information in Sections (3)(a) thru (j) above, with the exception of (3)(h). A buffer variance request with permanent impact shall also include the following additional information:
- a. For non-trout waters, a copy of the permit application, supporting documentation, and proposed mitigation plan, if applicable, as submitted to the United States Army Corps of Engineers under Section 404 of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1344, if applicable.
 - b. A buffer mitigation plan addressing impacts to critical buffer functions, including water quality, floodplain, watershed and ecological functions based on an evaluation of existing buffer conditions and predicted post construction buffer conditions pursuant to Section (7)(c) herein.
 - c. A plan for stormwater control once site stabilization is achieved, where applicable.
 - d. For variance requests made under Sections (2)(i) and (2)(j), the application shall include the following water quality information:
 - i. For variance requests under Section (2)(i), the application must include documentation that post-development conditions of the project will meet the four primary (water quality, downstream channel protection, overbank flood protection, and extreme flood protection) performance requirements in the Georgia Stormwater Management Manual or the equivalent.
 - ii. If the proposed variance is in, or within 10 linear miles of and upstream of, a stream segment listed as impaired under Section 303(d) of the federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. Section 1313(d), the application must include predicted pollutant loading under pre-

and post-development conditions as estimated by models accepted by the Division. In addition, the applicant must document how the proposed project is in compliance with the TMDL implementation plan, if available, as required in Subsection 391-3-7-.05(5)(i).

5. Upon receipt of a completed application in accordance with Sections 391-3-7-.05(3) or 391-3-7-.05(4), the Division shall consider the completed application and the following factors in determining whether to issue a variance:
 - a. The shape, size, topography, slope, soils, vegetation and other physical characteristics of the property; and
 - b. The locations of all state waters on the property as determined from field inspection; and
 - c. The location and extent of buffer intrusion; and
 - d. Whether reasonable alternative project designs, such as the use of retaining walls, are possible which do not require buffer intrusion or which require less buffer intrusion; and
 - e. Where the buffer impact is temporary, the buffer restoration plan is low or no maintenance, and the plan provides net gain in buffer value/function (i.e. water quality, floodplain, watershed, ecological perspectives), the application will be approved unless the Director declines the application based on the exceptional existing buffer value/function; and
 - f. Whether issuance of the variance is at least as protective of natural resources and the environment, and including wildlife habitat; and
 - g. The current condition of the existing buffer, to be determined by:
 - i. The extent the existing buffer vegetation is disturbed;
 - ii. The hydrologic function of the buffer;
 - iii. Stream characteristics such as bank vegetative cover, bank stability, prior channel alteration, or sediment deposition; and
 - h. The extent the encroachment into the buffer may reasonably impair buffer functions.
 - i. The value of mitigation activities conducted pursuant to this rule, particularly Subsections 391-3-7-.05(7)(c) and 391-3-7-.05(7)(d) herein, and shall take regional differences into consideration on-site or downstream, to be determined by development techniques or other measures contributing to the maintenance or improvement of water quality, including the use of low impact designs and integrated best management practices, and reduction in effective impervious surface area; and
6. The long-term water quality impacts of the proposed variance, as well as the construction impacts. For applications made under Subsections 391-3-7.05(2)(i) or 391-3-7-.05(2)(j), the following criteria, reflecting regional differences in the state, shall be used by the Director to assist in determining whether the project seeking a variance will, when completed and with

approved mitigation, result in maintained or improved water quality downstream of the project and minimal net impact to the buffer:

- a. Division will assume the existing water quality conditions are commensurate with an undeveloped forested watershed unless the applicant provides documentation to the contrary. If the applicant chooses to provide baseline documentation, site and/or stream reach specific water quality, habitat, and/or biological data would be needed to document existing conditions. If additional data are needed to document existing conditions, the applicant may need to submit a monitoring plan and have it approved by the Division prior to collecting any monitoring data. Existing local data may be used, if available and of acceptable quality to the Division.
 - b. The results of the predicted pollutant loading under pre- and post-development conditions as estimated by models accepted by the Division indicate existing water quality conditions will be maintained or improved.
 - c. Projects for which a land disturbing activity is proposed within the buffer of a 303(d) listed stream, or upstream and within 10 linear miles of a 303(d) listed stream, the results of the model demonstrate the project has no adverse impact relative to the pollutants of concern in such stream segment.
7. Within 60 days of receipt of a complete buffer variance application, the Division will either provide written comments to the applicant or propose to issue a variance. When the Division proposes to issue a variance, it will send out a public advisory to all citizens and groups who request to receive the advisories. The applicant will then publish a notice in the legal organ of the local jurisdiction. The public advisory and public notice shall describe the proposed buffer modification, the location of the variance, where the public can go to review site plans, and where comments should be sent. The public shall have 30 days from the date of publication of the notice in the legal organ to comment on a variance proposal.
8. In all cases in which a buffer variance is issued, the following conditions shall apply:
- a. The variance shall be the minimum reduction in buffer width necessary to provide relief. Streams shall not be piped if a buffer width reduction is sufficient to provide relief.
 - b. Disturbance of existing buffer vegetation shall be minimized.
 - c. Required mitigation shall offset the buffer encroachment and any loss of buffer functions. Where lost functions cannot be replaced, mitigation shall provide other buffer functions that are beneficial. Buffer functions include, but are not limited to:
 - i. temperature control (shading);
 - ii. streambank stabilization;
 - iii. trapping of sediments, if any;
 - iv. removal of nutrients, heavy metals, pesticides and other pollutants;

- v. aquatic habitat and food chain;
 - vi. terrestrial habitat, food chain and migration corridor; and
 - vii. buffering of flood flows.
- d. Mitigation should be on-site when possible. Depending on site conditions, acceptable forms of mitigation may include but are not limited to:
- i. Restoration of the buffer to a naturally vegetated state;
 - ii. Bioengineering of channels to reduce bank erosion and improve habitat;
 - iii. Creation or restoration of wetlands;
 - iv. Stormwater management to better maintain the pre-development flow regime (with consideration given to downstream effects) that exceeds the requirements of applicable ordinances at the time of application;
 - v. Reduction in pollution sources, such as on-site water quality treatment or improving the level of treatment of septic systems;
 - vi. Other forms of mitigation that protects or improves water quality and/or aquatic wildlife habitat;
 - vii. An increase in buffer width elsewhere on the property;
 - viii. Mitigation required under a Clean Water Act Section 404 or Nationwide permit issued by the U.S. Army Corps of Engineers;
 - ix. Those described in the most recent publication of the Georgia Stormwater Management Manual.
- e. Forms of mitigation which are *not* acceptable include:
- i. Activities already required by the Georgia Erosion and Sedimentation Act, such as the minimal use of best management practices;
 - ii. Activities, already required by other federal, state and local laws, except as described in 391-3-7.05(7)(d) above. Corps of Engineers mitigation is acceptable.
- f. The Division will not place a condition on a variance requiring a landowner to deed property or the development rights of property to the state or to any other entity. The landowner may voluntarily preserve property or the development rights of property as a mitigation option with the agreement of the Division.
9. If a variance issued by the Director is acceptable to the issuing authority, the variance shall be included as a condition of permitting and therefore, becomes a part of the permit for the proposed land disturbing activity project. If a stream buffer variance is not acceptable to the issuing authority, the issuing authority may issue a land disturbing permit without allowing encroachment into the buffer.

10. A general variance is provided for piping of trout streams with an average annual flow of 25 gpm or less.
11. To obtain this general variance in Section 391-3-7.05(9) for encroaching on the buffer of a trout stream, the applicant must submit information to the issuing authority or EPD if there is no issuing authority demonstrating that the average annual flow in the stream is 25 gpm or less. There are two acceptable methods for making this determination.
 - a. The USGS unit area runoff map may be used to determine the threshold acreage producing an average annual flow of 25 gpm or less.
 - b. The applicant may submit a hydrologic analysis certified by a Registered Professional Engineer or Geologist presenting information sufficient to estimate the average annual flow of each stream to be piped is 25 gpm or less with a high level of certainty.
12. Any stream piping performed in accordance with this general variance in Section 391-3-7.05(9) shall be subject to the following terms:
 - a. The total length of stream piped in any one property shall not exceed 200 feet.
 - b. Any project involving more than 200 ft. of piping will require an individual variance for the entire project. The general variance may not be applied to a portion of a project; e.g., it is not permissible to pipe 200 ft. of a stream under the general variance and seek an individual variance for an additional length of pipe.
 - c. The downstream end of the pipe shall terminate at least 25 ft. before the property boundary.
 - d. The applicant for a Land Disturbing Activity Permit shall notify the appropriate issuing authority of the precise location and extent of all streams piping as part of the land disturbing activity permit application. The issuing authority (if other than the Division) shall compile this information and convey it to the Division annually.
 - e. Where piping of a stream increases the velocity of stream flow at the downstream end of the pipe, appropriate controls shall be employed to reduce flow velocity to the predevelopment level. Plans for such controls must be submitted as part of the land disturbing activity permit.

3.03 ACOE PERMIT CONDITIONS

- A. General: NWP including, but not limited to, 3, 13, 14, and 33 apply to activities anticipated on this project. Each permit contains specific criteria that must be satisfied to be in compliance with the permit. In addition, 15 general permit conditions cover all

Nationwide Permits. Both specific criteria and general permit conditions are applicable to this project.

- B. NWP 3 (Maintenance)
 - 1. Application: For all serviceable structures of fill requiring rehabilitation and/or replacement, including raising manholes.
 - 2. Permit Conditions: Use best management practices such as construction mats, proper erosion and sedimentation control and high-flotation tires on heavy equipment.
- C. NWP 13 (Bank Stabilization)
 - 1. Application: For all rehabilitation/replacement activities along stream banks and other areas.
 - 2. Permit Conditions:
 - a. No material is placed in excess of the minimum needed for erosion protection.
 - b. The bank stabilization activity is less than 500 feet in length without approval by the ACOE.
 - c. The activity will not exceed an average of 1 cubic yard per running foot placed along the bank below the plane of the ordinary high water mark or the high tide line.
 - d. No material is placed in any special aquatic site, including wetlands.
 - e. No material is of the type, or is placed in any location, or in any manner, so as to impair surface water flow into or out of any wetland area.
 - f. No material is placed in a manner to be eroded by normal or expected high flows.
- D. NWP 14 (Road Crossings)
 - 1. Application: For all rehabilitation/replacement activities requiring road crossings of wetlands and streams.
 - 2. Permit Conditions
 - a. The width of fill is limited to the minimum necessary for the actual crossing.
 - b. The crossing is culverted, bridged, or otherwise designed to prevent the restriction of, and to withstand, expected high flows, and to prevent the restriction of low flows and the movement of aquatic organisms. The width of the fill is limited to the minimum necessary for the actual crossing.
 - c. The fill placed in the waters of the United States is limited to a filled area of no more than 1/3 acre. Furthermore, no more than a total of 200 linear feet of the fill for the roadway can occur in special aquatic sites, including wetlands.
 - d. The crossing, including all attendance features, both temporary and permanent, is part of a single and complete project for crossing a water of the United States.

- E. NWP 33 (Temporary Construction, Access and Dewatering)
 - 1. Application: For temporary dewatering and access road construction activities.
 - 2. Permit Conditions
 - a. Temporary fill must be entirely removed to upland areas, or dredged material returned to its original location, following completion of the construction activity, and the affected areas must be returned to pre-construction conditions.
 - b. Cofferdams or other structures cannot be used to dewater wetlands or other aquatic sites so as to change their use.
 - c. The permittee has notified the ACOE District Engineer prior to use of this permit. The notification must include a restoration plan.

3.04 Restoration

- A. All wetland areas, streams, creeks and other areas containing bodies of water shall be restored as specified below:
 - 1. Beaver Dam Removal and Replacement: The approved permitted activity may include breaching of a beaver dam at locations provided in the permit application. The location of the prescribed breach must not be changed without prior coordination with the Construction Manager or appointed liaison. Explosives are prohibited for beaver dam removal. If beaver dams are required to be breached, all beaver dams removed shall be restored as specified herein.
 - a. Restoration shall be done with sandbags filled $\frac{3}{4}$ full with materials from the site; preferably sandy soils.
 - b. Sandbags shall be placed in a staggered fashion to prevent a common seam from developing.
 - c. Number 4 steel reinforcement bar shall be used to fortify sandbag dams.
 - d. Reinforcement bar shall be driven a minimum of 2 feet below substrate and spaced per construction detail.
 - e. Bottom row of sandbags shall be embedded a minimum of 6 inches below ground surface, or until resting on compacted substrate, whichever is deeper.
 - f. Top elevation of sandbags should be determined by surveying the water elevation prior to removal of the dam.
 - g. All excavation and fill activities should be conducted by non-mechanical means. Bobcat-type tractors may be used to transfer construction supplies.
 - h. Dam shall be designed to allow flow over its middle section with the downstream channel lined with a row of sandbags.
 - i. Quality Assurance: After construction, the restored dam will be inspected by the Program Manager or an appointed liaison to ensuring the proper restoration techniques were employed. Afterwards, the beaver dam will be monitored for one growing season to ensure

success. The Contractor will be responsible for reconstruction of any failed dam.

2. Temporary Access Roads and Crossings

- a. Must comply with any applicable permits.
 - b. Temporary construction roads may be constructed by earthen fill or crushed rock, or a combination of the two for wetland or stream crossings.
 - c. Temporary construction roads for stream crossings must be constructed with materials able to withstand expected high flows.
 - d. Prior to placing fill within a wetland or stream, filter fabric should be placed beneath the fill area. The fabric will facilitate removal of the temporary fill materials.
 - e. All materials placed in a wetland or stream must be removed to an upland area following construction.
 - f. If culverts are required for a crossing, they must be designed to withstand and to prevent the restriction of expected high flows, and also to prevent the restriction of low flows and movement of aquatic organisms. Culverts must be removed and stream banks stabilized following the construction.
- B. Existing stream banks and buffers surrounding bodies of water must be restored to at least existing conditions status with the exception of cleared easements and access for sanitary sewer asset inspection, operation and maintenance.

END OF SECTION

SECTION 01070
ABBREVIATIONS AND SYMBOLS

PART 1 – GENERAL

1.01 SECTION INCLUDES

This section includes a list of applicable abbreviations for terminology, technical societies, organizations, and bodies relevant to the work. Whenever reference is made to the furnishing of materials or testing thereof to conform to the standards of any technical society, organization, or body, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the time of advertisement. Such standards are made a part hereof to the extent which is indicated or intended.

1.02 DEFINITIONS AND ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACOE	Army Corps of Engineers
AI	Asphalt Institute
AIA	American Institute of Architects
APHA	American Public Health Association
APWA	American Public Works Association
ARC	Atlanta Regional Commission
AREA	American Railway Engineering Association
ASA	American Standards Association
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
BMP	Best Management Practice
CCTV	Closed Circuit Television
CD	Consent Decree
CERP	Contingency and Emergency Response Program
CFR	Code of Federal Regulations

CMMS	Computerized Maintenance Management System
dB	Decibel
DIP	Ductile Iron Pipe
DVD	Digital Video Disc
DWM	DeKalb County Department of Watershed Management
EAP	Emergency Action Plan
EMS	Emergency Medical Services
EPA	Environmental Protection Agency
EPD	Georgia Environmental Protection Division
ESRI	Environmental Systems Research Institute
FCC	Federal Communications Commission
FHWA	Federal Highway Administration
FS	Federal Specifications
GDOT	Georgia Department of Transportation
GFCI	Ground Fault Circuit Interrupters
GIS	Geographic Information System
GPM	Gallons per Minute
GPS	Global Positioning System
HD	Hard Drive
HDPE	High Density Polyethylene
I/I	Infiltration and Inflow
JSA	Job Safety Analyses
LF	Linear Foot
LSBE	Local Small Business Enterprise
MACP	Manhole Assessment and Certification Program
MUTCD	Manual on Uniform Traffic Control Devices

NAD	North American Datum
NASSCO	National Association of Sewer Service Companies
NBS	National Bureau of Standards
NGS	National Geodetic Survey
NPDES	National Pollutant Discharge Elimination System
NTP	Notice to Proceed
NWP	Army Corps of Engineers Nationwide Permit
OSARP	Ongoing Sewer Assessment and Rehabilitation Program
OSHA	Occupational Safety and Health Administration
PACP	Pipeline Assessment & Certification Program
PASARP	Priority Areas Sewer Assessment and Rehabilitation Program
PCN	Army Corps of Engineers Preconstruction Notification
PPE	Personal Protective Equipment
PVC	Polyvinyl Chloride Pipe
PSA	Project Safety Coordinator
QA/QC	Quality Assurance / Quality Control
RECP	Rolled Erosion Control Products
RFI	Request for Information
ROE	Right of Entry
RTK	Real Time Kinematic
SFTP	Secure File Transfer Protocol
SSO	Sanitary Sewer Overflow
TCM	Traffic Control Manager
TISCIT	Totally Integrated Sonar and CCTV Inspection Technique
TMDL	Total Maximum Daily Load
TWIC	Transportation Worker Identification Credential

UBC	Uniform Building Code
UL	Underwriters Laboratories
USC	United States Code
USDC	United States Department of Commerce
USDOT	United States Department of Transportation
USGS	United States Geological Survey
WCTS	Wastewater Collection and Transmission System
WPCF	Water Pollution Control Federation

END OF SECTION

SECTION 01200
PROJECT MEETINGS

PART 1 – GENERAL

1.01 SECTION INCLUDES

This section includes general requirements for project-related meetings with the County and Program Manager required throughout the project life cycle including, but not limited to, pre-assessment meetings, progress meetings, pre-installation meetings, and inspection tours.

1.02 RELATED SECTIONS

- A. Section 01010: Summary of Work
- B. Section 01300: Submittals

1.03 RESPONSIBILITY

- A. The Program Manager will determine the agenda for and chair the meetings described below; and shall prescribe the documentation and format of that documentation for the meetings to be presented. The Contractor will furnish information needed by the Program Manager when requested.
- B. Periodic progress meetings and specially called progress meetings throughout the progress of the Work shall be held at times to be determined by the Program Manager, but at least on a monthly basis.
- C. The Contractor shall have the following specific responsibilities:
 - 1. Assist the Program Manager by providing information needed for the meeting
 - 2. Comment on, recommend items for discussion, and/or approve the proposed meeting agenda
 - 3. Provide appropriate personnel at the meeting to discuss items associated with the agenda
 - 4. Review, comment on and/or approve minutes of the meeting
- D. Representatives of contractors, subcontractors and suppliers attending the meetings shall be qualified and authorized to act on behalf of the entity each represents.
- E. The County/Program Manager shall attend progress meetings to ascertain the work is expedited consistent with the Contract Documents and the project schedules.

1.04 KICK-OFF MEETING

- A. The Program Manager will schedule this meeting within 5 days of the issuance of the Notice to Proceed.
- B. The location of the meeting will be designated by the Program Manager.
- C. The following parties shall attend the meeting:

1. County
2. Program Manager
3. Contractor's Project Manager
4. Contractor's Data Manager
5. Subcontractors as appropriate to the agenda
6. Other agency representatives (EPD, EPA, DWM, etc.) as appropriate to the agenda
7. Representatives of suppliers and manufacturers as appropriate to the agenda
8. Others as requested by the County or Contractor

D. Suggested Agenda:

Distribution and discussion of:

1. List of major subcontractors and suppliers
2. Projected Project Schedules (includes 3-week look ahead schedule for crews and schedule for newly assigned areas)
3. Critical work sequencing (includes report of site conditions and associated needs associated with field review of new assignments as well as conditions effecting current work)
4. Major equipment deliveries and priorities
5. Data QA/QC
6. Project Coordination (includes the need for permitting and Community Outreach assistance)
7. Designation of responsible personnel
8. Procedures and processing of:
 - a. Field decisions
 - b. Proposal requests
 - c. Submittals
 - d. Change Orders
 - e. Applications for Payment
9. Adequacy of distribution of Contract Documents
10. Procedures for maintaining Record Documents
11. Temporary utilities
12. Safety and first aid procedures
13. Security procedures

1.05 PROGRESS MEETINGS

- A. **Scheduling:** In-Person Meetings shall be conducted at least bi-weekly throughout the project or at other intervals directed by the Program Manager. Meeting frequency may be reduced at the request of the Program Manager.
- B. **Location of the meetings:** DeKalb Watershed Management, 178 Sams Street, Decatur, GA 30030 or other location designated by the Program Manager.

C. **Attendance:**

1. County/User group representative(s), as appropriate
2. Program Manager's representative (at its option)
3. Resident Project Representative
4. Contractor's Program Manager, Superintendent, Data Manager, and other representative(s) as appropriate
5. Subcontractors and suppliers as appropriate to the agenda
6. Others as appropriate

D. **Suggested minimum agenda:**

1. Review and approval of minutes of previous meeting
2. Actual vs. scheduled progress since previous meeting
3. Planned activities for the next two weeks
4. Problems with and revisions to schedule
5. Corrective measures and procedures to regain projected schedule
6. Contract and/or Record Document clarifications
7. Field observations, problems, and conflicts
8. Quality control
9. Actual and potential changes and their impacts
10. Review proposed changes for:
 - a. Effect on Schedule and on completion date.
 - b. Effect on other components of the Project.
11. Safety issues

1.06 INSPECTION TOURS

- A. Formal inspection tours shall be made of the job progress for the County and any other officials as the occasion warrants and as scheduled by the Program Manager.
- B. If requested by the Program Manager, the Contractor shall be prepared to show and explain work completed and in progress throughout the Project to the inspection parties.

PART 2 – PRODUCTS

(not used)

PART 3 – EXECUTION

(not used)

END OF SECTION

SECTION 01300
SUBMITTALS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Provisions in this Section are mandatory procedures for preparing and submitting equipment data sheets, assessment reports, procedures, schedules, certifications or any other submittals to be prepared and submitted as required of the Contract Documents.
- B. Submissions shall be in orderly sequence and timed to cause no delay in the Work.
- C. Delays occasioned by requirement of submissions of any required submittal data not in accordance with Contract Documents are Contractor's responsibility and will not be considered valid justification for extension of Contract Time.
- D. Project delays or delays in the purchasing of materials or equipment occasioned by the requirement for resubmission of submittal data initially rejected by the Program Manager and/or the County, or are not originally in accordance with the Contract Documents upon review by the Program Manager and/or County, are the Contractor's sole responsibility and will not be considered valid justification for time extensions.
- E. No portion of the Work requiring the review of submittal data shall be commenced until each such submittal has been reviewed by the Program Manager and/or County, and the action required on the returned submittal does not require a correction and resubmittal (i.e., "Reviewed" or "Revise and Resubmit," or similar notation); and further, each installer shall have possession of such final reviewed submittal prior to commencing its portion of the Work.
- F. At the time of submission the Contractor shall clearly delineate any deviations in the submittals from the requirements of the Contract Documents so, if the deviations are deemed acceptable, suitable action may be taken for proper adjustment. Otherwise, the Contractor will not be relieved of the responsibility for executing the work in accordance with the Control Documents.

1.02 RELATED SECTIONS

- A. SECTION 01015 - CONTROL OF WORK

PART 2 – PRODUCTS

(not used)

PART 3 – EXECUTION

3.01 SUBMITTAL REQUIREMENTS

- A. Within 2 weeks of receiving the Notice-To-Proceed, the Contractor shall submit to the County, data relating to materials and equipment he or she proposes to furnish for the

work. Such data shall be in sufficient detail to enable the County to identify the particular project and to form an opinion as to its conformity to the Specifications.

- B. Provide to the Program Manager as stipulated in individual work activities Specification.
- C. Submittals shall be digitally submitted in PDF format in color with all pages legible when reprinted on 8.5" x 11" paper.
- D. Each submission must be accompanied by a consecutively numbered letter of transmittal, listing the contents of the submission and identifying each item by reference to Specification Section or Drawing number. The Submittal shall contain a Submittal Identification Number.
- E. Submittals shall contain:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. The Project title and the County's Project Number.
 - 3. Contract identification.
 - 4. Identification of the submittal/product, with the Specification Section number.
 - 5. Field dimensions clearly identified as such.
 - 6. Relation to adjacent or critical features of the work or materials.
 - 7. Applicable standards, such as ASTM or Federal Specification numbers.
 - 8. Identification of deviations from Contract Documents.
 - 9. Identification of revisions on re-submittals.
 - 10. An 8 inch by 3 inch blank space for Contractor and Program Manager stamp.
 - 11. Contractor's stamp shall be initialed or signed, certifying approval of the submittal and to the coordination of the information within the submittal with the requirements of the work and of Contract Documents.
- F. Other special requirements may be listed in the Technical Specifications and/or given to the Contractor by the Program Manager.

3.02 CONTRACTOR'S REVIEW

- A. Review all submittals before forwarding to the Program Manager and stamp to indicate conformance with requirements of the Contract Documents.
- B. Determine and verify field measurements and construction, materials, catalog numbers and similar data. Coordinate each submittal with requirements of work and Contract Documents.
- C. Where work is indicated "By Others", Contractor shall indicate subcontractor responsibility for providing and coordinating such work.
- D. Contractor agrees the submittals processed by the Program Manager are not Change Orders, the purpose of submittals by Contractor is to demonstrate the Contractor understands design concept, he demonstrates his understanding by indicating materials he intends to furnish and install, and by detailing fabrication and installation methods he intends to use.
- E. Contractor represents, by submitting any submittals he has complied with provisions specified above. Submissions made without Contractor's approval indicated thereon will be returned without being reviewed for compliance with this requirement.

- F. Date each submittal and indicate name of Project, Program Manager, Contractor and Subcontractor, as applicable, description or name of submission
- G. Accompany submittal with transmittal letter containing project name, Contractor's name, number of submittals, titles and other pertinent data. Transmittal shall outline deviations, if any, in submittals from requirements of Contract Documents.

3.03 PROGRAM MANAGER'S REVIEW

- A. Program Manager will review submittals within 10 working days.
- B. Program Manager's review is only to determine conformance with design concept of project and with information in Contract Documents. Program Manager's determination regarding an individual item shall not extend to the entire assembly in which the item functions.
- C. Program Manager's review of submittals shall not relieve Contractor of responsibility for any deviation from requirements of Contract Documents unless Contractor has informed Program Manager in writing of such deviation at time of submission and Program Manager has given written acknowledgment of the specific deviation. Program Manager's review shall in no way relieve Contractor from responsibility for errors or omissions in submittals.
- D. Program Manager will return submittals to the Contractor marked with appropriate comments as defined below:
 - 1. "Reviewed" indicates the drawings have been reviewed for conformance with design and no exceptions are taken. Proceed with the work.
 - 2. "Revise and Resubmit" indicates the annotations are to be confirmed in a resubmittal of the affected drawing. However, subject to prior arrangement with the Engineer, the Contractor may proceed with the work as annotated during the interim required for resubmittal.
 - 3. "Rejected" indicates drawing to be revised and resubmitted for further review prior to proceeding with the work.
 - 4. "Furnish as Corrected" indicates Contractor is to move forward with minor corrections as indicated. A resubmittal to the Program Manager is not required before purchasing and/or proceeding. A final submittal with corrections will be submitted to the Program Manager upon completion.
- E. Program Manager will return one (1) copy in PDF format for printing and distribution by Contractor.

3.04 RESUBMISSION

- A. Make corrections and changes indicated for unacceptable submissions and resubmit in same manner as specified above. Resubmission for review shall be made by Contractor within 10 working days of documented receipt of returned submittals by Contractor.
- B. In resubmission transmittal direct specific attention to revisions other than corrections requested by Program Manager on previous submissions, if any.

3.05 DISTRIBUTION

- A. Contractor is responsible for obtaining and distributing copies of submittals to his Subcontractors and material suppliers after as well as before final approval.

END OF SECTION

SECTION 01320 PROGRESS REPORTS & VIDEOS

PART 1 – GENERAL

1.01 SECTION INCLUDES

This Section includes administrative and procedural requirements for documenting the progress of assessment during performance of the Work, including the following:

- A. Reports
- B. Pre & Post Work Site Videos

1.02 RELATED SECTIONS

- A. Section 01300 - Submittals
- B. Section 01420 - Inspection of Work
- C. Section 01700 - Project Closeout

1.03 SUBMITTALS

A. REPORTS

1. The Contractor shall prepare and submit Start-up Reports throughout the project, from Notice to Proceed to Final Acceptance to inform inspectors of the number of crews working and the locations where work will be progressed. Reports shall be kept in an orderly manner, available for inspection or review when requested by the County and Program Manager. In addition, the Contractor shall keep a report of all items listed below, should they occur.
 - a. Each Report shall include the following information at a minimum:
 - 1) Manpower by subcontractor, trade, and skill level
 - 2) Weather and temperatures (summary of conditions)
 - 3) List of visitors to the jobsite
 - 4) Specific work performed with locations (close out Cityworks work order if completed)
 - 5) Situations or circumstances which could delay the Work or give cause for a time extension or additional cost
 - 6) Instructions requested (and of whom)
 - 7) Major equipment arrival/departure
 - 8) Accidents and incidents
 - 9) Safety issues
 - 10) Meetings
 - 11) Other significant events at the jobsite
2. Daily Production Log:
 - a. Daily Production: The Contractor shall close out completed Cityworks work orders on a daily basis;

- b. Daily Schedule: Provide location and activity for all crews to be utilized for scheduling inspections by DWM.
3. The Contractor shall take the necessary action required to specifically alert the Program Manager to potential items impacting the progress of the Work. Such items shall be clearly highlighted in the report.
4. All Daily Reports shall be typed.
5. Contractor must adhere to reporting requirements in this Specification Section as well as any other reporting requirements listed in other Specification Sections, specifically those related to reporting associated with assessment activities.

B. VIDEOS

1. Accompanying each work order and prior to the beginning of any work, the Contractor shall take a pre-site work video of the site work area to record existing conditions. Video shall show all conditions which might later be subject to disagreement. These conditions shall be shown in sufficient detail to provide a basis for decisions. These videos will be made available upon request from DWM or Program Manager. This video should document mailboxes, yards, walkways, etc., and the Contractor's traffic control setup and will be utilized for review of citizen complaints and inquiries.
2. Following completion of the work, another recording shall be made showing the same site work areas and features as in the pre-site work video. Post-site work video shall be made prior to final acceptance and before submitting a request for final payment. These videos will be made available upon request from DWM or Program Manager.
- 3.
4. At the conclusion of the Project, the Contractor shall have all videos generated for the project consolidated and copied onto an external hard drive and prepare a Table of Contents for the drive. A copy of the external hard drive and Table of Contents for the external hard drive shall be transmitted to the Program Manager with the request for final payment.

PART 2 – PRODUCTS

(not used)

PART 3 – EXECUTION

(not used)

END OF SECTION

**SECTION 01420
INSPECTION OF WORK**

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. This section includes guidelines for the inspection of contract work.

1.02 QUALIFICATIONS AND REQUIREMENTS

- A. The Program Manager and County shall have the right of access to and inspection of the work at all times. Materials, equipment, and products shall be subject to the Program Manager's review as specified herein.
- B. The Program Manager is responsible for general surveillance of the work on behalf of the County. The Program Manager is not responsible for construction means, methods, sequences, or procedures or for safety precautions and programs in connection with the work. The Program Manager is not responsible for supervision of the work and shall not give instruction to the Contractor's personnel as to methods of executing the work. The Program Manager is not responsible for the Contractor's failure to carry out the work in accordance with the Contract Documents.
- C. Any government representative or other individual identified by the County shall have access to the work wherever it is in preparation or progress. The Contractor shall provide proper facilities for such access and inspection.

1.03 RESPONSIBILITY OF THE CONTRACTOR

- A. The Contractor is responsible for all materials, equipment, methods, and procedures in execution of the work.
- B. The Contractor shall correct, to the satisfaction of the Program Manager, any work or material found to be defective or of deficient quality. Such corrections shall be made by the Contractor at no additional expense to the County.

1.04 RIGHT OF ENTRY

- A. Representatives of DeKalb County, the Environmental Protection Division of the Georgia Department of Natural Resources, and the U.S. Environmental Protection Agency and others, as may be identified by the County, shall have access to the work wherever it is in preparation or progress. The Contractor shall provide proper facilities for such access and inspection.

PART 2 – PRODUCTS (not used)

PART 3 – EXECUTION (not used)

END OF SECTION

SECTION 01510#

SANITARY SEWER MAIN TELEVISION FOR SEWER CLEANING VERIFICATION

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. This section includes guidelines and requirements for closed circuit television (CCTV) inspection. CCTV inspection will lead to a confirmation that Cleaning has been performed in accordance with the Specifications. All operations are adjunct to the Cleaning Operation and the sole purpose of the CCTV video is to provide verification that the pipe has been cleaned and pay lengths for invoicing purposes.

1.02 REFERENCES

- A. Manual on Uniform Traffic Control Devices (MUTCD) standards
- B. **Attachment A** – Access Exchange Database Anticipated Inspection Header Form Attribute Guidance Table (CCTV)
- C. **Attachment B** - CCTV Verification Field Data Collection Standards and Guidelines

1.03 RELATED SECTIONS

- A. Section 01056 – GPS Data Collection
- B. Section 01320 - Progress Reports & Videos
- C. Section 01520 – Sewer Flow Control
- D. Section 02607 - Manhole Height Adjustment
- E. Section 02956 – Sanitary Sewer Cleaning

1.04 DEFINITIONS

- A. **Television Inspection:** Operation necessary to complete a true-color visual inspection for verification that cleaned pipe segments and manholes are free of roots, grease, debris, deposits, sediments, obstructions, etc.
- B. **MPEG:** MPEG (pronounced M-peg), which stands for Moving Pictures Experts Group, is the nickname given to a family of International Standards used for coding audio-visual information in a digital compressed format. For the purposes of this specification, MPEG shall be defined as an ISO-MPEG Level 4 standard (MPEG- 4) digital audio-visual coding having a minimum resolution of 500 lines. All video files shall be named using .mpg or .wmv as the file extension.
- C. **Buried Manhole:** A manhole where the manhole cover (lid) is not visible at ground surface. Buried manholes usually require removing the material covering the manhole

lid and raising the manhole frame and cover (lid). All buried manholes on the sanitary systems shall be reported for raising following their location discovery by the Contractor

1. Note that manholes located as indicated on the County's mapping system and covered with a small layer of forest litter and/or a thin layer of soil or grass and where the location is apparent does not represent a "buried" manhole for "Locate & Expose" purposes.

1.05 SUBMITTALS

- A. Submittals are to be in color PDF format for printed documents as well as other required formats when applicable for digital transfers.
- B. Submit one example video via SFTP Server of previous sewer cleaning work that shows post cleaned pipe.
 1. Videos and inspection logs will be reviewed by Program Manager to determine if quality of CCTV image is acceptable, picture clarity, advancement speeds and lighting are acceptable and documented according to the Program Manager's requirements. This video submittal is expected to represent the standard quality that the Contractor will provide throughout the Contract for all video submittals from all crews.
 2. Modify equipment and/or inspection procedures to achieve report material of acceptable quality.
 3. Do not commence Work prior to approval of report material quality by the Program Manager. Upon acceptance, report material shall serve as standard for remaining Work.
- C. Records reports shall include a separate report for each pipe segment showing inspection setup data, Each report shall also note the labeling number of the corresponding video recording of that pipe segment. The video record of the pipe inspections shall be provided digitally on an approved mass storage device or submitted electronically. These records shall include all video information. The video files shall have unique name that are referenced in the inspection database. The file name shall include manhole ID numbers for upstream and then downstream manholes as the start of the file name. It is preferred that the direction of the inspection and inspection date be included as well.
- D. Camera specification sheet
- E. References: Contact names and telephone numbers
- F. List of staff and equipment to be used on this Project

- G. Supervisor and field crew leader's contact information including name and mobile telephone numbers
- H. Confined space entry certification that staff to be used on this project have been properly trained should confined space entry be required
- I. Contractor's Safety Plan
- J. 21 day look ahead schedule weekly based on Program Manager's work priority schedule
- K. Public notification door hanger based on Program Manager's provided example
- L. Inspection (See Documentation Section for additional information);
 - 1. Initial first day's inspections within 24 hours after first day's work is completed.
- M. Include the following with each weekly submittal:
 - 1. Inspection media (videos and photographs)
 - 2. Quality controlled Inspection database (Exchange Access Database)
- N. Traffic control plan
- O. Quality control plan

1.06 EXPERIENCE

- A. Supervisor of the field crews performing these functions shall have the proper training in these types of equipment and monitoring functions and have a minimum of three (3) years' experience in performing such assignments including safe work practices, etc.
- B. Field crew leaders performing these functions shall have the proper training in these types of equipment and monitoring functions and have a minimum of two (2) years' experience in performing such assignments including safe working practices, etc.
- C. The Contractor shall provide the County with written documentation (certification) that the supervisor, field crew leader and all crewmembers responsible for these work orders have the proper training and the requisite experience.
- D. No crew members shall enter confined spaces without the necessary certified training and permit.
- E. The required experience for the Field Crew Supervisor shall be documented in the Contractor's Bid submittal. Field Crew Leader qualifications will be reviewed and approved (if appropriate) by the Program Manager.

1.07 RESPONSIBILITY FOR OVERFLOWS/SPILLS AND DAMAGE TO PROPERTY AND UTILITY

- A. Reference Specification Section 01030 – Special Project Procedures.

PART 2 – PRODUCTS

2.01 CCTV/SONAR PERFORMANCE

- A. The Contractor shall furnish the following, but not limited to: the mobile (off-road) television/sonar inspection studio, television camera, audio-visual digital encoding

equipment / software, and other necessary equipment, materials, power, labor, and technicians as needed to perform the television inspection; Easement machine necessary to perform cleaning of lines.

- B. The surveying/inspecting equipment will be capable of surveying/inspecting a length of sewer up to at least five hundred (500) feet where a self-propelled unit is used, where entry is possible at one (1) end only. This equipment will be maintained in full working order.
- C. Each survey/inspection unit will contain a means of transporting the CCTV camera and/or sonar equipment in a stable condition through the sewer under survey and/or inspection. Such equipment will ensure the maintained location of the CCTV camera or sonar equipment when used independently on or near to the central axis of a circular shaped sewer when required in the prime position.
- D. Where the CCTV camera are towed by winch and bond through the sewer, all winches will be stable with either lockable or ratcheted drums. All bonds will be steel or of an equally non-elastic material to ensure the smooth and steady progress of the CCTV camera. All winches will be inherently stable under loaded conditions. The bonds shall be oriented in such a manner as to enable unhindered extension or retraction through the line. All effort shall be made to prevent damage to the pipe during the television inspection. In the case where damage is caused by the Contractor, for any reason, such as would be caused by incorrect deployment of bonds or retrieval of lodged equipment, the cost of repair or remedy shall be borne solely by the Contractor and repaired immediately after notification to the Program Manager within 24 hours.
- E. Each unit will carry sufficient numbers of guides and rollers such that, when surveying or inspecting, all bonds are supported away from pipe and manhole structures and all CCTV cables and/or lines used to measure the CCTV camera's head location within the sewer are maintained in a taut manner and set at right angles where possible, to run through or over the measuring equipment.
- F. Each unit shall carry or have access to flow control plugs as required to accommodate the diameter range in which inspection is to occur. See Sewer Flow Control Specification 01520 for additional details and requirements.
- G. Television/Sonar Inspection: The Contractor shall inspect pipelines with conventional television imagery as indicated in the contract documents so as to record the cleaned condition of the pipeline under inspection. Inspection of pipelines shall be carried out utilizing the County approved formats only.
- H. CCTV Camera Prime Position:
- I. The CCTV camera will be positioned to reduce the risk of picture distortion. In circular sewers the CCTV camera lens and/or sonar head will be positioned centrally (i.e. in prime position) within the sewer. In non-circular sewers, picture orientation will be taken at mid-height, unless otherwise agreed, and centered horizontally. In all

instances the camera lens/sonar head will be positioned looking along the axis of the sewer when in prime position.

J. CCTV Camera Speed:

The camera speed shall be that required to provide a representative video of the cleaned pipe and manholes.

K. CCTV Color Camera:

The television camera used for the pipeline inspection shall be one specifically designed for hazardous and corrosive environments and constructed for pipeline inspection. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall adhere to the following requirements:

13. Waterproof and shall be operative in 100% humidity conditions without lens fogging and any conditions that may be encountered in the inspection environment. Camera lens will be free of scratches and other faults that may reduce the video quality. The operator will take precautions to clean the lens of all foreign matter prior to inserting the camera and will attempt to reduce the amount of water on the lens during the survey/cleaning process.
14. The view seen by the television camera shall be transmitted to a monitor of not less than 11 inches in size.
15. The travel speed of the television inspection camera (through the pipe) shall be uniform and shall not exceed the maximum speed herein specified.
16. The camera, television monitor, and other components of the video system shall be capable of producing picture quality to the satisfaction of the Program Manager; and if unsatisfactory, equipment shall be removed and no payment will be made for an unsatisfactory inspection.
17. The adjustment of focus and iris will allow optimum picture quality to be achieved and will be remotely operated.
18. The adjustment of focus and iris will provide a minimum focal range from six (6) inches in front of the camera's lens to infinity.
19. The distance along the sewer in focus from the initial point of observation will be a minimum of twice the vertical height of the sewer.
20. The illumination must be mounted on and turned in the direction of the camera such as to allow an even distribution of the light around the sewer perimeter without the loss of contrast picture, flare out, or shadowing, light sensitivity to be greater than 1.5 lux minimum, minimize reflective glare, remote variable intensity control, provide a clear in-focus picture of entire inside periphery of pipe and the ability to achieve proper balance of tint and brightness.

L. Color CCTV:

All CCTV work will use color CCTV reproduction.

M. Off road inspection equipment/easement machine proposed by the Contractor shall be reviewed and approved by the Program Manager before the Contractor utilizes said equipment.

PART 3 – EXECUTION

3.01 GENERAL

- A. The following guidelines concerning the use of CCTV will be followed:
1. Generally CCTV combined with sonar will be used for internal condition assessment where depth of flow of sewage varies from twenty-five (25%) percent to seventy-five (75%) percent of overall sewer diameter for sewers greater than or equal to eighteen (18) inches in diameter. Where the sewer is less than eighteen (18) inches in diameter and depth of flow of sewage exceeds twenty-five (25%) percent but is less than seventy-five (75%) percent of overall sewer diameter one of the following actions may be taken based on the Contractor and Program Manager's agreement: (a) continue using CCTV (where depth of flow is only marginally greater than twenty-five (25%) percent of overall diameter) or (b) use sonar (by damming or plugging the sewer so that the depth of flow exceeds seventy-five (75%) percent of overall diameter) or (c) use plugging and/or bypassing to reduce flow to 25% or less.
- B. Confined Space Entry: Crews shall minimize the physical entry into manholes. Manhole entry shall be performed in accordance with Federal, State, Local and any other regulations for confined space entry. Only trained crews and staff may perform confined space entry after obtaining an entry permit. Staff must use safety required equipment, including harnesses, ventilation equipment, etc.
- C. Traffic Control: All traffic control measures shall comply with the requirements of MUTCD, Part 6 - Temporary Traffic Control, Latest Edition as published by USDOT/FHWA.
- D. Site Security: Wear all required safety equipment, such as safety vests, hardhats, safety glasses, and steel toe boots. Follow all applicable state and local traffic safety procedures. Alert the closest fire department/Emergency Medical Services (EMS) as to the location of the day's work and to stand by for emergencies.
- E. Scheduling Time: Crews shall begin inspections after 8:00 am and terminate inspections no later than 5:00 pm each day unless otherwise directed by the Program Manager in order to address localized special requirements. Authorization should be obtained if work is to be performed outside of the designated hours. Work should be performed by the Contractor in time frames that will allow compliance with the County's noise ordinance.
- F. Permits for Rights-of-Ways & Contract Utility Licensing:
The Contractor shall obtain work permits for all work to be performed in State and/or County Right-of-Ways. The Contractor shall also plan for all other insurances, traffic control measures, and other terms of the permit in advance. The Contractor shall also obtain all necessary and applicable licensing.
- G. Sequence of Work:
1. Perform Work in the following sequence:
 - a. Clean sewer lines and manholes in accordance with requirements of Section 02956#, Sanitary Sewer Cleaning and Verification.
 - b. Contractor shall remove debris in accordance with guidance in Section 02956#, Sanitary Sewer Cleaning and Verification.

- c. After cleaning, the pipe segments shall be visually inspected by means of closed-circuit television, including a view of the manholes showing the manhole interior. The inspection then will be done one linear section at a time and the flow in the section being inspected will be suitably controlled as specified (see Sewer Flow Control Specification 01520). All CCTV inspections shall be performed in a manner so as to visually show the pipe and manhole conditions after cleaning.
- H. Inspection equipment shall utilize software capable of providing complete survey reports, inspection standard exchange database, and linked media files.
- I. If television inspection (tractor mounted) of an entire manhole to manhole sewer segment cannot be successfully performed from one manhole, a reverse setup shall be performed to obtain a complete inspection. A reverse setup shall be considered incidental to and included in the segment's unit price bid for Cleaning and CCTV Cleaning Verification. If upstream (reverse) setup, is required, establish new inspection run separate from downstream (normal) setup so two inspection records exist in the software, one with the normal setup and one with the reverse setup.
- J. Televised pipe segment inspection is represented by one manhole-to-manhole pipe segment or other structural access-to-access point; not multiple manhole-to-manhole segments.
- K. Show continuous footage reading and other required information on inspections image. Place on screen where it is clearly visible (if black font, do not place on dark background, if white font, do not place on light background). This will be the basis for payment for the Cleaning & CCTV Cleaning Verification pay item.
- L. Viewing shall be in direction of flow, except while camera is being used in a reverse setup. Inspection shall proceed from upstream to downstream, unless prohibited by obstruction.
- M. Keep camera lens clean and clear. If material or debris obscures image or causes reduced visibility, clean or replace lens prior to proceeding with recording operation.
- N. Camera lens shall remain above visible water level and may submerge only while passing through clearly identifiable line sags or vertical misalignments. If flow exceeds 25 percent of diameter, such that the camera lens becomes obscured, pause inspection until flow subsides. If necessary, reschedule CCTV operation. Surcharging and flooding of camera lens is not an excusable condition if it has been artificially created upstream, i.e., placement of flow plugs or freshwater flushing in pipe.
- O. Immediately report to Program Manager any obstructions that restrict flow and cause inspection to be interrupted that can't be cleared under the cleaning process. Assure that the obstruction is documented in the inspection. Document condition with still photographs, and begin a reverse inspection setup or inspections of other pipelines to the satisfaction of the Program Manager.
- P. Any equipment stuck or left in the sewer line/lateral shall be retrieved by the Contractor within twenty-four (24) hours. The Contractor is expected to use due caution when cleaning and assessing the sewer line segments. The Contractor shall make numerous attempts to recover any lodged equipment without causing additional harm to the sanitary sewer structure(s). Equipment stuck in the line due to the Contractor's negligence will require that equipment be recovered at the sole expense of the Contractor. DWM shall not be financially responsible for any Point Repairs derived from such lodged equipment with the exception if the equipment was lodged in the

system due to poor pipe condition. The Contractor shall present CCTV video of the pipe condition when making a claim. DWM will review the video and Contractor activities to make a decision as to causation and liability. DWM will provide inspection services to ensure such extraction point repair is completed in compliance with the County's sanitary sewer guidelines. Any damage to the Contractor's equipment is the Contractor's sole responsibility. If the equipment is stuck or left in the sewer line/lateral causes an SSO (including building backup), then the Contractor is liable for the SSO/backup and all associated damages.

- Q. Televising pipe segments from manhole to manhole on same video in continuous run.
 - 1. Video shall clearly show camera starting and ending at manhole, unless defects do not allow it.
 - 2. Do not perform partial televising on one video and then complete run on another video.
 - 3. If line is partially televised, due to excusable condition, i.e., collapsed line, televised length shall be viewed by the Program Manager.
 - 4. If a portion of the Contractor's inspection is unacceptable to the County or Program Manager, the entire pipe segment shall be deemed unacceptable and the Contractor shall re-televising the entire pipe segment at the Contractor's sole expense.
- R. The Program Manager may, on occasion, accept a physical inspection that does not adhere to minimum standards if adverse conditions are encountered and re-inspection is not advised.
- S. At the end of each day, update the status of what sewer segments were inspected in Cityworks. Refer to Section 01030 – Special Project Procedures.

3.02 CCTV INSPECTION

- 1.
 - B. Media:
 - 1. Video:
 - a. Inspections completed, with a unique filename per manhole to manhole pipe segment inspection.
 - b. Continuous digital video recordings of the inspection view as it appears on the television monitor shall be taken. The recording shall also be used as a permanent record of defects.
 - c. The recording shall be MPEG-4. Separate MPEG-4 files shall be created for each pipe segment inspection. In case of a reverse setup, such inspection shall be stored in a separate inspection record and MPEG file. In addition to submitting your videos to the County by way of SFTP, your MPEG files shall also be uploaded to an online file storage or written to external physical hard drive(s) media for records retention purposes in accordance with County's requirements for Consent Decree.
 - d. MPEG files shall be named according to the following file specification:

[Upstream
Manhole]_[DownstreamManhole]_[MMDDYYYY]_[IncrementalNumber].mpg

- e. The "IncrementalNumber" shall be used if multiple inspections are performed for the same line, such as a reverse inspection setup. IncrementalNumber is to ensure no two videos are the same. The number can be the video ID if the software doesn't already have a random number generator.
- f. The County, at its sole discretion, reserves the right to refuse any MPEG, on the basis of poor image quality, excessive bit rates, inconsistent frame rates or any other characteristics that may affect usability by the County.
- g. The digital video encoding shall include video information that can be reproduced with a video image equal or very close to the quality of the original picture on the television monitor. The replay of the recorded video information shall be free of electrical interference and shall produce a clear, stable image.

C. Database:

- 1. Include all inspections in an Access Standard Exchange database that will be regularly submitted to the Owner. The Owner and contract will agree on submittal schedule. A database, with attached videos, will be submitted with each interim submittal. Consolidation of the database is not the responsibility of the Contractor.
- 2. Provide an Access standard exchange database of collected data including anticipated inspection header field attribute information as shown in **Attachment A** to this Section.
- 3. File Type: MS Access, .MDB, .ACCDB
- 4. Database Format: Format of the database shall be acceptable by the Owner.
- 5. List inspection media names in corresponding asset/inspection/defect information field within database.

D. Linear Measurement:

- 1. The CCTV monitor display will incorporate an automatically updated record in feet and tenths of a foot of the footage of the camera or center point of the transducer, whichever unit is being metered, from the cable calibration point, the pipe diameter (physical measurement by Contractor), and verified pipe material. The relative positions of the two (2) center points will also be noted.
- 2. The Contractor shall use a suitable metering device that enables the cable length to be accurately measured; this shall be accurate to 0.20 feet. Measurement shall be zeroed after each segment inspected. The Contractor shall calibrate the footage meter on a regular basis This measurement will be vetted against the GIS map length for quality check

E. Data Display, Recording and Start of Survey/Inspection:

- 1. At the start of each sewer length being surveyed or inspected and each reverse set-up, the length of pipeline from zero (0) footage, the entrance to the pipe, up to the cable calibration point will be recorded and reported in order to obtain

a full record of the sewer length. Only one (1) survey will be indicated in the final report. All reverse set-ups, blind manholes, and buried manholes will be logged on a separate log. Regardless, each set-up will be recorded as a separate inspection and the header and observed defects recorded appropriately. Video digits will be recorded so that every recorded feature has a correct tape elapsed time stamp. Each log will make reference to a start and finish manhole unless abandonment took place because of blockage.

2. The footage reading entered on to the data display at the cable calibration point must allow for the distance from the start of the survey/inspection to the cable calibration point such that the footage at the start of the survey is zero (0).
3. In the case of surveying through a manhole where a new header sheet and file must be created, the footage will be set at zero (0) with the camera focused on the outgoing pipe entrance.
4. At the start of each manhole length a data generator will digitally generate and clearly display on the viewing monitor and subsequently on the video recording a record of data in alpha-numeric form containing the following minimum information:
 - a. Automatic update of the camera's footage position in the sewer line from adjusted zero (0)
 - b. Sewer dimensions
 - c. Manhole/pipe asset ID number
 - d. Date of survey
 - e. Road name/location
 - f. Direction of survey
 - g. Time of start of survey
 - h. The size and position of the data display will be such as not to interfere with the main subject of the picture.
5. Once the survey of the pipeline is under way, the following minimum information will be continually displayed:
 - a. Automatic update of the camera's footage position in the sewer line from adjusted zero (0).
 - b. Manhole or pipe asset ID number.
 - c. Defect/observation code(s) (temporarily display when encountered)
 - d. Date and Time
6. Before camera enters the pipe, inspection shall provide video of the manhole. Video recording shall begin by facing pipe segment to be televised and then pan/tilt/zoom as necessary to point camera up toward the manhole opening.

3.03 DELIVERABLES

- A. **Digital Access Standard Exchange database** shall be submitted via SFTP file transfer to the Program Manager. The database must contain all the data required by this specification.
- B. **Final Television/Sonar Inspection Reports** shall be submitted to the Program Manager in PDF on the same SFTP file transfer referenced above. Corresponding MPEG videos

and photos shall also be submitted to the Program Manager as outlined by this specification.

- C. MPEG videos shall also be submitted to the Program Manager as outlined by this specification.

3.04 PUBLIC NOTIFICATION – CCTV INSPECTION

- A. Public Notification will be in accordance with that specified in Section 02956# - Sanitary Sewer Cleaning & Verification.

3.05 QUALITY ASSURANCE/QUALITY CONTROL

- . Prior to CCTV cleaning verification data submission to the Program Manager, the Contractor shall review videos for Quality Control (QC) as required by the Program Manager. The Contractor shall correct any data conflict, missing data, or other questionable entry identified by the QC reports prior to submitting the CCTV inspection data to the Program Manager.
- A. The Program Manager will periodically request the Contractor to review the QC results with the Program Manager.
- B. CCTV video of insufficient quality may result in the line segment being re-CCTV'd at the Contractor's expense, depending upon circumstances. The video must be of sufficient quality to allow a review of the cleaning operation results.
- C. The Program Manager will perform random review checks of the Contractor's submitted data. Should accuracy or qualitative levels of any of the data fall below those deemed acceptable to the Program Manager; the data submittal will be refused and returned to the Contractor for correction. The Contractor will be required to correct or re-do inspections until the Program Manager is satisfied with the quality of the work.
- D. The Contractor shall complete work on each asset as described herein. Refer to the Measurement and Payment Section (Section 01025) on documentation requirements to be provided with each pay request.
- E. **Measurement Units:** All dimensions will be in feet and tenths of a foot and/or feet and inches depending upon the technology performed. Measurement of sewers will be to the nearest tenth of a foot.

Attachment A - Access Exchange Database Anticipated Inspection Header Form Attribute Guidance Table (CCTV)

NUMBER	FIELD	FIELD REQUIRED	DESCRIPTION/INSTRUCTIONS
1	Surveyed by	Y	Name of individual conducting survey - e.g. KTRAN
2	P/O Number	Y	DeKalb DWM Contract number
3	Work Order Number	Y	DeKalb DWM Work Order number assigned
4	Media Label	Y	
5	Date	Y	Inspection Date - YYYYMMDD
6	Time	Y	Time Inspection Started - Military Time
7	Date Cleaned	Y	Date when sewer was cleaned prior to survey if applicable, YYYYMMDD
8	Flow Control	Y	Flow-through plug, bypass, etc.
9	Direction of Survey	Y	
10	Drainage Area	Y	Sewer Shed Name – e.g. Nancy Creek
11	Pipe Segment Ref	Y	USMH__DSMH - Pipe Facility ID
12	Street (Name & Number)	Y	
13	City	Y	
14	Height (Diameter)	Y	
15	Shape	Y	
16	Length Surveyed	Y	
17	Upstream MH Number	Y	Client provided designation for upstream manhole (e.g. 15-304-s122)
18	Downstream MH Number	Y	Client provided designation for downstream manhole (e.g. 18-325-s289)
19	Location Code	Y	(1) Within roadway; (2) Off-Road Easement

Y – Required by DeKalb County

Attachment B - CCTV Verification Field Data Collection Standards and Guidelines

1. All inspection camera operators must possess current NASSCO PACP Certification, with those credentials to be listed in the Surveyed By and Certificate Number fields (PACP Survey Header form fields 1 and 2).
2. In instances of use of analog CCTV (pan & tilt) inspection technologies, cameras should be set at the appropriate height for the pipe size and shape (centered in the middle for circular pipe), and shall traverse the pipe at a steady pace, not to exceed 30 ft (9m) per minute.
3. In instances of use of Digital Side Scanning (DSS) inspection technologies that utilize higher resolution and more advanced optics, equipment may traverse up to 70 ft per minute.
4. The operator's objective in positioning the camera to view a defect or feature will be to provide a perspective view of the defect and the entire circumference of the surrounding pipe.
5. CCTV operators shall begin each inspection at the access point wall, capturing video of the 1 interior of pipes, until the camera reaches the adjacent access point, or until the survey is abandoned in-pipe.
6. CCTV operators shall be responsible for accuracy of data entry and verification of accuracy of structure IDs and/or GIS attributes, and all survey header information, as required by the Owner.

END OF SECTION

SECTION 01520
SEWER FLOW CONTROL

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. The purpose of this section is to define the various methods of wastewater flow control including plugging/blocking and bypass/diversion pumping. Wastewater flow control shall maintain an efficient and uninterrupted level of service to the sewer system while performing investigative or construction operations.

1.02 RELATED SECTIONS

- A. Section 01510# – Sanitary Sewer Main Television for Cleaning Verification
- B. Section 02956# – Sanitary Sewer Cleaning & CCTV Verification

1.03 REFERENCES

- A. ASTM D1238 - Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
- B. ASTM D1248 - Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable
- C. ASTM D1505 - Standard Test Method for Density of Plastics by the Density-Gradient Technique
- D. ASTM D1693 - Standard Test Method for Environmental Stress-Cracking of Ethylene Plastics
- E. ASTM D2122 - Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
- F. ASTM D2657 - Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings
- G. ASTM D2837 - Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products

1.04 QUALIFICATIONS

- A. Qualification documentation will be submitted as required of the Contract Documents.
- B. The Contractor must meet all of the following criteria to be considered qualified to propose and/or bid on the subject contract:
 - 1. The Contractor, or their subcontractor, must document they, not their parent company, related company, or the experience of an individual/s, have been in this line of business a minimum of five (5) years.
 - 2. The Contractor, or their subcontractor, must document they, not their parent company, related company, or the experience of an individual/s, have performed gravity sewer bypass/diversion pumping for the sizes of sewer

mains and flows expected under this contract in the past two (2) years. This documentation shall include locations, references (including names and phone numbers), pipe sizes, pump sizes and pumping rates. This documentation must include a minimum of ten (10) different projects and must cover the range of sizes of sewer mains and flows expected under this contract.

1.05 SUBMITTALS

- A. Seven (7) calendar days prior to any bypass/diversion pumping activity the Contractor shall submit two (2) hard copies and one electronic copy of the complete and detailed plan to the Program Manager for review. The bypass system shall meet the requirements of all codes and regulatory agencies having jurisdiction. The Contractor may submit a general bypass/diversion pumping plan to be used when bypassing sewer mains **smaller than or equal to 12-inch** diameters. Once the Contractor has received written approval from the Program Manager for **the smaller than or equal to 12-inch** sewer main plan, the Contractor may use the plan without re-submittal.
- B. The **bypass/diversion pumping plan** submittal shall have sufficient detail to show the following:
1. Lowest overflow point upstream of the bypass/diversion.
 2. Pump stations upstream of the bypass/diversion.
 3. Staging area for pumps.
 4. Sewer plugging method and types of plugs.
 5. Number, size, material, location and method of installation of suction piping.
 6. Number, size, material, location and method of installation of discharge piping.
 7. Bypass pump sizes, capacity, number of each size to be onsite and the power requirements.
 8. System curve design calculations detailing the static lift, friction losses, velocity losses and flow velocities.
 9. Pump curves with the system curves plotted showing the pump operation range and confirming the pump size, horsepower and impeller required.
 10. Standby power generator size and location, if utilized.
 11. Noise control and abatement measures.
 12. Downstream discharge plan including pipe routing plan and profile views.
 13. Sections showing suction and discharge pipe depth, embedment, joint restraints, thrust blocking and backfilling.
 14. Method of protecting discharge manholes or structures from erosion and damage.
 15. Location and position, in detail, where pipes cross roadways and driveways.
 16. Traffic Control Plan, if applicable.
- C. For bypass plans associated with sewer mains **larger than 12-inches** in diameter, a Georgia certified Professional Engineer must sign and seal the bypass/diversion plan.
- D. The Contractor will provide an emergency response plan for each bypass/diversion pumping system. The plan will be followed in the event of failure of the bypass/

diversion pumping system. The Contractor shall provide names and phone numbers for twenty-four (24) hour emergency contact. The Contractor shall have field personnel onsite while performing bypass operations at all times. The bypass operation shall never be left unattended or unsupervised.

- E. The Contractor must identify all pump stations and the lowest overflow point upstream of the plugging/block and/or bypass/diversion pumping. The Contractor may be required to station personnel at upstream pump stations and overflow points.
- F. The Contractor shall notify the Program Manager 48 hours prior to commencing any plugging/block and/or bypass/diversion pumping.
- G. The Contractor shall complete a daily written record (diary) detailing the work carried out and any small items of Work incidental to the Work. The Contractor shall include in his daily record and reference to the following:
 - 1. **Delays:** Dense traffic, lack of information, sickness, labor or equipment shortage, etc.
 - 2. **Weather:** Conditions (e.g., rain, sunny, windy, etc.).
 - 3. **Equipment:** On site (e.g., specialty cleaning, by-pass equipment, etc.).
 - 4. **Submittals:** To the County's Program Manager.
 - 5. **Personnel:** On site by name (e.g., all labor, specialty services, etc.).
 - 6. **Accident:** Report (e.g., all injuries, vehicles, etc.).
 - 7. **Incident:** Report (e.g., damage to property, property owner complaint, etc.).
 - 8. **Major defects encountered:** including collapsed pipe, if any, cave-ins, sink holes, etc.
 - 9. **Visitors:** On site.
 - 10. **Disposals:** Type and quantity of debris (including liquids).

1.06 EXPERIENCE

- A. Experience documentation will be submitted as required of the Contract Documents. The Contractor shall provide the Program Manager with written documentation acknowledging the supervisor and field crew leaders responsible for this work have received the proper training, are certified, and have the requisite experience. This documentation will include dates of hands-on experience, employer, description of duties/experience, contact name and phone number. Documentation on any person shall not be longer than one (1) page.
- B. Supervisor of the field crews must be properly trained in this function and have a minimum of two (2) years' experience in performing gravity sewer bypass/diversion pumping, to include safe working practices for the types of equipment and operation of the equipment used for this contract.
- C. Field crew leaders must be properly trained in the function and have a minimum of two (2) years hands-on experience in performing bypass/diversion pumping, to include safe working practices for the types of equipment and operation of the equipment used for this contract.
- D. No crew members shall enter confined spaces without the necessary certified training.
- E. All on-site personnel must be badged by the County.

1.07 PERSONNEL

- A. The Supervisor must visit the project site daily, checking on their personnel and subcontractors, meeting with the field crew leaders, as well as checking on the status and progress of the project.
- B. A field crew leader must be with their crew when their crew is working. Each field crew leader can only have one crew. Each crew must have its own field crew leader.

1.08 RESPONSIBILITY FOR SANITARY SEWER OVERFLOWS AND DAMAGE TO PROPERTY AND UTILITY

- A. Reference Specification Section 01030 – Special Project Procedures.

1.09 SAFETY

- A. All work shall be performed in accordance with OSHA standards and state and federal safety regulations.
- B. No person shall enter a confined space without the documented requisite training, certification, and entry permit.

PART 2 – PRODUCTS

2.01 PIPE FOR FLOW DIVERSION

- A. Ductile Iron Pipe: Ductile iron pipe, as specified in DeKalb County Design Standard for Ductile Iron Sanitary Sewer Pipe and Fittings, is acceptable for use for flow diversion during construction.
- B. Steel pipe is permitted for flow diversion.
- C. High Density Polyethylene Pipe (HDPE) is permitted for flow diversion. Polyethylene material shall comply with the requirements for Type III polyethylene, C-5 and P-34 as tabulated in ASTM D-1248 and has the Plastic Pipe Institute recommended designation PE3406. The material shall also have an average specific base resin density of between 0.94 g/cc and 0.955 g/cc (ASTM D-1505). Pipe made from these resins must have a long-term strength (50 years) rating of 1,250 psi or more per hydrostatic design basis categories of ASTM D-2837. The polyethylene resin shall contain antioxidants and be stabilized against ultraviolet degradation to provide protection during processing and subsequent weather exposure. The polyethylene resin shall have an environmental stress crack resistance condition C, as shown in ASTM D-1693, to be greater than 500 hours, 20% failure. All pipes shall be made from virgin quality material. No rework compound, except when obtained from the manufacturer's own production of the same formulation shall be used. The polyethylene resin shall have an average melt flow index, condition E as shown in ASTM D-1238, not in excess of 0.25 g/10 mm. Pipe shall be homogeneous throughout, and free of visible cracks, holes, foreign material, blisters, or other deleterious faults. Diameters and wall thickness shall be measured in accordance with ASTM D-2122. Pipe joining will be done by thermal butt fusion method in accordance with ASTM D-2657.
- D. Polyvinylchloride (PVC) pipe is permitted for flow diversion. PVC pipe shall be rigid and securely coupled with a minimum number of connections. Glued PVC is not allowed.

- E. Lay flat hose is permitted for use with 2" and 3" gas powered portable pumps.
- F. Irrigation type piping is not allowed.
- G. No more than two (2) pump discharge hoses will be allowed at any given time. The length of these hoses shall be limited at the direction of the Program Manager.
- H. The Contractor, at a minimum, shall design all piping, joints and accessories to withstand twice the maximum operating pressure or 100 psi whichever is greater.
- I. If required the Contractor must provide air relief (air relief valves, etc.) on bypass/diversion pumping discharge piping to insure proper operation.
- J. All pumps used shall be fully automatic self-priming units and do not require the use of foot-valves or vacuum pumps in the priming system. The pumps may be electric, gas, or diesel powered, provided they meet all specified sound level requirements. If electric pumps are used, the combined generator/pump system shall meet the specified sound level requirements. All pumps used shall be constructed to allow dry running for long periods of time to accommodate the cyclical nature of effluent flows.
- K. Maintain sufficient equipment and materials on site to ensure continuous and successful operation of bypass and dewatering systems.
 - 1. Keep standby pumps fueled and operational at all times.
 - 2. Maintain sufficient number of valves, tees, elbows, connections, tools, sewer plugs, piping, and other parts or system hardware on-site to ensure immediate repair or modification of any part of system as necessary.
- L. Unless specified otherwise in these Specifications or approved by the Program Manager, all pumps (and generators if used) shall be fully sound attenuated and shall produce a noise level of sixty-five (65) dB or less at a distance of twenty-three (23) feet.
- M. The Contractor shall provide the necessary stop/start controls for each pump.

PART 3 – EXECUTION

3.01 GENERAL STANDARDS AND REQUIREMENTS

- A. Prior to commencing each bypass/diversion pumping activity the Contractor must receive written approval from the Program Manager.
- B. Ensure all levels of sewage flow are continuously and effectively handled.
- C. The Contractor shall use ingenuity and skill to develop a bypass/diversion pumping plan.
- D. The back-up pump, appropriate piping, fuel, lubrication and spare parts shall be incorporated into the bypass/diversion pumping arrangement at the site, ready for use in case of a breakdown.
- E. At no cost to the County and Program Manager, the Contractor will carry out a "trial run" of the bypass/diversion arrangement on all sewers greater than 12-inches. This trial run must be conducted before the Program Manager will accept the arrangement. The "trial run" shall demonstrate the incorporation of all standby equipment to handle flows when the main pump set is switched off.
- F. All materials used for bypass/diversion pumping shall be pre-approved by the Program Manager prior to commencing pumping activities.

- G. When wastewater flows at the upstream manhole of the sewer main being televised prohibit a satisfactory verification video, or do not allow the proper sewer or manhole repair, the flows shall be reduced to the levels required by one of the following methods: plugging/blocking or bypass/diversion pumping of the flows, as approved by the Program Manager.
- H. In some applications, the wastewater flow may be plugged/blocked and contained within the capacity of the collection system. This shall only be done when it has been determined by the Contractor and approved by the Program Manager the system can accommodate the surcharging without any adverse impact.
- I. The plan must keep the wastewater flowing without discharge or spills into any adjacent creeks or on to the ground. No bypassing to ground surface, receiving waters, storm drains, or bypassing resulting in groundwater contamination or potential health hazards shall be permitted. The Contractor will seek and obtain inspection of each section of newly laid sewer before removing the flow diversion from service and placing the newly installed or rehabilitated section into service.
- J. All pipe materials utilized in wastewater flow control shall be in good condition, and free of defects, and leaks. The Contractor, at no cost to the County and Program Manager, shall replace any defective material. Upon completion of the job, wastewater flow control materials shall be removed from the site.
- K. Before any wastewater flow control equipment is installed, the Contractor shall de-silt the segment of sewer to be bypassed while it is still under flow. Subsequent jetting and final cleaning before inspection or repair shall be undertaken while the segment of sewer is bypassed.
- L. The Contractor is responsible for locating any existing utilities in the area the Contractor selects to locate the bypass pipelines. The Contractor shall locate his bypass pipelines to minimize any disturbances to existing utilities and shall obtain approval of the pipeline locations from the Program Manager. All costs associated with relocating utilities and obtaining all approvals shall be paid by the Contractor.
- M. During all wastewater flow control operations, the Contractor shall protect manholes and all local sewer lines from damage inflicted by any equipment. The Contractor shall be responsible for all physical damage to mainlines, manholes, and all local sewer lines caused by human or mechanical failure. The Contractor shall protect open manholes from access by non-Contractor personnel, pets, etc.
- N. The Contractor shall complete all wastewater flow control activities with the minimum sound level compatible with accepted industry standards for sound attenuated temporary pumping systems.

3.02 DEPTH OF FLOW

- A. The Contractor will control the depth of flow to that necessary to provide a CCTV video of sufficient quality to provide sufficient information to make a decision that the pipe segment and manhole was cleaned in accordance with the Specifications. For information purposes only, normal CCTV work requires the following guidelines: In performing television inspection, joint testing, and/or sealing and other sewer rehabilitation work, the Contractor shall control the depth of flow in the sewer within the following guidelines:

Maximum Pipe Flow Depth

Television Inspection		Joint Testing and Sealing	
Pipe Size	% Pipe Dia.	Pipe Size	% Pipe Dia.
6"-12"	15	6"-12"	20
15"-24"	25	15"-24"	25
27" or larger	25	27" or larger	30

- B. When sewer line flows, as measured in the first manhole upstream of the sewer segment being inspected, exceed the maximum depth listed above or inspection of the complete pipe periphery is necessary for effective testing, sealing, or line work, the Contractor shall implement wastewater flow control methods. The implementation of the flow control method shall be reviewed and approved by the Program Manager.

3.03 PLUGGING AND BLOCKING

- A. The Contractor shall insert a sewer line plug into the line at a manhole upstream from the section being inspected or repaired. The plug shall be so designed so all or any portion of the flow can be released. Plugs should be secured to manhole to prevent movement downstream. Flows shall be shut off or reduced to within the maximum flow limits specified. Wastewater flow shall be restored to normal following completion of work.
- B. No Plumbers plugs will be allowed.

3.04 BYPASS/DIVERSION PUMPING

- A. When bypass/diversion pumping is required, a pump size shall be recommended by the Contractor and approved by the Program Manager. The Contractor shall supply the necessary pumps, conduits, and other equipment to divert the flow of wastewater around the sewer section where the work is to be performed. The bypass system shall have sufficient capacity to handle existing flows plus additional flow potentially occurring during periods of rainstorms as indicated from the flow monitoring program. The Contractor shall be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system on a continuous basis. A "setup" consists of the necessary pumps, conduits, fuel, and other equipment required to divert the flow of wastewater from the start to finish of work performed.
- B. Wastewater shall be pumped directly into the nearest available downstream manhole, provided the existing sewer has the capacity to transport the flow. The Contractor shall request the Program Manager to determine the capacity of the downstream existing system. The Contractor shall request this determination fourteen (14) calendar days prior to the planned bypass/diversion pumping.
- C. The Contractor shall be responsible for keeping the pumps running continuously 24 hours a day, if required, until the bypass operation is no longer required. The Contractor shall have standby pumps at all times. The County will reimburse the Contractor for hourly costs associated with providing manpower, materials and equipment necessary to continually operate the bypass system at the price bid per hour. The Contractor will provide the Program Manager the minimum personnel requirements for operating the system for review and approval prior to manning the system for continued operation. The payment will be per LF for installation and maintenance and per hour for operation.

- D. Bypass pumping systems shall have sufficient capacity to pump peak flows in the pipes being bypassed (flows in the existing interceptor sewers can increase dramatically during periods of wet weather). The Contractor shall provide all pipeline plugs, pumps of adequate size to handle wet weather peak flows, and temporary discharge piping to ensure the total flow of the interceptor sewer is safely diverted around the section to be repaired. Wastewater flow control system will be required to be operated twenty-four (24) hours per day.
- E. Maintenance personnel capable of starting, stopping, refueling, and maintaining the pumps and equipment during the bypass/diversion pumping operation shall continuously monitor pumps and equipment. If pumping is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum. Bypass pumping may, at times, have to remain in operation for an extended period of time in situations when the work is stopped and workers have left the site. The Contractor shall be responsible for maintaining, monitoring, managing and implementing a successful pump bypass operation during such occurrences. Compensation for this occurrence is addressed the in Measurement and Payment (paragraph C).

3.05 FLOW CONTROL PRECAUTIONS

- A. Where the wastewater flow is plugged/blocked, the Contractor shall be responsible for taking sufficient precautions to protect public health. The sewer lines shall also be protected from damage. The following shall apply:
 - 1. No wastewater shall be allowed to back up into any homes or buildings.
 - 2. No wastewater shall overflow any manholes, cleanouts, or any other outlet.
 - 3. Customers upstream of the flow control area shall be able to use all their water and sewer utilities without interruption.
 - 4. If any of the above occur or are expected to occur, the Contractor shall provide bypass/diversion pumping to alleviate one or all of the conditions. Additionally, the Contractor shall observe the conditions upstream of the plug and be prepared to immediately start bypass/diversion pumping, if needed.
- B. Any sump pumps, bypass pumps, trash pumps, or any other type of pump, pulling wastewater or any type of material out of the manhole or sewer, shall discharge the material into another manhole, or appropriate vehicle or container approved by the Program Manager. **Under no circumstances shall this material be discharged, stored, or deposited on the ground, swale, road, or open environment.**
- C. The Contractor shall take appropriate steps to ensure all pumps, piping, and hoses carrying raw wastewater are protected from traffic. Traffic control shall be performed in accordance with the requirements of the governing agency.
- D. Prior to any wastewater flow control operations the Contractor will identify the pump stations and lowest overflow point upstream of the planned plugging/blocking or bypass/diversion. During operations the Contractor will monitor the pump stations and lowest points to ensure overflow does not occur.
- E. In the event, during any form of "Sewer Flow Control," raw wastewater is spilled, discharged, leaked, or otherwise deposited in the open environment, the Contractor shall immediately stop overflow and shall immediately report overflows to the Program Manager. The Contractor shall be responsible for any cleanup of solids and stabilization of the area affected. This work shall be performed at the Contractor's

expense with no additional cost to the County or Program Manager. The Contractor shall also be responsible for notifying the Program Manager and complying with any and all regulatory requirements for cleaning up the spill at no additional cost to the County. The Contractor shall be responsible for any fines assessed by regulatory agencies including the Georgia Environmental Protection Division (EPD).

- F. During wastewater flow control operations, the Contractor shall take proper precautions to prevent damage to existing sanitary sewer facilities, flooding, or damage to public or private property.
- G. The Contractor shall make repairs, replacements or rebuilds, as directed by the Program Manager, to any portion of the sewer system damaged during any plugging or bypass/diversion pumping operation. All such repairs, replacements, and rebuilding shall be paid for by the Contractor.
- H. The Contractor shall make such provisions, as are necessary, for handling all flows in existing sewers, connections, and manholes by pipes, flumes, or by other approved methods at all times, when his operations would, in any way, interfere with normal functioning of those facilities.
- I. The Contractor shall be responsible for the removal of any debris and sedimentation in the existing sewers, laterals, and manholes, etc., attributable to his work under this Contract. The Contractor is responsible for the proper disposal of these items. The debris and liquids are to be disposed of properly in accordance with all applicable laws. The local municipality can furnish a letter to the landfill stating the contractor is authorized to dispose of the non-hazardous materials. Debris and liquids type and quantities are to be tracked in the daily Contractor diary. Hauling and disposal costs will be borne by the Contractor.

3.06 CLEAN UP

- A. Keep premises free from accumulations of waste materials, rubbish, and other debris resulting from the Work.
- B. Restore to original condition portions of site not designated for alterations by Contract Documents.
- C. When by-pass pumping operations are complete, drain piping into sanitary sewer prior to disassembly.

END OF SECTION

SECTION 01540
SECURITY AND SAFETY

PART 1 - GENERAL

1.01 SECURITY PROGRAM

- A. The Contractor shall protect the Work, including field office trailers and contents, from theft, vandalism, and unauthorized entry.
- B. The Contractor shall initiate a site security program at the time of mobilization onto the Work site that provides adequate security for material stored and installed onsite.
- C. The Contractor shall maintain the security program throughout the Contract duration.
- D. The Contractor and subcontractors shall be wholly responsible for the security of its storage compound and laydown areas, and for plant, material, equipment, and tools at times.
- E. The Contractor shall provide the County with a list of 24-hour emergency phone numbers, including chain of command.
- F. The Contractor must cooperate with the County on all security matters and must promptly comply with any project security arrangements established by the County or Program Manager.
- G. It is the Contractor's obligations to comply with all applicable governmental requirements and regulations and to undertake reasonable actions to establish and maintain secure conditions at any job site.
- H. The Contractor shall be solely responsible for the safety and security of materials, equipment, their employees, their subcontractors and or any person who enters County's premises for any reason(s) related to this contract.
- I. The Contractor shall comply with the site safety and security program at all times on the County's facilities.
- J. The Contractor shall only allow entry to authorized persons with proper County-approved identification. All Contractor and Subcontractor employees will be required to have personnel working at these facilities photographed for a County-provided identification (ID) badge before they start work.
- K. The Contractor shall not allow cameras on-site or photographs to be taken, except those required to perform the Work in accordance with the Contract Documents or otherwise approved by the County. Photos taken on the County property for any reason (mishaps, near misses, accidents etc.) are prohibited from being used for Social Media and Training references unless authorized by the County.
- L. It is the responsibility of the Contractor to ensure all articles of possible personal or monetary value found by the Contractor's employees are turned into the County or Program Manager.
- M. The Contractor shall be responsible for maintaining satisfactory standards of employees' competency, conduct, courtesy, appearance, honesty and integrity, and

shall be responsible for taking such disciplinary action with respect to any employee, as may be necessary.

- N. Contractors with non-English speaking employees shall provide an English speaking person, who has the ability to translate or communicate vital project specific or safety information.

1.02 PROJECT SAFETY

A. DRUG AND ALCOHOL POLICY

Any person under the influence of /or in possession of, distributing and/or selling control substances and/or alcohol will be removed from the site immediately. Prescription medication is allowable if it is contained in its original package and does not affect an employee's performance. DWM has a zero tolerance Drug and Alcohol policy.

B. COMPETENT PERSON REQUIREMENTS

Contractor and their Subcontractor shall have a Competent Person on the project for all operations as required by OSHA Standards.

1. A competent person identified and on-site before any excavation may begin and/or modified.
2. A competent person identified and on-site before any Confined Space may begin.
3. A competent person identified and on-site before any rigging operation may begin.

OSHA defines a competent person as one who is capable of identifying existing and predictable hazards in surroundings or working conditions that are unsanitary, hazardous or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate them.

C. COMMUNICATIONS

1. Contractor shall Plan and execute all work in a manner, which complies with the stated objectives of their Project Safety Program.
2. Contractor employees and their subcontractors shall complete a Project Site-Specific Health and Safety Orientation identifying projects hazards, detailing these specified project rules and DeKalb County Watershed Management Project Rules (**See Form C**). Employees shall complete this orientation before starting work.
3. Contractor shall create and maintain for project(s) an emergency action plan (EAP) which addresses the notification of the closet police, fire or ambulance and rescue services.
4. In case of a utility line break please contact 911 in addition to DWM Dispatch at 770-270-6243, the utility owner (Sewer, Water, Gas, Cable, and Electrical) and your project contract public relation representative. Please note: Gas

Sewer and Electrical lines are considered Hazardous. Prompt emergency actions must follow immediately.

5. Contractors are required to have on file in the job trailer, a copy of their company's Safety Program and Hazard Communication Program.
6. All accidents must be reported to DWM Management immediately after occurrence. Accident reports and investigation forms must be completed and a copy to DWM Safety within 24 hours of an accident. All incidents or near misses must be reported to DWM Safety immediately for proper investigation and corrective actions to ensure prevention.
7. Contractor's accident/incident report shall contain (but not be limited too) the following:
 - a. Name of person injured
 - b. Date and time of injury
 - c. Name(s) of all witnesses
 - d. Details of the accident
 - e. Root Cause analysis of accident
 - f. Action taken to prevent re-occurrence of incident/accident
 - g. Nature/Extent of injury
 - h. Name of doctor/ emergency provider
8. All contractor personnel requiring medical attention shall be drug screened in accordance with the County's policy.
9. Tool Box Talks must be completed at least weekly. The toolbox talk must be documented with the signatures of all employees attending. Topics should include information relative to ongoing or upcoming operations and previous week's accidents.
10. Subcontractors must maintain and have available first aid and bloodborne pathogens kit.
11. Contractors and their subcontractors are responsible for transportation and payment for treatment of their employees. It is the responsibility of each contractor to arrange for medical treatment of his or her injured employees.
12. Contractors and Subcontractors are responsible for the conduct of their employees and housekeeping of the construction/project site.
13. Any damage to existing or stored property or materials will financially be the sole responsibility of the offending subcontractor(s).

D. DISCIPLINARY POLICY

Contractor employees must work safely as a condition of employment on this project. DeKalb County reserves the right to remove any contractor employees from this project for unsafe behavior or failure to follow safe work practices. Insubordination or any act that causes an Immediately Dangerous to Life and Health (IDLH) situations will not be tolerated and will result in automatic removal.

E. PROJECT SITE

1. Vehicle parking is in designated areas only- Forward First Policy.

2. Report all unsafe site conditions to DWM Management for which the contractor does not have the resources or is not responsible to implement corrective action.
 3. Only trained, certified and authorized employees shall operate forklifts, aerial lifts, cranes, machinery, heavy equipment, tools, and vehicles. All equipment shall be operated in accordance with manufacturer's specifications and all other applicable laws/standards. The operator must have certification cards on their person.
 4. Cell phones are not allowed to be used onsite except for supervisors and management.
 5. All subcontractors shall have warning devices on moving equipment and trucks in the proper working order while on site.
- F. ELECTRICAL
- Subcontractors must use either an assured grounding program and/or Ground Fault Circuit Interrupters (GFCI) for protection from shock/electrocution.
- G. HAZARDOUS COMMUNICATION PROGRAM
- Contractors are required to have on file with DWM and project job trailer, a copy of their company's Hazard Communication Program. Hazard Communication programs must include an inventory list of hazardous materials, explanation of their labeling system, and all corresponding safety data sheets (SDS) and name of the program coordinator. Contractor shall make the inventory list of hazardous materials available upon request by the County.

1.03 ENTRY CONTROL

- A. The Contractor shall restrict entry of unauthorized personnel and vehicles onto the Project site.
- B. The Contractor shall allow entry only to authorized persons with proper identification.
- C. The Contractor shall maintain an Employee Log and Visitor Log and make the log available to the County upon request. This log shall be submitted to the County bi-weekly, or as necessary.
- D. The Contractor shall require visitors to sign the Visitor Acknowledgment of the Program Site Rules/Visitor Log, which includes a release form. Copies of these forms shall be submitted to the County bi-weekly and maintained in the Contractor's security files on-site. See Form A.
- E. The Contractor shall require each employee to sign the Employee Acknowledgment of Project Site Rules Log included in Form C. Employees, subcontractor employees, and lower-tier Contractor employees will receive a new employee orientation. Signing the Employee Log by the employee is certifying that the orientation training has been received.
- F. The County has the right to refuse access to the site or request that a person or vehicle be removed from the site if found violating any of the Project safety, security, or conduct rules.

1.04 BARRICADES, LIGHTS, AND SIGNALS

- A. The Contractor shall furnish and erect such barricades, fences, lights, and danger signals and shall provide such other precautionary measures for the protection of persons or property, and of the Work as necessary. Barricades shall be painted in a color that is visible at night. From sunset to sunrise, the Contractor shall furnish and maintain at least one light at each barricade and sufficient numbers of barricades shall be erected to keep vehicles from being driven on or into any Work under construction.
- B. The Contractor shall be held responsible for damage to the Work and any resulting injuries due to failure of barricades, signs, and lights. Whenever evidence is found of such damage, the Contractor shall immediately remove the damaged portion and replace it at the Contractor's cost and expense. The Contractor's responsibility for the maintenance of barricades, signs, and lights shall not cease until the Project has been accepted by the County.

1.05 RESTRICTIONS

The Contractor shall not allow cameras on site or photographs taken without approval of the County, except as required under Section 01320.

1.06 CONTRACTOR SAFETY/HEALTH AND SECURITY PLAN

- A. Within 30 days of Notice To Proceed, and prior to the performance of any Work, the Contractor shall prepare and submit a Contract-specific Health, Safety, and Security Plan signed by an officer of the Contractor's organization. Adequacy is the responsibility of the Contractor.
- B. The County will review the Contractor's Health, Safety, and Security Plan for the adequacy of the plan. The plan shall:
 - 1. Identify the person(s) responsible for implementation and enforcement of Health, Safety, and Security rules and regulations for this Project.
 - 2. Address safe Work procedures for the activities within the Contractor's scope of Work.
 - 3. Include a new employee orientation program to address job- and site-specific rules, regulations, and hazards.
 - 4. Include the Contractor's Drug-Free Workplace Policy describing the substance abuse prevention and testing program.
 - 5. Include provisions to protect the Contractor's employees, other persons, and organizations possibly affected by the Work from injury, damage, or loss.
 - 6. Comply with current Fed/OSHA regulations; the Health, Safety, and Security Plan; the facility safety program (when applicable); and locally accepted safety codes, regulations, and practices.
 - 7. Include a site-specific emergency action and evacuation plan.
 - 8. Include Hazard Communication/Right-To-Know Program.
 - 9. Include security procedures for the Contractor's Work, tools, and equipment.
 - 10. Include the capability of providing the County with documentation to show compliance with the plan, plus accidents, and investigation reports.

11. Address other contract-specific requirements, including the Unique Requirements of these specifications.
- C. Prior to the start of Work, Contractor shall provide Job Safety Analyses (JSAs) for unique Work activities necessary to prosecute the scope of Work.
- D. Review of the Contractor's Health, Safety, and Security Plan by the County shall not impose any duty or responsibility upon the County for the Contractor's performance of the Work in a safe manner.
- E. The Contractor shall be fully responsible for the safety and health of its employees, its subcontractors, and lower tier contractors during performance of its Work.
- F. The Contractor shall provide the County with safety reports, training records, competent person list, and accident reports prepared in compliance with Fed/OSHA and the Project Health, Safety, and Security Plan.

1.07 PROJECT SAFETY COORDINATOR

- A. The Contractor shall be responsible for the safety of the Contractor's and County's employees, the County's personnel and other personnel at the Work site. The Contractor shall identify a Project Safety Coordinator (PSA) on the job with an appropriate office on the job site to maintain and keep available safety records and up-to-date copies of pertinent safety rules and regulations.
- B. The Project Safety Coordinator shall:
 1. Comply with applicable health and safety requirements of governing legislation.
 2. Schedule and conduct safety meetings and safety training programs as required by law and included in the Contractor Health, Safety, and Security Plan for personnel engaged in the Work.
 3. Post appropriate notices regarding safety and health regulations at locations that afford maximum exposure to personnel at the job site.
 4. Post the name(s), address and hours of the nearest medical doctor(s), names and addresses of nearby clinics and hospitals, and the telephone numbers of the fire and police departments.
 5. Post appropriate instructions and warning signs with regard to hazardous areas or conditions.
 6. Have proper safety and rescue equipment adequately maintained and readily available for any contingency. This equipment shall include such applicable items as: proper fire extinguishers, first aid kits, safety ropes, and harnesses; stretcher, life preservers, oxygen breathing apparatus, resuscitators, gas detectors, oxygen deficiency indicators, explosion meters; and other equipment mandated by law.
 7. Inspect each Work crew at least once daily in accordance with an Inspection Checklist Report Form to make sure that workers are wearing their appropriate personal safety equipment; machines, tools, and equipment are in safe operating condition; Work methods are not dangerous; and the Work site and Work methods are free of hazards.

8. Submit to the County, upon request, copies of inspection checklist report forms; safety records, safety inspection reports, and certifications from regulating agencies and insurance companies.
9. Immediately notify the County of a serious accident, followed by a detailed written report within 24 hours. "Serious accident" is defined as that requiring an absence of Work of more than two days and/or hospitalization.
10. Immediately notify the County in the event of a fatal accident.
11. Immediately notify the County of any accident claim against the Contractor or any subcontractor, followed by a detailed written report on the claim, and its resolution.
12. Review safety aspects of the Contractor's submittals as applicable.

1.08 REMOVAL

- A. The Contractor shall remove equipment and devices when no longer required and repair damage caused by installation.
- B. Should the Contractor dismiss employees who have been given access to the DWM facilities while the contract is in force, the Contractor will advise the DWM Security Office.
- C. The County may request the Contractor to immediately remove from the premises and/or dismiss any employee found unfit to perform duties due to one or more of the following reasons:
 1. Neglect of duty, absenteeism, security or safety problems and sleeping on the job
 2. Disorderly conduct, use of abusive or offensive language, quarreling, intimidation by words, actions or fighting.
 3. Theft, vandalism, immoral conduct or any other criminal action.
 4. Selling, consuming, possessing, or being under the influence of intoxicants, alcohol or illegal substances, which produce similar effects while on duty.
 5. Involved in a vehicle accident while on the County's property or driving the County's equipment. No employee, Contractor, or Subcontractor will be extended privileges to drive the County's equipment on the County's property if driving privileges have been withdrawn by the person's State of residence.
- D. All employees will be required to sign in and out on a designated log sheet.
- E. All employees shall be required to wear at all times in an observable location, above the waist, on outer clothing, an appropriate photo I.D. badge to be furnished by the Contractor and approved by the County.
- F. No one under age sixteen is permitted at work sites after normal working hours. Contractor's employees are allowed on work sites only during the specified hours and only when working on this contract. No Contractor employee will be allowed on sites when not specifically working on this Contract's predetermined times and dates.
- G. All employees and agents of the Contractor must read the Project Site Rules statement and sign a log acknowledging understanding of project site rules provided in (**Forms A & C**).

1.09 IDENTIFICATION BADGES AND SECURITY

- A. All Contractor's employees and subcontractors' staff who will be working on-site shall be issued an ID badge by the County.
- B. Special Circumstances. The County can grant/permit a Contractor the right to badge their employees and subcontractors. However, the badge template shall be approved by DWM Safety Division. The ID badge shall include worker's name, date of issue, picture, and company affiliation.
- C. It is the Contractor's responsibility to collect the ID badge from any employee who is been discharged or resign prior to completion of the project as well as at completion of the project. Contractors shall return all ID badges to the DWM Safety Division within 48 hours. The Contractor shall be charged a fee of \$25.00 per badge for any badges not returned at completion of the project. For ID badges lost during the term of the project, there will be a reissued fee of \$15.00 per ID badge. The Contractor shall deduct these charges from its periodic or closeout payment request or the County shall deduct them.
- D. The Contractor shall be responsible for maintaining a safe "drug-free" work environment.
- E. The Contractor shall develop a Security Plan for use on the job site during construction. The Plan shall encompass at a minimum such topics as the use of pre-employment background checks for specific project staff, drug tests, crime prevention and anti-theft procedures, workplace violence, and methods to secure project documents. The staff working on the site shall be familiar with the requirements of the Security Plan.
- F. County Ordinances prohibit the carrying of weapons on County property/jobsites. The County Police Department shall be notified of any person bringing weapons to the jobsite; they shall be removed immediately and prosecuted.
- G. Persons on the jobsite shall report any suspicious activity by workers or by others at the jobsite area first to the Project Management, and/or DeKalb County Police and/or Fire Department by calling 911 and immediately to the Engineering and Construction Management Service Division Head.

PART 2 - (DWM) CONTRACTOR BADGE PROCEDURES

The ID badge will provide proof of authorization to be on the construction site, and aid DWM staff in affirming the contractor's employee has received safety training prior to the start of work at DWM project, site or facility.

2.01 General Requirements

- A. All individuals working on any DeKalb County Department of Watershed Management – construction projects, sites, and facilities shall be required to wear a County issued ID badge.
- B. Contractors and subcontractors working on (DWM) projects, sites and facilities must have their assigned badge on their person at all times.
- C. All contractors and subcontractors personnel without a current badge will not be allowed to continue to work at a (DWM) project, site or facility.

- D. All workers must obtain and display an identification badge issued by the County's Safety Representative before reporting to work on any (DWM) construction project.
- E. Although a contractor may only be required to visit our sites/property on an infrequent basis, badging is still a requirement.
- F. Contractors and subcontractors vendors or their transient onsite visitors, which are not full-time employees of the site, shall be escorted while onsite as a visitor by a Department of Watershed Management badged contractor.
- G. Contractors shall maintain a daily sign-in sheet/record/log of their daily workers under its supervision which includes subcontractor's vendors or their transient onsite visitors.

2.02 Training Requirements

- A. Contractor and subcontractor employees are required to attend safety training prior to receiving a badge.
- B. The **Contractor** is responsible for conduction and/or arrangement of their employee's training.
 1. OSHA 10 hour, OSHA 30 hour or project site-specific safety training along with the contractor receiving a copy of DeKalb County Project Site Rules will suffice the training requirements to receive a badge and start work on the (DWM) construction project(s), site or facility.
 2. OSHA 10 hour and 30-hour safety training received within 12 months prior to the start of work on the (DWM) construction project(s), will qualify as current.
 3. Whereas the OSHA 10 hour and 30-hour training does not expire, the actual date of training must be less than 12 months prior to the start of work on the (DWM) construction project(s) to qualify as "current,"
 4. In the case where the OSHA 10 hour and 30-hour date of training are more than 12 months prior to the start of work on the (DWM) construction project(s), project site-specific safety verification of training is required.
 5. Contractor's training should include general construction safety and the specific safety concerns/hazards employees may encounter at the Watershed Management construction site.
 6. DMW' Safety Division shall review a copy of the contractor's project site-specific safety training topics outline prior to the contractor's employees were approved for badging.
 7. Contractor and subcontractor employees are required to read, understand and agree to abide by DeKalb County Project Site Rules. See Forms A & C.

2.03 Verification of Training

- A. The contractor's management representative shall complete, sign and send a copy of each of their employee or their subcontractor's employee a copy of (DWM) Verification of Training Form. **See Form E.**
- B. (DWM) Verification of Training Document will be sent to VOTD@DeKalbcountyga.gov prior to the contractor's employee badging date of appointment.

- C. The contractor's/subcontractor's employee shall review and verify that the information on their individual (DWM) Verification of Training document is correct.
- D. The contractor's employee shall also sign (DWM) Verification of Training Form verifying the information on the document is correct. The (DWM) Verification of Training Document signature statement is as follows:

"I have read, understand and agree to abide by the DEKALB COUNTY PROJECT SITE RULES. I have received a personal copy for my use and reference. Furthermore, I understand that knowingly or purposely falsifying records is grounds for being denied access to the project site."

2.04 Verification of Identity Requirements

- A. The contractor and subcontractor employees must provide documentation to DeKalb County to verify their identity and authorization to work.
- B. DeKalb County only accepts **Form I-9** acceptable documents with accompanying photo.
- C. **Form I-9** acceptable documents must be from List A and List B
- D. Examples:
 - 1. ID cards issued by federal, state, local governmental agencies
 - 2. TWIC (Transportation Worker Identification Credential)
 - 3. Driver License or Identification card issued by a state motor vehicle department with a photo that clearly identifies the individual.

2.05 DWM Management Site Inspections and Audits

Field verification will be done randomly by the DWM Safety staff to ensure employees were trained and following County, OSHA & State regulations.

2.06 Badging office address is as follows:

**DeKalb County Watershed Management,
Safety Division
1641 Roadhaven Drive, Stone Mountain, GA 30083**

Badging hours are Tuesdays & Thursdays from 9:00 am to 12:00 pm.

2.07 Badge Expiration Date

Badges are valid until the expiration date of the prime contractor's contract.

2.08 Transfer Contractors

- A. If a worker changes companies or projects, the badge must be surrendered, and a new badge will be issued if needed.
- B. If applicable, the new employer will provide the employee certification that the safety training is completed.
- C. Only those employees registered in the badging system are eligible to receive a badge,

- D. After verification by the safety representative, the badging database will be updated, and a new badge issued.

2.09 Special Circumstances:

The County can grant/permit a Contractor the right to badge their employees and subcontractors. However, the badge template shall be approved by the DWM Safety Division. The ID badge shall include the worker's name, picture, and company affiliation.

2.010 Additional Training Requirements:

Additional training requirements may be requested if there is a change in the contractor's scope of work or responsibilities.

2.011 Badge Replacement

The contractor must notify DWM's Safety Division immediately if a badge is lost, stolen or an employee is no longer employed with the contractor.

2.012 Badge Collection/ Return Policy

It shall be the Contractor's responsibility to collect the ID badge from any employee who is discharged or resigns prior to completion of the project as well as at the completion of the project. The Contractor shall return the ID badges to the DWM Safety Division within 48 hours of their collection. The Contractor shall be charged a fee of \$25.00 per badge for any badges not returned at the completion of the project. For ID badges lost during the term of the project, that shall be reissued, there shall be a charge of \$15.00 per ID badge. The Contractor shall deduct these charges from its periodic or closeout payment request or the County shall deduct them.

This section is intentionally left blank. Forms will follow.

Form A

VISITOR ACKNOWLEDGMENT OF THE PROJECT SITE RULES

By signing this Visitor's Log, I acknowledge that I understand and agree to abide by the project rules outlined below.

In consideration of my receipt of a visitor's pass as issued by the **County** directly or indirectly for the **County**, I waive on behalf of myself, my heirs, employer, legal representatives and assigns and hereby release and discharge the **County**, each of its directors, officers, employees, representatives, and agents from any and all claims, actions, causes of action, or any charge of any kind whatsoever that may arise or could arise in the future as a result of my being present at the facility including injury, death, or property damage whether or not caused by the fault or negligence of any of the parties released hereunder.

I further acknowledge that I have been briefed on specific hazards, hazardous substances that are on site, and the site emergency action procedure.

PROHIBITED ACTIVITIES

- Unauthorized removal or theft of County property
- Violation of safety or security rules or procedures
- Possession of firearms or lethal weapons on jobsite
- Acts of sabotage
- Destruction or defacing of County property
- Failure to use sanitary facilities
- Knowingly or purposely failing to report accidents/incidents or job-related injuries
- Being under the apparent influence of drugs, alcohol, or other intoxicants or in possession of drugs, alcohol, or other intoxicants on the job site
- Wearing shorts or tennis shoes on the job site
- Failure to wear required personal protective equipment (PPE)
- Gambling, fighting, threatening behavior or engaging in horseplay on the job site
- Smoking in unauthorized areas on the job site
- Open fire cooking or making unauthorized fires on job site
- Selling items or raffles without authorization
- Use of unauthorized cameras on the job site
- Use of radio or television in the construction area
- Failure to park personal vehicle in authorized parking area
- Failure to wear designated identification [Site Specific]
- Failure to use designated gates
- Condoning or knowingly allowing a person to engage in or work around a patently unsafe or environmental compromising act or condition
- Knowingly or purposely falsifying records, documents or providing false testimony

I have read, understand, and agree to abide by the PROJECT SITE RULES. Furthermore, I understand failure to abide by these rules is grounds for being denied access to the project site. I have received a personal copy for my use and reference.

Print Name:

Signature:

Date:

Form C

EMPLOYEE ACKNOWLEDGMENT OF THE PROJECT SITE RULES

By signing this Employee Log, I acknowledge that I understand and agree to abide by the project rules outlined below.

PROHIBITED ACTIVITIES

- Unauthorized removal or theft of **County** property
- Violation of safety or security rules or procedures
- Possession of firearms or lethal weapons on jobsite
- Acts of sabotage
- Destruction or defacing **County** property
- Failure to use sanitary facilities
- Failure to report accidents or job-related injuries
- Under the apparent influence of drugs, alcohol, or other intoxicants or in possession of drugs, alcohol or, other intoxicants on the property
- Wearing shorts or tennis shoes on the jobsite
- Failure to wear a hardhat/safety glasses and safety vest
- Gambling at any time on the project
- Fighting, threatening behavior, or engaging in horseplay on the project
- Smoking in unauthorized areas on the project
- Open fire cooking or making unauthorized fires on project property
- Selling items or raffles without authorization
- Use of unauthorized cameras on the project
- Use of radio or television in the construction area
- Failure to park personal vehicle in authorized parking area
- Failure to wear designated identification [Site Specific]
- Failure to use designated gates

I have read, understand, and agree to abide by the PROJECT SITE RULES. Furthermore, I understand failure to abide by these rules is grounds for being denied access to the project site. I have received a personal copy for my use and reference.

Print Name:

Signature:

Date:

Form E

DeKalb County Government Training Verification Form

Appointment Date: _____
(Tues./Thurs. 9am-12pm)

Primary Contractor: _____

DeKalb Contract #: _____

Subcontractor Name: _____

Contract End Date: _____

Course Name: Site Specific Safety Training in accordance with OSHA 29 CFR 1926 & 1910
Successfully Completed: Yes No In Progress
Date Completed: _____

Course Name: OSHA 10 Hour
Successfully Completed: Yes No In Progress
Date Completed: _____

Course Name: OSHA 24 HAZWOPER
Successfully Completed: Yes No In Progress
Date Completed: _____

Course Name: OSHA 30 Hour
Successfully Completed: Yes No In Progress
Date Completed: _____

Course Name: OSHA 40 HAZWOPER
Successfully Completed: Yes No In Progress
Date Completed: _____

I HAVE READ, UNDERSTAND AND I HAVE BEEN PROVIDED A COPY OF THE DEKALB PROJECT SITE RULES. FURTHERMORE, I UNDERSTAND THAT KNOWINGLY OR PURPOSELY FALSIFYING RECORDS IS GROUNDS FOR BEING DENIED ACCESS TO THE PROJECT SITE. BY MY SIGNATURE BELOW, I AFFIRM THE ABOVE INFORMATION IS ACCURATE AND TRUE TO THE BEST OF MY KNOWLEDGE.

Employee's Name (Print): _____

Employee's Name (Sign): _____

Authorized Representative (Print): _____

Authorized Representative (Sign): _____

END OF SECTION

SECTION 01545
TRAFFIC REGULATION

PART 1 – GENERAL

1.01 SCOPE

The Work specified in this section includes the provision of products, permits, services, procedures, and personnel by the Contractor to effect traffic control during the Work.

1.02 TRAFFIC CONTROL MANAGER REQUIREMENTS

- A. The Contractor shall designate a qualified individual as the Traffic Control Manager (TCM) who shall be responsible for selecting, installing, and maintaining traffic control devices in accordance with the Plans and Specifications and the Manual of Uniform Traffic Control Devices (MUTCD). A written resume documenting the experience and credentials of the TCM shall be submitted and accepted by the County prior to beginning any Work that involves traffic control. The TCM shall be available on a 24-hour basis to perform his or her duties. If the Work requires traffic control activities to be performed during the daylight and nighttime hours, it shall be necessary for the Contractor to designate an alternate TCM. An alternate TCM shall meet the same requirements and qualifications as the primary TCM and be accepted by the County prior to beginning any traffic control duties. The TCM's traffic control responsibilities shall have priority over other assigned duties.
- B. As the representative of the Contractor, the TCM shall have full authority to act on behalf of the Contractor in administering the Traffic Control Plan. The TCM shall have appropriate training in safe traffic control practices in accordance with Part VI of the MUTCD. In addition to the TCM, other individuals making decisions regarding traffic control shall meet the training requirements of Part VI of the MUTCD. The TCMs shall supervise the initial installation of traffic control devices. The County, prior to the beginning of construction, will review the initial installation. Modifications to traffic control devices as required by sequence of operations or staged construction shall be reviewed by the TCMs.

PART 2 – PRODUCTS

2.01 SIGNS, SIGNALS, AND DEVICES

- A. The Contractor shall provide post-mounted and wall-mounted traffic control and informational signs as specified and required by local jurisdictions.
- B. The Contractor shall provide automatic traffic control signals as approved by local jurisdictions.
- C. The Contractor shall provide traffic cones and drums, and flashing lights as approved by local jurisdictions.
- D. The Contractor shall provide flagmen equipment as required by local jurisdictions.

PART 3 – EXECUTION

3.01 PERMITS

- A. The Contractor shall obtain permits from authorities having jurisdiction over road closures before closing any road. The Contractor shall use forms provided by authorities having jurisdiction (DeKalb County Department of Public Works, Georgia Department of Transportation, etc.).
- B. The Contractor shall either fax or hand carry any permit applications to the DeKalb County Department of Public Works. Permit applications shall indicate the time (in days); length (in feet); the number of lanes; and the purpose of the closure.
- C. All permits are approved for operations during off-peak hours, 9:00 a.m. to 4:00 p.m., unless special approval is received from the County.
- D. Operations between the hours of 6:00 p.m. and 10:00 p.m. and Saturdays, and Sundays shall require approval by the County.
- E. Full street closure permits shall require 96 hours' advance notice prior to road closure. The following additional information shall be provided by the Contractor prior to approval:
 - 1. The recommended detour route with signage and Traffic Management Plan as per the MUTCD.
 - 2. A copy of the resident and/or business notification letters about the closure. The residents/businesses located between the detour routes shall be notified about the closure at least 5 business days prior to the proposed closure.
- F. The DeKalb County Department of Public Works will return full road closure permit applications to the Contractor. The Fire Chief, Chief of Police, DeKalb Hospital, MARTA, and the DeKalb County Board of Education shall be notified in writing at least 72 hours before commencing road closure activities.

Lane closure permits are issued during operating hours Mondays through Fridays. The DeKalb County Department of Public Works will return lane closure permit applications to the Contractor. The Contractor shall provide a minimum of 48-hour notice prior to closure. The Contractor shall continuously maintain the safety of the traveling public during lane closures in accordance with the requirements of the MUTCD and as stipulated by public officers.

3.02 PREPARATION OF TRAFFIC CONTROL PLANS

The Traffic Control Plan drawings included with the Contract Documents shall only be considered as a guide and are not intended to contain the traffic regulation details that shall be required by the specifications, permitting agencies, and the MUTCD. The Contractor shall develop detailed staging and traffic control plans for performing specific areas of the Work including, but not limited to: requirements for certified flagmen, additional traffic control devices, traffic shifts, detours, paces, lane closures, or other activities that disrupt traffic flow. The Contractor shall submit these plans in accordance with the Specifications to receive final approvals from permitting agencies and provide required traffic control devices as required by both the permitting agencies and these specifications at no additional cost to the County.

3.03 CONSTRUCTION PARKING CONTROL

- A. The Contractor shall control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and County's operations.
- B. The Contractor shall monitor parking of construction personnel's vehicles in existing facilities and maintain vehicular access to and through parking areas.
- C. The Contractor shall prevent parking on or adjacent to access roads or in non-designated areas.

3.04 MAINTENANCE OF TRAFFIC

- A. Whenever and wherever, in the County's opinion, traffic is sufficiently congested or public safety is endangered, the Contractor shall furnish uniformed officers to direct traffic and to keep traffic off the highway area affected by construction operations.
- B. When the Contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the Contractor's performance of Work that is otherwise provided for in the Plans and these Specifications, the Contractor shall keep such road, street, or highway open to traffic and shall provide such maintenance as may be required to safely accommodate traffic. The Contractor shall furnish, erect, and maintain barricades, warning signs, flagmen, and other traffic control devices in conformity with the requirements of the Georgia Department of Transportation and other local jurisdictions. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary to ingress to and egress from abutting property or intersecting roads, streets, or highways. The Contractor shall maintain traffic in accordance with any traffic control plans furnished with and made a part of the Plan assembly.
- C. The Contractor shall make its own estimate of labor, materials, equipment, and incidentals necessary for providing the maintenance of traffic as specified in this section.
- D. Unless specified in the Plans or these Specifications, and subject to the approval of the County, the cost of maintaining traffic specified in this section shall be considered incidental to the Work and no separate measurement or payment shall be made.
- E. Contractor shall comply with DeKalb County Steel Plate For Residential Specification (See Section A).
- F. Contractor shall provide a pilot car or an escort vehicle when heavy equipment must be moved from one location to another by use of the roads, streets and through DeKalb County.

3.05 UNIFORMED POLICE OFFICER FOR TRAFFIC CONTROL

- A. The Contractor shall provide uniformed police officers to regulate traffic when construction operations encroach on public traffic lanes, as approved by the County.
- B. Officers shall be currently employed by the local jurisdiction within which the work is to be performed, be in full uniform and have full arrest power while working.
- C. Officers shall be employed and paid by the Contractor.
- D. Officers' shall be responsible for directing traffic within the construction site.

- E. Only a uniformed police officer can direct traffic when the contractor's operation interferes with or impedes the operation of a traffic signal light.

3.06 FLAGMEN

- A. The Contractor shall provide trained and equipped flagmen to regulate traffic when construction operations or traffic encroaches into public traffic lanes.
- B. The contractor flagmen shall have 7' Stop/Slow paddles onsite during all operations involving traffic control.
- C. The County requires a uniformed police officer(s) from the jurisdiction in which the work is being performed are required where temporary traffic control extends through a signalized intersection and/or when required as a requirement of the permitting authority. The jurisdictional payment for a uniformed police officer necessary to perform traffic control where authorized and/or directed by the Program Manager will be reimbursed to the Contractor via the monthly pay request process when those charges and supporting documents indicating date, location, hours, and payment are submitted for payment and verified by the Program Manager.

3.07 FLASHING LIGHTS

The Contractor shall use flashing lights during hours of low visibility to delineate traffic lanes and to guide traffic.

3.08 HAUL ROUTES

- A. The Contractor shall consult with authorities and establish public thoroughfares to be used for haul routes and site access.
- B. The Contractor shall confine construction traffic to designated haul routes.
- C. The Contractor shall provide traffic control at critical areas of haul routes to regulate traffic and minimize interference with public traffic.

3.09 ROAD CLOSURES ON COUNTY ROADS

- A. No street, road, or highway shall be closed without the permission of the owner of any street, road, or highway and the fire department having jurisdiction. Prior to closing a street, road, or highway, signs shall be posted for a minimum of 7 days prior to actual closing, forewarning of the imminent closing. The County shall determine the information to be placed upon the signs by the Contractor. Where traffic is diverted from the Work, the Contractor shall provide materials and perform Work for the construction and maintenance of required temporary roadways, structures, barricades, signs, and signalization.
- B. To obtain approval to close a road or street maintained by the County, the Contractor shall proceed as follows:
 - 1. The Contractor shall obtain approval of the traffic plan from the County. The traffic plan shall be in accordance with the requirements of the Georgia Department of Transportation and DeKalb County.
 - 2. The Contractor shall obtain a utility permit.

3. The Contractor shall apply in writing to the County and obtain a permit to close the road on a specific date.
4. The Contractor shall obtain a permit from the County before posting closure signs. Signs shall be posted for 7 days prior to the first day of closure. Signs shall be acceptable to the County.
5. The County will handle emergency road closures.

3.010 PROCEDURES FOR TRAFFIC DETOUR ROUTE PLAN

- A. The Contractor shall provide a sketch map to the County, showing the traffic detour route plan. The sketch map need not be drawn to scale, but should resemble, as closely as possible, the actual location. The sketch map shall be drawn in a manner so as to provide emergency agencies a better understanding of the detour for quick response. The sketch map shall include directional arrows showing the flow of traffic.
- B. The Contractor shall erect "Road Closed Ahead" signs before the start point of the detour indicating the name of the street closed.
- C. The Contractor shall erect "Detour" signs with appropriate directional arrows at intersection along the detour route until the end of the detour, when the traffic is back to the original street.
- D. The Contractor shall erect an "End Detour" sign at the end of the detour.
- E. The Contractor shall erect an accessory plate indicating the name of the street being detoured to accompany each "Detour" and "End Detour" sign.
- F. The Contractor shall apply appropriate traffic control measures in accordance with the requirements of the MUTCD and County codes.

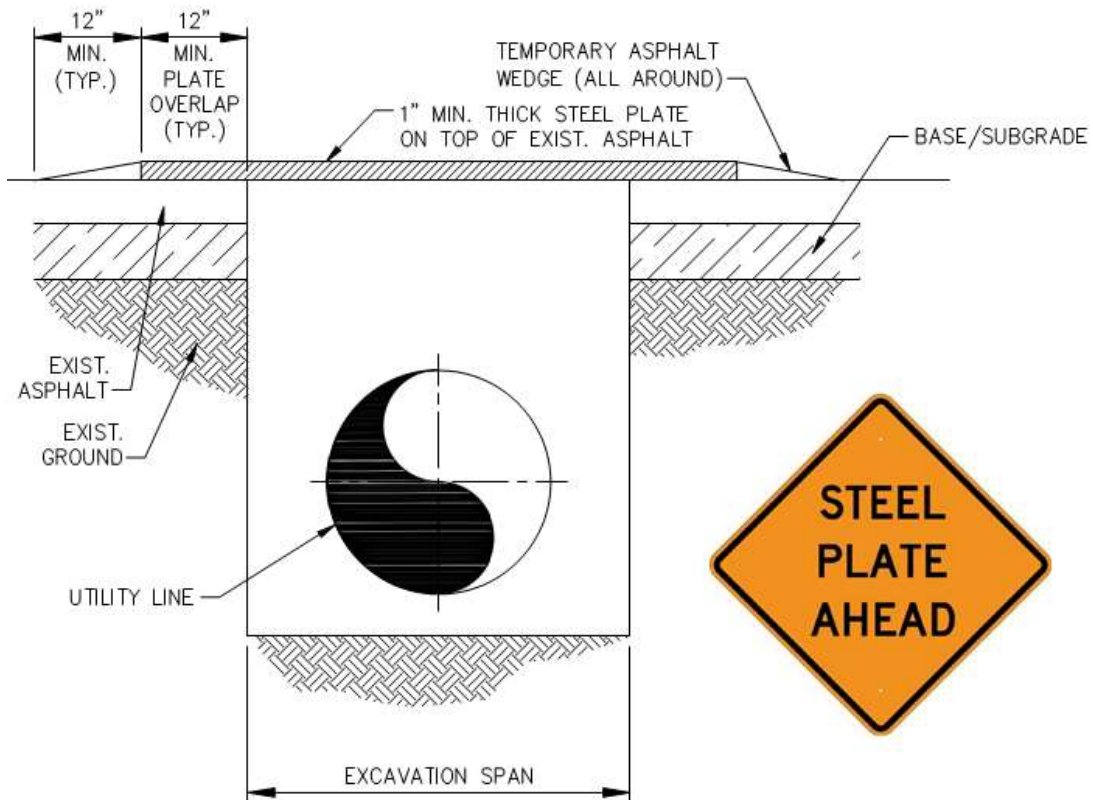
3.011 BARRICADES AND WARNING SIGNS

- A. The Contractor shall furnish, erect, and maintain barricades and warning signs for hazards necessary to protect the public and the Work. When used during periods of darkness, such barricades, warning signs, and hazard markings shall be suitably illuminated or reflectorized.
- B. For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights, and other traffic control devices in conformity with the requirements of the Georgia Department of Transportation and DeKalb County.
- C. The Contractor shall furnish and erect barricades and warning signs for hazards prior to commencing Work that requires such erection and shall maintain the barricades and warning signs for hazards until their dismantling is directed by the County.

3.012 TRAFFIC PLATES

- A. The Contractor shall furnish, install, maintain, and inspect on a daily basis steel plates over excavations within the travel way where the difference between manhole lid and top of pavement is greater than 1-inch. Installation will be in accordance with Section A below:

Section A Steel Plate Installation Urban and Residential



Notes:

1. Installation shall be used in areas where backfilling operations of an excavation in the roadway cannot meet the minimum compaction requirements and permanent patching placement within the same day.
2. All excavations shall be backfilled within the roadway.
3. Each plate is to overlap existing pavement 12" minimum in every direction and multiple plates shall abut and be secured to each other.
4. Each steel plate shall be anchored securely to prevent movement.
5. Temporary paving with a cold asphalt mix or approved equal shall be used to feather edges of the plate to form a wedged taper to cover the edges of the steel plate.
6. The steel plate shall be removed and the road repaired by others. The Contractor will remove the plate from the work site upon notification.
7. Any ditch line needing a steel plate longer than 30 days should have permanent patching.
8. For collector streets and major roadways, warning signs advising motorist that they should expect to encounter steel plates shall be placed approximately 100 feet in advance of the steel plate location. The signs shall meet MUTCD sign size requirements, shall state steel plate ahead, and shall be visible to motorist.

END OF SECTION

**SECTION 01700
PROJECT CLOSEOUT**

PART 1 – GENERAL

1.01 SECTION INCLUDES

- . Comply with requirements for administrative procedures stated in this Section and as required of the Contract Documents in closing out the Work. Closeout procedures are summarized in this Section.

1.02 RELATED SECTIONS

- . Conditions of the Contract, fiscal provisions, legal submittals and additional administrative requirements.

1.03 QUALIFICATIONS AND REQUIREMENTS

- . Contract requirements shall be met when assessment work orders and related activities have successfully produced, in order, completion of these three closeout stages:
 11. Substantial Completion
 12. Final Completion
 13. Final Payment Agreement
- A. The Contractor shall provide all written notices and supporting documentation as described below when requesting Substantial Completion and Final Completion, respectively. Partial submittals of the required documents shall not represent a valid request, and the Program Manager shall not be liable for any delays in the Substantial and Final Completion dates arising there from.

1.04 SUBMITTALS

The Contractor shall provide to the Program Manager the following documents, in PDF and hard copy, in the quantity of one original and two copies unless otherwise noted. Note, with the exception of Subparagraphs G, H, and I below, the submittal for approval shall have already been made prior to Substantial Completion. Submittal under this Paragraph would be for a final submittal should revisions or additional copies be required of previously submitted documentation.

- . Evidence of Compliance with all requirements of governing authorities:
 14. Certificates of Inspection.
- A. Assessment record documents (reports, final data, etc.), as required of the Contract Documents.

- B. **Subcontractor List:** A complete listing of all subcontractors and their suppliers, indicating business addresses, telephone numbers, contact names, and items supplied by each.
- C. **Manufacturer List:** A listing of manufacturers of major materials, equipment and systems installed in the Work, and local contact addresses and phone numbers.
- D. **Warranties:** All warranties transferred to the County.
- E. **Payment of Debts and Claims and Consent of Surety:** The Contractor shall submit adequate evidence the Contractor has paid all obligations to date arising out of the Contract. Contractor shall also submit written consent of its Surety to final payment.
- F. **Release of Claims and Liens:** The Contractor and each subcontractor shall also submit a certified Release of Claims and Liens, indicating the releases for waivers submitted are complete to the best of its knowledge and information upon receipt of final payment. Example form attached.
- G. Certificate of Insurance for Products and Complete Operations.
- H. No partial submittals of the above items are to be made to the Program Manager. All items of each category are to be collected by the Contractor and delivered at one time to the County, together with a letter of transmittal listing all items. Where items are to be delivered to the Program Manager or the County's Representative, the Contractor shall include a copy of the transmittal letter listing all enclosures, signed by the respective representative acknowledging receipt.

1.05 REINSPECTION FEES

- . When the Program Manager performs re-inspections due to failure of the work to comply with the claims of status of completion made by the Contractor:
 1. The County will compensate Program Manager for such additional services.
 2. The County will deduct the amount of such compensation from the Final Payment to the Contractor.

1.06 FINAL ADJUSTMENT OF ACCOUNTS

- . Submit a final statement of accounting to the Program Manager.
- A. Statement shall reflect all adjustments to the Contract Price:
 1. The original Contract Price.
 2. Additions and deductions resulting from:
 - a. Previous Change Orders.
 - b. Allowances.
 - c. Unit Prices.
 - d. Deductions for uncorrected work.
 - e. Penalties and Bonuses.
 - f. Deductions for liquidated damages.

- g. Deductions for re-inspection payments.
 - h. Other adjustments.
 - 3. Total Contract Price as adjusted.
 - 4. Previous payments.
 - 5. Sum remaining due.
- B. Program Manager will prepare a final Change Order reflecting approved adjustments to the Contract Price not previously made by Change Orders.

1.07 APPLICATION FOR PAYMENT

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

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

3.01 SUBSTANTIAL COMPLETION

- . Reference the Definitions, regarding Substantial Completion.
- A. When the Work is substantially complete, the Contractor shall submit to the Program Manager:
 - 1. A written notice the Work, or designated portion thereof, is substantially complete.
 - 2. An original Certificate of Occupancy for the Project (as applicable).
 - 3. A list of items to be completed or corrected (hereinafter referred to as a "Punch List").
 - 4. All executed work orders signed and accepted by the Program Manager.
 - 5. Project closeout documents, warranties, and certificates for review and approval.
- B. Within 5 business days of such notice, the Contractor and Program Manager will make an inspection to determine the status of completion.
- C. The Punch List submitted by the Contractor will be reviewed in detail, with items added or deleted to indicate Work to be corrected or completed.
 - 1. The Program Manager reserves the right to issue a revised Punch List based on Contract Documents.
 - 2. The Program Manager will reproduce and distribute all necessary copies of any revised Punch List to the Contractor and insure the items requiring correction or completion are given prompt attention by the Contractor.
 - 3. The Program Manager may withhold the issuance of the Certificate of Substantial Completion until corrections required by said Punch List are made or all parties are satisfied they will be made.

- D. Should the Program Manager determine the Work is not substantially complete:
 - 1. The Program Manager will promptly notify the Contractor in writing, giving the reasons therefore.
 - 2. The Contractor shall remedy the deficiencies in the Work, and then send a second written notice of Substantial Completion to the Program Manager.
- E. When the Program Manager concurs the Work is substantially complete, the Program Manager will:
 - 1. Prepare a Certificate of Substantial Completion accompanied by the Contractor's Punch List of items to be completed or corrected, as verified and amended by the Program Manager. (Note: Contract responsibilities are not altered by inclusion or omission of required Work for the Punch List.)
 - 2. Sign the Certificate of Substantial Completion and submit it to the County and the Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

3.02 FINAL COMPLETION

- . Reference the Definitions, regarding Final Completion.
- A. To attain Final Completion, the Contractor shall complete the activities pertaining to the Certificate of Substantial Completion and complete work on all Punch List items. Only then shall a written request to the Program Manager for final inspection be submitted.
- B. When the Work is complete, the Contractor shall submit to the County written certification, signed jointly by the Program Manager, that:
 - 1. The Contract Documents have been complied with in their entirety.
 - 2. The Work has been inspected for compliance with Contract Documents.
 - 3. The Work has been completed in accordance with Contract Documents.
 - 4. The Work is completed and ready for final inspection.
- C. The Contractor and Program Manager will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- D. Should the Program Manager determine the Work is incomplete or defective:
 - 1. The Program Manager will promptly notify the Contractor in writing, listing the incomplete or defective Work.
 - 2. The Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to the County stating the Work is complete.
- E. When the Program Manager finds the Work is acceptable under the Contract Documents, the Contractor will be requested to make a final closeout submittal.

END OF SECTION

**UNCONDITIONAL WAIVER AND RELEASE
UPON FINAL PAYMENT**

STATE OF GEORGIA

DEKALB COUNTY

The undersigned mechanic and/or materialman has been employed by _____
(name of contractor) to furnish _____ (describe materials and/or labor)
for the construction of improvements known as _____ (title of the project
or building) which is located in the City of _____, City of _____, and is owned by
_____ (name of owner) and more particularly described as follows:

**(DESCRIBE THE PROPERTY UPON WHICH THE IMPROVEMENTS WERE MADE BY USING
EITHER A METES AND BOUNDS DESCRIPTION, THE LAND LOT DISTRICT, BLOCK AND
LOT NUMBER, OR STREET ADDRESS OF THE PROJECT.)**

Upon the receipt of the sum of \$_____, the mechanic and/or materialman waives
and releases any and all liens or claims of liens or any right against any labor and/or material
bond it has upon the foregoing described property.

Given under hand and seal this _____ day of _____, 20__.

_____(Seal)

(Witness)

SECTION 01710
CLEAN-UP

PART 1 – GENERAL

1.01 SECTION INCLUDES

- . This section includes policies and procedures preventing the accumulation of waste materials on the site and the clean-up of waste materials thereof, throughout the duration and upon the completion of work.
- A. This section includes miscellaneous work related to quality control including, but not limited to, protecting active utilities, procedures for utility crossings, and relocating existing gas lines.
- B. This section includes operations not specified in detail as separate items, but can be sufficiently described as to the kind and extent of work involved. Furnish all labor, materials, equipment and incidentals to complete the work under this Section.

1.02 QUALIFICATIONS AND REQUIREMENTS

- . Contractor shall keep the project site free from accumulated waste materials and rubbish at all times during the assessment period. At completion of the work, the Contractor shall remove all waste materials and rubbish from and about the Project, as well as his tools, equipment, machinery, and surplus materials, except those specifically required by the Contract Documents to be left for the County's maintenance.
- A. If Contractor fails to keep project clean or to clean up prior to Date of Substantial Completion, the County may do so, and the cost thereof will be charged to the Contractor.
- B. Attention is directed to the State Soil Erosion and Sediment Control laws, ordinances and requirements.

1.03 SAFETY

- . Store volatile waste in covered metal containers or as required by State and Federal requirements, and remove from project site daily to an approved facility.
 - 1. Allow no volatile wastes to accumulate on project site.
 - 2. Provide adequate ventilation during use of volatile substances.
- A. Do not burn or bury waste materials and/or rubbish on project site.
- B. Do not dispose any volatile wastes such as, but not limited to, mineral spirits, oil, or paint thinner in storm or sanitary drains, on pavements, in gutters, or on project site.
- C. Do not dispose any waste or cleaning materials containing materials harmful to plant growth on project site. Clean up materials accidentally spilled as quickly as possible.

PART 2 – PRODUCTS

2.01 MATERIALS

Materials required for this section shall be of the same quality as materials to be restored. Where possible, reuse existing materials previously removed.

PART 3 – EXECUTION

3.01 INSTALLATION

- . Clean-up during construction
 1. Execute cleaning procedures to insure the building, project site and adjacent properties are maintained free from debris, dust, and rubbish.
 2. Wet down materials subject to blowing. Do not throw waste materials from heights.
 3. Provide covered, on-site containers for waste collection. Place all waste materials and rubbish in containers in an expeditious manner to prevent accumulation. Remove waste from project site when containers become full.
 4. Legally dispose all waste materials, rubbish, volatile materials and cleaning materials off project site.
 5. When finishing work begins, maintain project in a "broom-clean" state until Date of Substantial Completion. Protect newly finished and clean surfaces from contamination during cleaning operations.
 6. Do not allow debris contributing to the survival or spread of rodents, roaches or other pests to accumulate.
 - a. Remove debris containing food scraps on a daily basis.
 - b. Should pests inhabit project, Contractor shall be responsible for securing services of a pest exterminator at no additional cost to the County.
- A. Protection and clean-up of roads
 1. Spillovers on roads from trucks entering or leaving the site shall be cleaned up on a continuing basis so pavements and adjacent sidewalks will not be littered with earth, stones, or any other debris resulting from assessment operations.
 2. Large accumulations of earth and mud shall be removed from vehicle wheels and loose accumulations of earth, sand or gravel shall be removed from vehicle underbodies and ledges as much as feasible before entry upon public roads.
- B. Stripping

In areas so designated, topsoil shall be stockpiled. The topsoil shall be protected until it is placed as specified. Any topsoil remaining after all work is in place shall be used on-site in designated areas.
- C. Benchmarks

Carefully maintain all benchmarks, monuments, and other reference points. If disturbed, replace as directed by the Program Manager.

D. Incidental work

Do all incidental work not otherwise specified, but obviously necessary, for the proper completion of the contract as specified.

3.02 ACTIVE UTILITIES

- . Active utilities traversing the site shall be preserved in operating condition. Repair damage to all such utilities due to work under this Contract, to the satisfaction of the authority having jurisdiction over the utility.
- A. Disconnect or arrange the disconnection of utility service in accordance with regulations of the governing utility concerned and interfering with the work.
- B. Crossing Utilities:
This item shall include any extra work required in crossing culverts, water courses, or drains, including all sheeting and bracing, extra excavation and backfill, or any other work required for the crossing, whether or not shown on the drawings.
- C. Relocating Existing Gas Lines:
Notify the proper utility authority involved when relocating gas lines is required. Coordinate all work and required permits by the utility so assessment progress will not be hampered.

3.03 FINAL CLEAN-UP

- . All general and specific cleaning shall be performed prior to Contractor's request the project or portion thereof be inspected for Substantial Completion.
- A. Clean disturbed areas of project site of debris.
 - 1. Broom clean paved surfaces. Remove oil and similar deleterious substances.

END OF SECTION

SECTION 02110
ACCESS ROUTE & EASEMENT ACCESS CLEARING

PART 4 – GENERAL

4.01 SECTION INCLUDES

- A. This section includes, but is not limited to, removing and disposing of trees, stumps, roots, brush, structures, abandoned utilities, trash, debris, and all other materials found on or near the surface of the ground in the construction area and, understood by generally accepted engineering practice, not to be suitable for construction of the type contemplated from the work site. Precautionary measures to prevent damage to existing features to remain are considered part of the work.
- B. The Program Manager will designate all trees, shrubs, plants, and other things to remain. Paint required for cut or scarred surface of trees or shrubs selected for retention shall be an asphaltum base paint prepared especially for tree surgery and approved by the Program Manager.
- C. Sewer Easement Clearing Operations shall be coordinated with temporary and permanent erosion and sedimentation control procedures.

4.02 RELATED SECTIONS

- A. Section 02276 – Site Restoration and Erosion Control
- B. Section 02486 – Seeding
- C. Section 02542 – Silt Fence

4.03 DEFINITIONS

- A. **Light Clearing:** This area requires "bush hog" equipment for tree and shrub removal.
- B. **Medium Clearing:** This area requires "bush hog" and "chipper" equipment for tree and shrub removal.
- C. **Heavy Clearing:** This area requires "timbering" equipment for tree and shrub material. Payment under this section shall be by the sum total caliper inch measured for each tree removed.

4.04 QUALIFICATIONS AND REQUIREMENTS

- A. The Contractor shall comply with all applicable codes, ordinances, rules, regulations, and laws of local, municipal, State or Federal authorities having jurisdiction over the work. All required permits shall be obtained for construction operations by the Contractor and submitted to Program Manager for verification.
- B. All persons involved in land disturbance work shall be trained and certified in accordance with the requirements of the Georgia Erosion and Sedimentation Act.

- C. Open burning will not be permitted.

4.05 SUBMITTALS

- A. Prior to beginning easement clearing, the Contractor shall submit to the Program Manager a map showing the location of all easements to be cleared. The Contractor shall label each easement as requiring light clearing, medium clearing or heavy clearing.
- B. The Contractor shall submit to the Program Manager a schedule for clearing the easements.
- C. The easement clearing map and schedule must be submitted to the Program Manager fourteen (14) calendar days prior to beginning easement clearing.
- D. The easement clearing map and schedule must be approved by the Program Manager before the Contractor can begin work.
- E. Copies of all permits required for clearing operations shall be provided to the Program Manager prior to beginning work.
- F. Equipment list and specification for all pieces planned for use on site.
- G. Maintenance log of equipment to be used to show that all equipment has been properly maintained.
- H. Plan for approved fuel storage areas if applicable.

PART 5 – PRODUCTS

5.01 EQUIPMENT

- A. The Contractor shall furnish equipment with operators of the type normally used in clearing and grubbing operations including, but not limited to tractors, trucks, loaders, stump grinders, and root rakes.

PART 6 – EXECUTION

6.01 INSTALLATION AND EXECUTION

- A. Clearing and grubbing activities will be conducted at the minimum level necessary to provide access to an assessment or construction activity location.
- B. Clear and grub the permanent easement, but not to exceed limits of easements on each side of the pipeline, before initiating other items of work. Remove all trees, growth, debris, stumps and other objectionable matter, except as directed by the Program Manager.
- C. Materials to be cleared, grubbed and removed from the construction area include, but are not limited to the following: trees, stumps, roots, brush, trash, organic matter, paving, miscellaneous structures, debris, and abandoned utilities.

- D. Grubbing shall consist of completely removing roots, stumps, trash, and other debris from all graded areas so that the topsoil is free of roots and debris. Topsoil is to be left sufficiently clean so further picking and raking will not be required. Grubbing shall only be performed at the specific direction of the Program Manager.
- E. All stumps, roots, foundations and planking embedded in the ground shall be removed and disposed of in a proper manner. Piling and butts of utility poles shall be removed to a minimum depth of two feet below the limits of excavation for structures, trenches and roadways or two feet below finished grade, whichever is lower.
- F. Prior to clearing landscaping features, but not necessarily limited to, specimen trees, fences, cultivated trees, cultivated shrubbery, property corners, man-made improvements, subdivision and other signs, shall be noted on the easement clearing maps and shall be reviewed with the Program Manager. The Program Manager will determine which landscape features are to remain undisturbed. The Contractor shall take extreme care in moving landscape features and shall re-establish these features as directed by the Program Manager.
- G. Surface rocks and boulders shall be grubbed from the soil and removed from the site, if not suitable as rip rap.
- H. Where tree limbs interfere with utility wires, or where the trees to be felled are in close proximity to utility wires, the tree shall be taken down in sections to eliminate the possibility of damage to the utility.
- I. Any work pertaining to utility poles shall comply with the requirements of the appropriate utility.
- J. Fences adjoining any excavation or embankment, in the Contractor's opinion, damaged or buried, shall be carefully removed, stored and replaced. Any fencing, in the Program Manager's opinion, significantly damaged shall be replaced with new fence material of equal or better quality at the Contractor's expense.
- K. Stumps and roots shall be grubbed and removed to a depth not less than 2 feet below grade. All holes or cavities extended below the subgrade elevation of the proposed work shall be filled with crushed rock or other suitable material, compacted to the same density as surrounding material.
- L. The Contractor shall exercise special precautions for the protection and preservation of trees, cultivated shrubs, sod, fences, etc. situated within limits of the construction area, but not directly within excavation and/or fill limits. The Contractor shall be held liable for any damage his operations have inflicted on such property.
- M. The Contractor shall be responsible for all damages to existing improvements outside the permanent easement resulting from Contractor's operations.
- N. Burying of residual materials will not be allowed.

6.02 CONSTRUCTION ACCESS ROUTE ON EASEMENT

- A. When directed by the Program Manager, a construction access route shall be built for the purpose of accessing manholes and performing all other necessary work within the easement.
- B. Construction roads, when required, shall be cut twelve (12) feet wide and as long as required, and six (6) inches deep below existing grade, or as directed by the Program Manager. Filter fabric shall be placed at the bottom of the cut, and stone shall be placed on top of the fabric, filling the six-inch depth along the road.
- C. Provide and install the filter fabric and stone as indicated in the Manual for Erosion and Sediment Control in Georgia.
- D. The Contractor is required to maintain the access roadway to include periodic top dressing of gravel to maintain a six-inch depth. Remove all spilled materials and debris from graveled surfaces.
- E. During heavy clearing the diameters of all timber trees to be removed shall be measured in caliper inches in order to get paid. The Program Manager should be notified of this occurrence so inspection can be provided to monitor the measurements.

6.03 CLEAN-UP

- A. The debris resulting from the clearing and grubbing operation shall be hauled to a disposal site secured by the Contractor and shall be disposed of in accordance with all requirements of Federal, State, County and municipal regulations. No debris of any kind shall be deposited in any stream or body of water, or in any street or alley. No debris shall be deposited upon any private property, except with written consent of the property owner. In no case shall any material or debris be left on the worksite, shoved onto abutting private properties, or buried on the worksite.
- B. Open burning will not be permitted.

END OF SECTION

SECTION 02276
SITE RESTORATION AND EROSION CONTROL

PART 7 – GENERAL REQUIREMENTS

7.01 SECTION INCLUDES

- A. The work specified in this Section consists of providing, maintaining and removing temporary erosion and sedimentation controls as necessary.
- B. Temporary erosion controls include, but are not limited to, Best Management Practices (BMP's) such as: grassing, mulching, netting, and watering, and reseeding on-site surfaces and spoil and borrow area surfaces and providing interceptor ditches at ends of berms and at those locations ensuring the erosion during construction will be either eliminated or maintained within acceptable limits as established by the Program Manager, Local Issuing Authority and State.
- C. Temporary sedimentation controls include, but are not limited to, Best Management Practices (BMP's) such as: silt fencing, silt dams, temporary sediment traps, check dams, temporary inlet sediment traps, barriers, rock filter dams, temporary creek crossings, diversion ditches, tree protection fencing, and appurtenances at the foot of sloped surfaces ensuring the sedimentation pollution will be either eliminated or maintained.

7.02 RELATED SECTIONS

- A. Section 02486: Seeding
- B. Section 02542: Silt Fence

7.03 REFERENCES

- A. Clean Water Act
- B. Georgia Building Code
- C. Any Soil Erosion and Sediment Control Ordinances in force by the local Government.
- D. State of Georgia, Department of Transportation, Standard Specifications.
- E. Manual for Erosion and Sediment Control in Georgia, latest edition.
- F. Georgia Erosion and Sedimentation Control Act
- G. Georgia Water Quality Control Act

7.04 QUALIFICATIONS AND REQUIREMENTS

- A. Provide effective temporary erosion and sediment control measures during construction or until final controls become effective.
- B. Erosion, Sedimentation and Pollution Control shall be performed in accordance with Georgia's NPDES Permit No. GAR 100001, 100002, or 100003, as applicable, and as detailed in the drawings.

PART 8 – PRODUCTS

8.01 EROSION CONTROL

- A. Mulch
- B. Temporary grass seed
- C. Permanent grass seed
- D. Sod
- E. Dust control
- F. Tree Protection Fence
- G. Tree/Shrubbery Restoration
- H. Fences
- I. Slope stabilization blankets
- J. Flocculants and coagulants
- K. Tackifiers
- L. Stream bank stabilization products
- M. Slope stabilization products:
 - 2. Rolled Erosion Control Products (RECPs): A natural fiber blanket with single or double photodegradable or biodegradable nets.
 - a. Blankets shall be non-toxic to vegetation, seed, or wildlife. At a minimum, the plastic or biodegradable netting shall be stitched to the fibrous matrix to maximize strength and provide for ease of handling.
 - b. Products shall be determined to be non-toxic in accordance with EPA-821-R-02-012.
 - 3. Hydraulic Erosion Control Products (HECPs): shall utilize straw, cotton, wood or other natural based fibers held together by a soil binding agent working to stabilize soil particles. Paper mulch should not be used for erosion control.

- a. HECsPs shall be prepackaged from the manufacturer. Field mixing of performance enhancing additives will not be allowed. Fibrous components should be all natural or biodegradable.
- b. Products shall be determined to be non-toxic in accordance with EPA-821-R-02-012.

8.02 SEDIMENTATION CONTROL

- A. Bales - clean, seed free cereal hay type.
- B. Netting - fabricated of material acceptable to the County.
- C. Filter stone - No. 57 - crushed stone.
- D. Filter media sock, silt fencing (Type NS or Type S).
- E. Tree protection fencing.

PART 9 – EXECUTION

9.01 GENERAL

- A. All erosion control measures are to be installed per the requirement listed in the construction documents as well as defined with Georgia's Manual for Erosion and Sediment Control, latest edition. *GSWCC Field Manual for Erosion and Sedimentation Control in Georgia* – latest edition.

9.02 VEGETATIVE MEASURES

- A. Erosion control should be addressed in the planning stages of all proposed land-disturbing activities. While erosion is difficult to control completely, methods to reduce it are practical, affordable, and cost effective. Erosion control techniques shall be used on all areas exposed for a prolonged period of time, including areas that will be paved or built upon in the future. Various types of vegetative practices are used for erosion control. The timeline for the implementation of various vegetative practices is as follows:
- B. Mulch, temporary vegetation, or permanent (perennial) vegetation shall be completed on all exposed areas within 14 days after disturbance.
- C. **Ds1 - Disturbed Area Stabilization (With Mulching Only)** Mulching can be used as a singular erosion control method on areas at rough grade. Mulch can be an option for up to six months provided the mulch is applied at the appropriate depth (depending on type of mulch used), anchored, and has a continuous 90% cover or greater of the soil surface. Maintenance shall be required to maintain appropriate depth, anchorage, and 90% cover. If an area will remain undisturbed for greater than six months, permanent (perennial) vegetation shall be used.
- D. **Ds2 - Disturbed Area Stabilization (With Temporary Seeding)** Temporary vegetation may be employed instead of mulch if the area will remain undisturbed for less than six months.

- E. **Ds3 - Disturbed Area Stabilization (With Permanent Vegetation)** Permanent (perennial) vegetation or sod shall be used immediately on areas at final grade. Permanent (perennial) vegetation shall be used on rough graded areas to be undisturbed for more than six months.
- F. **Ds4 - Disturbed Area Stabilization (With Sodding)** may be used in place of Ds3.
- G. **“Stabilization”** of an area is accomplished when 70% of the surface area is covered in a uniform, vegetative cover (permanent or temporary) or anchored mulch of the appropriate thickness with 90% coverage. “Final stabilization” means all soil disturbing activities at the site have been completed, and for unpaved areas and areas not covered by permanent structures and areas located outside the waste disposal limits of a landfill cell certified by EPD for waste disposal, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in planned landscaped areas), or equivalent permanent stabilization measures.
- H. **Permanent (perennial) vegetation** shall consist of: planted trees, shrubs, perennial vines; a crop of perennial vegetation appropriate for the time of year and region; or a crop of annual vegetation and a seeding of target crop perennials appropriate for the region, such that within the growing season a 70% coverage by perennial vegetation shall be achieved.
 - 4. For linear construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use.
 - 5. For the purposes of this specification, permanent vegetation is used synonymously with perennial vegetation. Perennial vegetation is plant material that lives continuously from year to year although it may have a dormant season when the leaves and possibly the stems “die back” to the ground. No vegetative planting can technically be considered permanent. Annual vegetation is plant material lives for only one growing season. This type of vegetation is typically used for temporary establishment due to its quick germination. Some perennial vegetation can be used for temporary stabilization.
- I. **Slope Stabilization**
 - 6. It is the intention of this specification to allow interchangeable use of RECPs and HECPs for erosion protection on slopes. The project engineer should select the type of erosion control product best fitting the need of the particular site.
 - a. Installation and stapling of RECPs and application rates for the HECPs shall conform to manufacturer’s guidelines for application.
 - b. Products shall have a maximum C-factor (ASTM D6459) for the following slope grade:

Slope (H:V)	C-Factor (max.)
3:1 or greater	0.080

7. RECPs will be categorized as follows:
- a. Short term (functional longevity 12 mos.)
 - iii. Photodegradable: Straw blankets with a top and bottom side photo degradable net. The maximum size of the mesh shall be openings of $\frac{1}{2}$ " X $\frac{1}{2}$ ". The blanket should be sewn together on 1.5" centers with degradable thread. Minimum thickness should be 0.35" and minimum density should be 0.5 lbs. per square yard.
 - iv. Biodegradable: Straw blanket with a top and bottom side biodegradable jute net. The top side net shall consist of machine direction strands that are twisted together and then interwoven with cross direction strands (leno weave). The bottom net may be leno weave or otherwise to meet requirements. The approximate size of the mesh shall be openings of 0.5" X 1.0". The blanket should be sewn together on 1.5" centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs. per square yard.
 - b. Extended term (functional longevity 24 mos.)
 - v. Photodegradable: Blankets that consist of 70% straw and 30% coconut with a top and bottom side photodegradable net. The top net should have ultraviolet additives to delay breakdown. The maximum size of the mesh shall be openings of 0.65" X 0.65". The blanket should be sewn together on 1.5" centers with degradable thread. Minimum thickness should be 0.35" and minimum density should be 0.6 lbs. per square yard.
 - vi. Biodegradable: Blankets that consist of 70% straw and 30% coconut with a top and bottom side biodegradable jute net. The top side net shall consist of machine direction strands that are twisted together and then interwoven with cross direction strands (leno weave). The bottom net may be leno weave or otherwise to meet requirements. The approximate size of the mesh shall be openings of 0.5" X 1.0". The blanket should be sewn together on 1.5" centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.65 lbs. per square yard.
 - c. Long-term (functional longevity 36 mos.)
 - i. Photodegradable: Blankets that consist of 100% coconut with a top and bottom side photodegradable net. Each net should have ultraviolet additives to delay breakdown. The maximum size of the mesh shall be openings of 0.65" X 0.65". The blanket should be sewn together on 1.5" centers with degradable thread. Minimum thickness should be 0.3" and minimum density should be 0.5 lbs. per square yard.

- ii. **Biodegradable:** Blankets that consist of 100% coconut with a top and bottom side biodegradable jute net. The top side net shall consist of machine direction strands that are twisted together and then interwoven with cross direction strands (leno weave). The bottom net may be leno weave or otherwise to meet requirements. The approximate size of the mesh shall be openings of 0.5" X 1.0". The blanket should be sewn together on 1.5" centers with degradable thread. Minimum thickness should be 0.25" and minimum density should be 0.5 lbs. per square yard.
- d. **Site Preparation:** After the site has been shaped and graded to the approved design, prepare a friable seedbed relatively free from clods and rocks more than one inch in diameter, and any foreign material preventing contact of the soil stabilization mat with the soil surface. Surface must be smooth to ensure proper contact of blankets or matting to the soil surface. If necessary, redirect any runoff from the ditch or slope during installation.
 - i. **Maintenance:** All erosion control blankets and matting should be inspected periodically following installation, particularly after rainstorms to check for erosion and undermining. Any dislocation or failure should be repaired immediately. If washouts or breakage occurs, reinstall the material after repairing damage to the slope or ditch. Continue to monitor these areas until they become permanently stabilized.

9.03 TREE PROTECTION AND SHRUBBERY

- The Contractor shall notify the County, Program Manager, and property owner, public or private, when there are assessment activities if vegetation (shrubs and trees), located outside of existing easements, are to be impacted by actions of the Contractor. Work done on easements on private property shall be discussed with the property owner and must include advising property owners of the impacts to existing plantings/vegetation the assessment will cause whether they are in easement or not. All damaged shrubbery shall be removed and replaced, in kind, with the agreement of the property owner and County. Tree protection, when necessary, shall be done in accordance with the Field Manual for Erosion and Sediment Control in Georgia, latest edition.

9.04 FENCING

- The Contractor shall notify the County, Program Manager, and property owners, public and private, of any impacts to fencing that assessment activities could have before the work is started. Should fencing have to be removed and replaced it shall be done with minimal impact to the property owner. Replacement fencing shall match the existing fencing as best as possible and be acceptable to the property owner and County. Fencing shall also be in compliance with the DeKalb County Zoning Ordinance, Chapter 27, Article 5.4.7, latest version.

9.05 SEDIMENTATION CONTROL

- A. Install and maintain silt fencing, silt dams, traps, barriers and all other appurtenances as shown on the approved descriptions and working drawings. Hay bales, silt fencing, filter socks, and other BMP's which deteriorate and filter stone which is dislodged shall be replaced when needed.
- B. Install and maintain temporary stream crossings as indicated in the Manual for Erosion and Sediment Control in Georgia, and as modified in these specifications.
- C. Install and maintain riprap for all erosion and sediment control methodologies as indicated in the Manual for Erosion and Sediment Control in Georgia and as specified or modified in the Contract Documents. Refer to Specification Section 02273 – Riprap for general riprap requirements.

9.06 ACCEPTANCE

- A. Should any of the temporary erosion and sediment control measures employed fail to produce results complying with the requirements of the State, immediately take whatever steps are necessary to correct the deficiency within the limits defined in the NPDES permit or Georgia's Manual for Erosion and Sediment Control.
- B. For a product or practice to be approved as slope stabilization, that product or practice must have a documented C-factor of 0.080.

9.07 DOCUMENTATION

Contractor shall monitor, report and retain records as required by the GA NPDES Permit No. GAR 100001, 100002, or 100003, as applicable. Attached to the end of this section are the minimal, but not limited to, reports which should be performed and maintained. The following are the attached reports:

- A. Daily Inspection Report
- B. Daily Rainfall Monitoring Report
- C. Weekly Inspection Report
- D. Stormwater Monitoring Data
- E. Monthly Inspection Report
- F. Inspection Summary Report for violations and corrective actions.
- G. Erosion and Sedimentation Control Inspection Report

Daily Inspection Report

Inspection performed by certified personnel each day construction activity occurs on-site

Project Information	
Date:	Project Name:
Project Location:	
Inspection Observations	
Rainfall within past 24 hours (inches):	Is rainfall greater than 0.5"? Inspection Required <input type="checkbox"/>
Inspection Observations	
Petroleum Product Storage Areas: Are all of the temporary and permanent controls contained in Plan in place? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, describe the location(s) of deficiencies and corrective actions that must be taken.	
Vehicle Entrances and Exits: Is there tracking of sediment from locations where vehicles enter and leave the project? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe the location(s) and the corrective actions that must be taken.	
Other Observations	
Is an Erosion, Sedimentation and Pollution Control Plan revision required? <input type="checkbox"/> Yes <input type="checkbox"/> No Date of revision:	
Corrective Actions and Date:	

Signature of Certified Personnel

Printed Name of Certified Personnel

Weekly Inspection Report

Inspection performed by certified personnel at least once every seven calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater

Project Information

Date:	Project Name:
Project Location:	
Name of Inspector:	

Inspection Event

Regular weekly inspection: <input type="checkbox"/>	Inspection within 24 hours of 0.5" storm event <input type="checkbox"/>
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Inspection Observations

Disturbed areas that have not undergone final stabilization:
Are all of the temporary and permanent controls contained in Plan in place and properly maintained? Yes No
If no, describe the location(s) of deficiencies and corrective actions that must be taken.

Corrective Action Taken and Date:

Material storage areas exposed to precipitation:
Are all of the temporary and permanent controls contained in Plan in place and properly maintained? Yes No
If no, describe the location(s) of deficiencies and corrective actions that must be taken.

Corrective Action Taken and Date:

Discharge locations or points.
Are erosion control measures preventing impacts to receiving waters? Yes No
If no, describe observations:

Monthly Inspection Report

Inspection performed by certified personnel at least once per month

Project Information	
Date:	Project Name:
Project Location:	
Inspection Observations	
Rainfall within past 24 hours (inches):	Is rainfall greater than 0.5"? Inspection Required <input type="checkbox"/>
Inspection Observations	
Areas that have undergone final stabilization: Are all permanent stabilization controls contained in Plan in place? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, describe the location(s) of deficiencies and corrective actions that must be taken.	
Other observations: Are pollutants entering the drainage system or receiving waters? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe the location(s) and the corrective actions that must be taken. Are all erosion and sediment control measures operating properly? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, describe the location(s) and the corrective actions that must be taken.	
Other Observations	
Is an Erosion, Sedimentation and Pollution Control Plan revision required? <input type="checkbox"/> Yes <input type="checkbox"/> No Date of revision:	
Corrective Actions and Date:	

Signature of Certified Personnel

Printed Name of Certified Personnel

Site Inspection Report

Erosion and Sedimentation Inspection Report

Maintain Reports on-site

Site:	Date:	Time:
Inspector:	Accompanied By:	
Stage of Construction:		
Site:		
Observation:		
Recommendations:		
Contractor's Corrective Action (and Date):		
Site:		
Observation:		
Recommendations:		
Contractor's Corrective Action (and Date):		

SECTION 02486

SEEDING

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. This section includes the Contractor's responsibility to furnish all labor, materials, equipment and incidentals necessary and place seed and maintain all seeded areas as specified herein including all areas disturbed by the Contractor's operations.
- B. Ds3 and Ds4 Requirements for Regulatory Compliance

1.02 RELATED SECTIONS

- A. Section 02276: Site Restoration and Erosion Control

1.03 SUBMITTALS

- A. Product labels/data sheets
- B. Seed: Certification of seed analysis, germination rate, and inoculation:
 - 1. Certify each lot of seed has been tested by a testing laboratory certified in seed testing, within 6 months of date of delivery, Include with certification:
 - a. Name and address of laboratory
 - b. Date of test
 - c. Lot number for each seed specified
 - d. Test Results: (i) name, (ii) percentages of purity and of germination, and (iii) weed content for each kind of seed furnished
 - 2. Mixtures: Proportions of each kind of seed
- . Seed Inoculant Certification: Bacteria prepared specifically for legume species to be inoculated

1.04 DELIVERY, STORAGE, AND PROTECTION

- A. Furnish in standard containers with seed name, lot number, net weight, percentages of purity, germination, and hard seed and maximum weed seed content, clearly marked for each container of seed.
- B. Keep dry during storage.

1.05 WEATHER RESTRICTIONS

- Perform work under favorable weather and soil moisture conditions as determined by accepted local practice.

1.06 GUARANTEE

- A. Secure an acceptable growth of grass in all areas designated for seeding
- B. An area is considered acceptable if it is represented by a minimum of 100 seedlings per square foot of the permanent species of grass representative of the seed mixture. If an acceptable growth is not obtained on the first planting, reseeding and remulching will be required
- C. If the planting is less than 50 percent successful, rework the ground, refertilize, reseed, and remulch the entire area.

1.07 MAINTENANCE

- A. Begin maintenance immediately after each area is planted and continue until final acceptance of the Contract.
- B. Maintenance is necessary to help establish a good healthy uniform growth over the entire seeded area. Maintenance to be performed includes the following:
 - 1. Watering: First 2 weeks every day, thereafter, keep surface moist.
 - 2. Washouts: Re-grade and re-seed at the Contractor's expense until good sod is established.
 - 3. Mulch: Replace wherever and whenever washed or blown away
 - 4. Mowing:
 - a. Mow to 2 inches after grass height reaches 3 inches, and mow to maintain grass height from exceeding 3-1/2 inches.
 - b. Mowing should not be performed during the quail nesting season (May to September)
 - 5. Rake clippings and leaves, and appurtenances until the project is completed.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Products and applications to match Contract application period and meet manufacturers' recommendations.
- B. Fertilizer shall be a complete commercial fertilizer. It shall be delivered to the site in the original unopened containers each showing the manufacturer's guaranteed analysis of the contents and that ensure proper protection in transportation and handling, and in compliance with all local, state, and federal fertilizer laws. Store fertilizer, so when used, it shall be dry and free flowing.
- C. Lime shall be ground limestone containing not less than 85 percent calcium and magnesium carbonates.

- D. Seed shall be from the same or previous year's crop; each variety of seed shall have a percentage of germination not less than 90, a percentage purity of not less than 85, and shall have not more than one percent weed content.
- E. The mixture for lawn areas shall consist of seed proportioned by weight as indicated on the drawings.
- F. Seed Quality:
 - 1. The term "pure live seed" is used to express the quality of seed and is not shown on the label. Pure live seed, PLS, is expressed as a percentage of the seeds that are pure and will germinate. Information on percent germination and purity can be found on seed tags. PLS is determined by multiplying the percent of pure seed with the percent of germination; i.e.,
 (PLS = % germination x % purity)

 EXAMPLE:

 Common Bermuda seed
 70% germination, 80% purity

 PLS = 70% germination x 80% purity
 PLS = 56%
 - 2. The percent of PLS helps you determine the amount of seed you need. If the seeding rate is 10 pounds PLS and the bulk seed is 56 % PLS, the bulk seeding rate is:
 10 lbs. PLS/acre = 17.9 lbs. /acre
 56% PLS
 - 3. You would need to plant 17.9 lbs. /acre to provide 10 lbs. /acre of pure live seed.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Soil samples to be obtained to determine lime requirements.
- B. Lime shall be applied at the rate as shown on the drawings.
- C. Agricultural lime is required at the rate of one to two tons per acre unless soil tests indicate otherwise. Graded areas require lime application. If lime is applied within six months of planting permanent perennial vegetation, additional lime is not required. Agricultural lime shall be within the specifications of the Georgia Department of Agriculture.
 - 1. Lime spread by conventional equipment shall be "ground limestone." Ground limestone is calcitic or dolomitic limestone ground so 90 percent of the material will pass through a 10-mesh sieve, not less than 50 percent will pass through a 50-mesh sieve, and not less than 25 percent will pass through a 100-mesh sieve.

2. Fast-acting lime spread by hydraulic seeding equipment should be “finely ground limestone” spanning from the 180 micron size to the 5 micron size. Finely ground limestone is calcitic or dolomitic limestone ground so 95 percent of the material will pass through a 100-mesh sieve.
 3. It is desirable to use dolomitic limestone in the Sand Hills, Southern Coastal Plain and Atlantic Coast Flatwoods MLRAs.
 4. Agricultural lime is generally not required where only trees are planted.
 5. Initial fertilization, nitrogen, topdressing, and maintenance fertilizer requirements for each species or combination of species shall be followed.
- D. Fertilizer shall be applied at the rate as shown per the drawings or at minimum follow the guidelines within the Georgia Manual for Erosion and Sediment Control latest edition.

3.02 INSTALLATION

- A. Grading and shaping may not be required where hydraulic seeding and fertilizing equipment is to be used. Vertical banks shall be sloped to enable plant establishment.
1. When conventional seeding and fertilizing are to be done, grade and shape where feasible and practical, so equipment can be used safely and efficiently during seedbed preparation, seeding, mulching and maintenance of the vegetation.
 2. Concentrations of water will cause excessive soil erosion and shall be diverted to a safe outlet. Diversions and other treatment practices shall conform to the appropriate standards and specifications.
- B. The subgrade of all areas to be seeded shall be raked and all rubbish, sticks, roots and stones larger than 2 inches shall be removed.
- C. When a hydraulic seeder is used, seedbed preparation is not required. When using conventional or hand-seeding, seedbed preparation is not required if the soil material is loose and not sealed by rainfall.
1. When soil has been sealed by rainfall or consists of smooth cut slopes, the soil shall be pitted, trenched or otherwise scarified to provide a place for seed to lodge and germinate.
- D. Lime shall be spread evenly over surface and thoroughly incorporated with loam by heavy raking to at least 2 inches deep at a rate determined by soil samples to match Contract.
- E. When hydraulic seeding equipment is used, the initial fertilizer shall be mixed with seed, inoculant (if needed), and wood cellulose or wood pulp fiber mulch and applied in a slurry. The inoculant, if needed, shall be mixed with the seed prior to being placed into the hydraulic seeder. The slurry mixture will be agitated during application to keep the ingredients thoroughly mixed. The mixture will be spread uniformly over

the area within one hour after being placed in the GSWCC (Amended - 2013) 6-89 hydro seeder.

1. Finely ground limestone can be applied in the mulch slurry or in combination with the top dressing.
 2. When conventional planting is to be done, lime and fertilizer shall be applied uniformly in one of the following ways:
 - a. Apply before land preparation so it will be mixed with the soil during seedbed preparation.
 - b. Mix with the soil used to fill the holes, distribute in furrows.
 - c. Broadcast after steep surfaces are scarified, pitted or trenched.
 - d. A fertilizer pellet shall be placed at root depth in the closing hole beside each pine tree seedling.
- F. Fertilizer shall be uniformly spread and immediately mixed with the upper 2 inches of the soil.
- G. Seeding
1. Hydraulic Seeding
Mix the seed (inoculated if needed), fertilizer, and wood cellulose or wood pulp fiber mulch with water and apply in a slurry uniformly over the area to be treated. Apply within one hour after the mixture is made.
 2. Conventional Seeding
Seeding will be done on a freshly prepared and firmed seedbed. For broadcast planting, use a cultipacker-seeder, drill, rotary seeder, other mechanical seeder, or hand seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with 1/8 to 1/4 inch of soil for small seed and 1/2 to 1 inch for large seed when using a cultipacker or other suitable equipment.
 3. No-Till Seeding
No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent (perennial) species. No-till seeding shall be done with appropriate no-till seeding equipment. The seed must be uniformly distributed and planted at the proper depth.
- H. Mulching
- Mulching is required for all permanent vegetation applications. Mulch applied to seeded areas shall achieve 75% to 100% soil cover. When selecting mulch, design professionals should consider the mulch's functional longevity, vegetation

establishment enhancement, and erosion control effectiveness. Select the mulching material from the following and apply as indicated:

1. Dry straw or dry hay of good quality and free of weed seeds can be used. Dry straw shall be applied at the rate of 2 tons per acre. Dry hay shall be applied at a rate of 2 1/2 tons per acre.
2. Wood cellulose mulch or wood pulp fiber shall be used with hydraulic seeding. It shall be applied at the rate of 500 pounds per acre. Dry straw or dry hay shall be applied (at the rate indicated above) after hydraulic seeding.
3. One thousand pounds of wood cellulose or wood pulp fiber, which includes a tackifier, shall be used with hydraulic seeding on slopes 3/4:1 or steeper.
 - a. Sericea Lespedeza hay containing mature seed shall be applied at a rate of three tons per acre.
 - b. Pine straw or pine bark shall be applied at a thickness of 3 inches for bedding purposes. Other suitable materials in sufficient quantity may be used where ornamentals or other ground covers are planted. This is not appropriate for seeded areas.
 - c. When using temporary erosion control blankets or block sod, mulch is not required.
 - d. Bituminous treated roving may be applied on planted areas, slopes, in ditches or dry waterways to prevent erosion. Bituminous treated roving shall be applied within 24 hours after an area has been planted. Application rates and materials must meet Georgia Department of Transportation specifications.
- I. Wood cellulose and wood pulp fibers shall not contain germination or growth inhibiting factors. They shall be evenly dispersed when agitated in water. The fibers shall contain a dye to allow visual metering and aid in uniform application during seeding.
- J. Immediately following this presentation, the seed shall be uniformly applied and lightly raked into the surface. Lightly roll the surface and water with a fine spray. Seed shall be sown in a favorable season, as approved by the Program Manager.
- K. Wildlife plantings should be included in critical area plantings.

END OF SECTION

SECTION 02542
SILT FENCE

PART 1 – GENERAL

1.01 SECTION INCLUDES

- The work covered by this Section consists of furnishing all materials, equipment, and labor and performing all operations in connection with the construction of the Silt Fence System in accordance with the Contract Documents.

1.02 RELATED SECTIONS

- A. Section 01300: Submittals
- B. Section 02276: Site Restoration and Erosion Control

1.03 QUALIFICATIONS

- A. Contractor and Applicator shall have all state erosion control certifications and be active at the time of installation.
- B. Installation shall be by an experienced applicator approved by the manufacturer of the material supplied.
- C. Applicator shall have a minimum of one year experience.
- D. Submit written proof of qualifications to the Program Manager.
- E. The woven fiber filter and appurtenances specified under this Section shall be furnished by a manufacturer who is fully experienced, reputable, and qualified in the manufacture of the fabric furnished. The woven fiber filter and all related appurtenances shall be designed, constructed and installed with the best practices and methods.

1.04 SUBMITTALS

- A. Furnish sample 36 by 36 inches for each fabric, as specified in Section 01300.
- B. Furnish composite filter media sock sample 36 inches in length.
- C. Final acceptance of fabric and socks shall be contingent upon approval of samples.
- D. Furnish an affidavit that all materials comply with these Specification requirements.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Prevent damage during delivery and handling.
- B. Store all fabric in undamaged condition as packaged by the manufacturer, with manufacturer's seals and labels intact.

- C. Store all materials in a clean, dry storage area.
- D. Do not store fabric in an upright position.
- E. Storage area temperature shall be maintained above 40 degrees F. with normal humidity.

PART 2 – PRODUCTS

2.01 POST SIZE

Table 6-27.2 Post Size			
Type	Min Length	Type of Post	Size of Post
NS	4'	Soft wood	3" dia or 2x4
		Oak	1.5" x1.5"
		Steel	1.3lb./ft. min
S	4"	Steel	1.3lb./ft. min
		Oak	2"x2"

2.02 FABRIC – Sd1

- A. The filter fabric shall be designed to control water seepage of the fine particle and or soil without clogging under varying water flow conditions, thereby serving as a soil stabilizer.
- B. The filter fabric shall be chemically resistant to prolonged exposure to fresh water, and either alkaline or acidic soil conditions.

- C. Physical Properties: TEST METHOD

1.	Color	Black
2.	Weight, oz./sq. ft.	0.8 ASTM D-1910
3.	Equivalent opening size	70-100 CE-1310
4.	% open area	4-10 CE-1310
5.	Tensile Strength, #	400 x 280 ASTM D-1682
6.	Elongation, %	34 x 32 ASTM D-1682
7.	Trapezoidal tear strength, #	92x 40 ASTM D-2263
8.	Mullen burst, psi	510 ASTM D-751
9.	Puncture Strength, #	150 ASTM D-751-MS
10.	Abrasion resistance	ASTM D-01175-71
	Abraded strength, #	80 ASTM D-1682

11. Weather-Ometer strength retention, %	90 ASTM E-42-69
12. Water permeability, water flow rates*, milliliters/min.	
6" head	460-520 Canvas Products
8" head	620-760 Assn.Intern'l
36" head	2510-2790 Test Method (for canvas)

*Water flow perpendicular to fabric

- D. The upper level of the fabric form work edges shall be structured so as to accommodate the type of anchorage to be utilized at that point.
- E. Individual mill-width panels shall be cut to suitable lengths, and the two layers of fabric separately jointed, edge-to-edge, by means of heavy, double-stitched nylon thread. The tensile strength of stitched joints shall not be less than 100 lbs. /inch.

2.03 FASTENERS

	Gauge	Crown	Legs	Staples / Post
Wire Staples	17 min.	3/4" wide	1/2" long	5 min.
	Gauge	Length	Button Heads	Nail/ Post
Nails	14 min.	1"	3/4"	4 min.
Note: Filter Fabric may also be attached to the post by wire, anchors, and pockets or any other method provided minimum P-factor, as required by GSWCC, is met.				

2.04 COMPOST FILTER MEDIA SOCK

- Compost used for compost filter sock filler material (filter media) shall be weed free and derived from a well-decomposed source of organic matter. The compost shall be produced using an aerobic composting process meeting CFR 503 regulations including time and temperature data. The compost shall be free of any refuse, contaminants or other materials toxic to plant growth. Non-composted products will not be accepted. Test methods for the items below should follow US Composting Council Test Methods for the Examinations of Composting and Compost guidelines for laboratory procedures:
 1. PH – 5.0-8.0 in accordance with TMECC 04.11-A, “Electrometric pH Determinations of Compost”

2. Particle size – 99% passing in a 2 in (50mm) sieve and a maximum of 40% passing a 3/8 in (9.5mm) sieve, in accordance with TMECC 02.02-B, “ample Sieving for Aggregate Size Classification.” *(Note- In the field, product commonly is between ½ in [12.5mm] and 2 in [50mm] particle size.)*
3. Moisture content of less than 60% in accordance with standardized test methods for moisture determination.
4. Material shall be relatively free (<1% by dry weight) of inert or foreign man made materials.
5. A sample shall be submitted to the Program Manager for approval prior to being used and must comply with all local, state and federal regulations.

Table 2.		
Material Type	Multi-Filament Polypropylene	Multi-Filament Polypropylene
Material Characteristic	Photodegradable	Photodegradable
Mesh Opening	3/8 in (10mm)	1/8 in (3mm)
Tensile Strength (ASTM 5035-95)	44 psi (3.09 kg/cm ²)	202 psi (14.2 kg/cm ²)
% Original Strength from Ultraviolet Exposure (ASTM G-155)	100% at 1000 hr.	100% at 1000 hr.

Table 3.	
	12 in (300mm) Diameter
Effective Circumference	38 in (960 mm)
Density (when filled)	32 lbs./ft. (50kg/m)
Air Space	20%
Hydraulic Flow Through Rate	11.3 gpm/ft. (141 L/min/m)
P Factor (RUSLE)	0.1-0.32

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Installation instructions shall be supplied by the manufacturer. The fabric shall be applied in accordance with the manufacturer's recommendations.
- B. The surfaces to be protected shall be prepared and graded to the extent they are normally stable in the absence of erosion forces. All stones, roots, and other waste

material exposed on the slopes which could disturb the finished mat profile shall be removed. The fabric shall be positioned over these surfaces.

C. Construction Specifications

1. The compost filter sock shall be installed according to this specification, as shown on the plans or as directed by the Program Manager. For installation of the compost filter sock see the construction documents.
 - a. Compost filter socks should be installed parallel to the base of the slope or other disturbed area. In extreme conditions (i.e., 2:1 slopes), a second compost filter sock shall be constructed at the top of the slope.
 - b. Stakes shall be installed through the middle of the compost filter sock on 10 ft. (3m) centers, using 2 in (50mm) by 2 in (50mm) by 3 ft. (1m) wooden stakes. In the event staking is not possible, i.e., when compost filter socks are used on pavement, heavy concrete blocks shall be used behind the compost filter socks to help stabilize during rainfall/runoff events.
 - c. Staking depth for sand and silt loam soils shall be 12 in (300mm), and 8 in (200mm) for clay soils.
 - d. Loose compost may be backfilled along the upslope side of the compost filter sock, filling the seam between the soil surface and the device, improving filtration and sediment retention.
 - e. If the compost filter sock is to be left as a permanent filter or part of the natural landscape, it may be seeded at time of installation for establishment of permanent vegetation. The engineer will specify seed requirements.
 - f. Compost filter socks are not to be used in perennial, ephemeral, or intermittent streams.
2. **Maintenance:** Sediment shall be removed once it has accumulated to one-half the original height of the barrier. Compost filter socks shall be replaced whenever it has deteriorated to such an extent the effectiveness of the compost filter sock is reduced. Compost filter socks shall remain in place until disturbed areas have been permanently stabilized. All sediment accumulation at the compost filter sock shall be removed and properly disposed of before the compost filter sock is removed.

D. Silt Fence

1. Non-sensitive areas
Sediment barriers being used as Type NS shall have a support spacing of no greater than 6 feet on center, with each driven into the ground a minimum of 18 inches. Type NS sediment barriers shall have a P-factor no greater than 0.045.
2. Sensitive areas

Sediment barriers being used as Type S shall have a support spacing of no greater than 4 feet on center, with each driven into the ground 18 inches. Type S sediment barriers shall have a P-factor no greater than 0.030.

3. Installation

- a. Sediment barriers should be installed along the contour.
- b. Temporary sediment barriers shall be installed according to the following specifications as shown on the plans or as directed by the design professional.
- c. Post installation shall start at the center of a low point (if applicable) with the remaining posts spaced no greater than 6 feet apart for Type NS sediment barriers and no greater than 4 feet apart for Type S sediment barriers. For post size requirements, see Table 6-27.2. Fasteners for wood posts are listed in Table 6-27.3.

4. Static Slicing Method

The static slicing machine pulls a narrow blade through the ground to create a slit 12" deep, and simultaneously inserts the silt fence fabric into this slit behind the blade. The blade is designed to slightly disrupt soil upward next to the slit and to minimize horizontal compaction, thereby creating an optimum condition for compacting the soil vertically on both sides of the fabric. Compaction is achieved by rolling a tractor wheel along both sides of the slit in the ground 2 to 4 times to achieve nearly the same or greater compaction as the original undisturbed soil. This vertical compaction reduces the air spaces between soil particles, which minimizes infiltration. Without this compaction infiltration can saturate the soil, and water may find a pathway under the fence. When a silt fence is holding back several tons of accumulated water and sediment, it needs to be supported by posts that are driven 18 inches into the soil. Driving in the posts and attaching the fabric to them completes the installation.

5. Trenching Method

- a. Trenching machines have been used for over twenty-five years to dig a trench for burying part of the filter fabric underground. Usually the trench is about 2-"6" wide with a 6" excavation. Post setting and fabric installation often precede compaction, which make effective compaction more difficult to achieve. EPA supported an independent technology evaluation (ASCE 2001), comparing three progressively better variations of the trenching method with static slicing method. The static slicing method performed better than two lower performance levels of the trenching method, and was as good as or better than the trenching method's highest performance level. The best trenching method typically required nearly triple the time and effort to achieve results comparable to the static slicing method.

- b. Along all state waters and other sensitive areas, two rows of Type S sediment barriers shall be used. The two rows Type S should be placed **a minimum of 36 inches apart**.

3.02 MAINTENANCE

- A. Sediment shall be removed once it has accumulated to one-half the original height of the barrier. This is extremely important when selecting BMPs with a lower profile.
- B. Sediment barriers shall be replaced whenever they have deteriorated to such an extent that the effectiveness of the product is reduced (approximately six months) or the height of the product is not maintaining 80% of its properly installed height.
- C. Temporary sediment barriers shall remain in place until disturbed areas have been permanently stabilized. All sediment accumulated at the barrier shall be removed and properly disposed of before the barrier is removed.

END OF SECTION

SECTION 02956#
SANITARY SEWER CLEANING & VERIFICATION

PART 1 – GENERAL

1.01 SECTION includes

- . This section includes specifications for sewer line and manhole cleaning to remove foreign materials and debris from the mains and restore the pipe to a minimum of 95% of the through flow channel and cross section.

1.02 Related Sections:

Section 01510#: Sanitary Sewer Main Television for Cleaning Verification

Section 01520: Sewer Flow Control

1.03 References

- . Codes, Specifications, and Standards
- A. Testing and Materials Standards

1.04 Qualifications

- . Qualification documentation will be submitted as required of the Contract Documents.
- A. The Contractor must meet all of the following criteria to be considered qualified to submit:
 1. The Contractor, or their subcontractor, must document they, not their parent company or related company or the experience of an individual/s, have been in this line of business a minimum of five (5) years.
 2. The Contractor, or their subcontractor, must document they, not their parent company or related company or the experience of an individual/s, have cleaned a minimum of 396,000 linear feet of sewer mains of the sizes involved for this contract in each of the past two (2) years (75 miles/year). This documentation shall include locations, references (including names and phone numbers), pipe sizes and linear footages of those sizes.

1.05 Submittals

- . Prior to commencing work contractor is to submit to the Program Manager a cleaning plan that should include but not be limited to: proposed equipment to be used for cleaning (including limitations of the equipment, such as pipe material limitations), equipment used for verification of completed work, QA/QC plan, health and safety plan, disposal facility to be used, and a contingency plan,
- A. References: Contact names and telephone numbers
- B. Traffic and Quality Control Plan

- C. Bi-weekly the contractor is to submit to the Program Manager a 3-week look ahead indicating the planned activities for the Contractor's crew(s) for the next 3 weeks
- D. Debris disposal tickets from approved landfill (monthly)
- E. Water consumptive use (hydrant meter readings) monthly
- F. Documentation of Experience as indicated below. The documentation shall be submitted to the Project Manager.

1.06 EXPERIENCE

- . Experience documentation will be submitted as required of the Contract Documents. The Contractor shall provide the County and Program Manager with written documentation the supervisor and field crew leaders responsible for this work have received the proper training, are certified, and have the requisite experience. This documentation will include dates of hands-on experience, employer, description of duties/experience, contact name and phone number. Documentation on any person shall not be longer than 1-page.
- A. Supervisor of the field crews must be proper trained in this function and have a minimum of (3) years' experience in performing sanitary sewer cleaning including safe working practices, proper cleaning procedures, and experience operating the types of cleaning equipment used for this contract.
- B. Field crew leaders must be proper trained in this function and have a minimum of two (2) years hands-on experience in performing sewer cleaning including safe working practices, proper cleaning procedures, and experience operating the types of cleaning equipment used for this contract.
- C. No crew members shall enter confined spaces without the necessary certified training and proper permit.

1.07 PERSONNEL

- . The Supervisor must visit the project site daily checking on their personnel and subcontractors, meeting with the field crew leaders as well as checking on the status and progress of the project.
- A. A field crew leader must be with their crew when their crew is working. Each field crew leader can only have one crew. Each crew must have its own field crew leader.

1.08 RESPONSIBILITY FOR OVERFLOWS/SPILLS AND DAMAGE TO PROPERTY AND UTILITY

- . Reference Specification Section 01030 – Special Project Procedures.

PART 2 – PRODUCTS

2.01 GENERAL

- . The Contractor shall provide all supervision, labor, material, supplies, equipment, transportation, traffic control, etc., necessary to satisfactorily clean the sewer main(s). The Contractor shall be responsible for selecting the type of equipment to perform the

work. The selected equipment must meet the requirements described herein and have approval of the Program Manager prior to use.

- A. **Hydraulically Propelled Equipment:** The equipment used shall be of a movable dam type and be constructed so a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the sewer. The movable dam shall be equal in diameter to the main being cleaned and shall provide a flexible scraper around the outer periphery to insure removal of grease. If sewer cleaning balls or other equipment, which cannot be collapsed, are used, special precautions to prevent flooding of the sewers and public or private property shall be taken.
- B. **High-Velocity Jet (Hydrocleaning) Equipment:** All high-velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two or more high-velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size mains designated to be cleaned. Specialized nozzles capable of concentrating pressurized water either to the crown or lower quadrant of the pipe to be cleaned shall be available on site. Equipment shall also include a high-velocity gun for washing and scouring manhole walls and floor. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel.
- C. **Mechanically Powered Equipment:** Bucket machines shall be in pairs with sufficient power to perform the work in an efficient manner. Machines shall be belt operated or have an overload device. Machines with direct drive that could cause damage to the main will not be allowed. A power rodding machine shall be either a sectional or continuous rod type capable of holding a minimum of 500 feet of rod. The rod shall be specifically heat-treated steel. To ensure safe operation, the machine shall be fully enclosed and have an automatic safety clutch or relief valve.
- D. **Large Diameter Cleaning:** For cleaning large diameter sewer pipes, consideration should be given to a combination hydraulic high volume water and solids separation system. The flow from the sewer will provide water for the pump operation so no potable water is necessary and treatment costs are not a factor. Water volume of up to 250 GPM at 2000 psi+ will move solids to the downstream manhole in high flow conditions. The separation system will dewater solids to 95% (passing a paint filter test) and transfer them to a dump truck for transport to an approved landfill. Sewer water will be filtered to a point where it can be used in the pump for continuous cleaning. No by-passing of sewer flows will be necessary. The unit shall be capable of 24 hour operation and the unit shall not leave the manhole until a section is fully cleaned.

The flow of sewage in the sewer mains shall be utilized to provide the necessary pressures for hydraulic cleaning devices whenever possible. When additional quantities of water from fire hydrants are necessary to avoid delay in normal working procedures, the water shall be conserved and not used unnecessarily. The Contractor's truck/trailer must be permitted by the County as having the proper backflow prevention devices. The approval of the County shall be obtained before County water is used. Hydrants shall only be operated under the supervision of the County. Contractor shall be responsible for obtaining a hydrant meter from the County

for this water use as directed by the Program Manager. Contractor shall be responsible for all costs associated with hydrant meter(s).

- E. The Contractor shall be responsible for providing all other necessary hoses and tools for obtaining the water.

PART 3 – EXECUTION

3.01 GENERAL

- . **Cleaning Precautions:** During cleaning operations, satisfactory precautions shall be taken in the use of cleaning equipment. When hydraulically propelled cleaning tools (requiring water pressure to provide their cleaning force) or tools retarding the flow in the sewer main are used, precautions, including the direction of the cleaning operation, shall be taken to insure the water pressure created does not damage or cause flooding of public or private property being served by the pipe.
 1. In the case where damage to the County infrastructure is caused by the Contractor, for any reason, such as would be caused by incorrect deployment of equipment or retrieval of lodged equipment, the cost of repair or remedy shall be borne solely by the Contractor and repaired immediately after notification to the Program Manager within 24 hours.
 2. In the case where the Contractor projects a risk of having equipment stuck in the sewer line due to prior known condition assessment, pipe age and material, etc., the Contractor may perform CCTV and bypass pumping as needed, at the approval of the Program Manager, to assess the sewer line prior to cleaning.
 3. Any equipment stuck or left in the sewer line/lateral shall be retrieved by the Contractor within twenty-four (24) hours. The Contractor is expected to use due caution when cleaning and assessing the sewer line segments. The Contractor shall make numerous attempts to recover any lodged equipment without causing additional harm to the sanitary sewer structure(s). Equipment stuck in the line due to the Contractor's negligence will require that equipment be recovered at the sole expense of the Contractor. DWM shall not be financially responsible for any Point Repairs derived from such lodged equipment with the exception if the equipment was lodged in the system due to poor pipe condition. The Contractor shall present CCTV video of the pipe condition when making a claim. DWM will review the video and Contractor activities to make a decision as to causation and liability. DWM will provide inspection services to ensure such extraction point repair is completed in compliance with the County's sanitary sewer guidelines. Any damage to the Contractor's equipment is the Contractor's sole responsibility. If the equipment is stuck or left in the sewer line/lateral causes an SSO (including building backup), then the Contractor is liable for the SSO/backup and all associated damages.
- A. **Cleaning:** Cleaning shall include the designated gravity main and the upstream and downstream manholes. The designated gravity main sections shall be cleaned using hydraulically propelled, high-velocity jet, or mechanically powered equipment. Selection of the equipment used shall be based on the conditions of pipes at the time the work commences. The equipment and methods selected shall be satisfactory to the County. The equipment shall be capable of cleaning a minimum of 750' linear feet and of removing dirt, grease, roots, rocks, sand, silt, hardened deposits (tuberculation)

and all obstructions from the pipes and manholes. If cleaning an entire section cannot be successfully performed from one manhole, the equipment shall be set up on the other manhole and cleaning again attempted. Extreme care shall be taken when cleaning in a reverse setup so as not to cause flooding of service lines located along the sewer. If, again, successful cleaning cannot be performed or the equipment fails to traverse the entire manhole section, it will be assumed a major blockage exists and the cleaning effort shall be repeated with other types of equipment. All pipes shall be cleaned to the satisfaction of the County.

The upstream and downstream manholes shall be cleaned of all debris, roots, grease, etc., as with the pipe section. For estimating purposes, the Contractor will include the cost of cleaning the manhole (15 VF depth assumed) in the price bid for Cleaning & CCTV Verification. A pay item is provided for manholes in excess of 15 VF in height.

- B. The term "clean", as used herein, shall mean the complete removal of all garbage, dirt, gravel, rocks, roots, root balls, grease, settled sludge and all other solid or semi-solid materials from the pipes and manholes. All assigned line segments will be cleaned, as required. All the following requirements are to be satisfactorily completed as determined by the DWM Inspector:
1. Cleanings must be captured and removed from line at upstream or downstream manhole associated with the cleaned line segment. The Contractor will not be allowed to pull the cleanings through the downstream manhole into the next pipe segment.
 2. Grease and Roots: unless instructed otherwise, all grease and roots shall be removed. Removal of these items are included in the price bid for performing Cleaning & CCTV Verification.
 3. The Contractor shall utilize the proper nozzle for the work being performed;
 4. The Contractor shall maintain a minimum of 1800 psi unless circumstances dictate that this pressure be lowered in which case the Contractor will notify the Inspector and provide reasoning for consideration and approval.
 5. The Contractor has to perform as many passes to move the sediment/debris from the pipe to the next upstream or downstream manhole.
 6. The Contractor is required to move bricks and large rocks (≥ 3 " diameter). Note that brick and rock are plural.
- C. Conditions, such as broken mains and major blockages, may prevent cleaning from being accomplished, especially where additional damage would result if cleaning were attempted, or continued. Should such conditions be encountered, the Contractor shall not be responsible to clean those specific main sections unless the County removes the apparent obstruction. The Contractor shall immediately notify the Program Manager and propose alternative cleaning procedures to clear the obstruction.
- D. Whenever mains to be cleaned show evidence of being more than one-half filled with solids, buckets machines and/or rodding machines shall be utilized to remove the

major portion of the material before hydraulic equipment or high velocity, hydro-cleaning equipment is brought into use for finishing the cleaning work.

1. When bucket machines are used, the bucketing process shall be done in one main section at a time. A bucket of the proper size shall be placed into the downstream manhole and pulled, in intervals, towards the upstream manhole.
 2. The bucket shall be retrieved and emptied at varying intervals depending upon the amount of materials being removed. When a bucket is retrieved and it is completely full or overflowing with materials, then the length of travel into the main shall be reduced to ensure total removal of debris. This process shall be repeated until the bucket has been pulled through the entire main section. Upon completion of the bucketing or rodding operation, hydraulically propelled cleaning equipment or high velocity hydro-cleaning equipment shall be used to complete the cleaning work.
- E. **Root Removal:** Roots shall be removed from sections designated to be cleaned. Special attention shall be used during the cleaning operation to assure complete removal of roots from the joints. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root saws, chain-slingers, porcupines, and equipment such as high-velocity jet cleaners.
- F. **Material Removal:** All sludge, dirt, sand, rocks, grease, and other solid or semisolid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole section to manhole section, potentially causing main stoppages, accumulations of sand in wet wells, or damage pumping equipment, shall not be permitted.
- G. **Disposal of Materials:** All solids, semisolids and/or liquids resulting from the cleaning operations shall be removed from the work site and disposed of at a site designated by the County and approved to accept wastewater debris and liquids. All materials shall be removed from the site no less often than at the end of each workday. Under no circumstances will the Contractor be allowed to accumulate debris, etc., on the site of work beyond the stated time, except in totally enclosed containers and as approved by the County. **Under no circumstances shall removed debris and/or liquids be dumped onto the ground or streets or into ditches, catch basins or storm drains for any length of time.** Contractor shall be responsible for legally disposing of all debris and all disposal costs.
- H. **Protruding Tap Removal:** Service taps extending into the pipe shall be removed by means of hydraulically or mechanically operated equipment. Chain cutters, clamshell cutters, and robotic lateral reinstatement cutters are typical equipment used to remove protruding taps. Taps should be removed so the resulting protrusion is less than 1" at the greatest point, or 10% of sewer main diameter, whichever is smaller. All debris resulting from protruding tap removal shall be removed immediately from the pipe. Where protruding taps are vitrified clay, grinding wheels may be used on lateral reinstatement cutters to insure a smooth finish. Where protruding taps prevent the passage of equipment through the pipe, notify the County immediately for point repair execution. Note: All protruding taps must be verified via television inspection prior to inserting any type of cutting tool into the main.
- I. **Grease Removal:** Grease shall be removed in designated sections and shall be considered part of the cleaning procedures. The Contractor shall provide a list of lines

requiring grease removal to the County and the Program Manager so they may be added to the County's on-going maintenance list. Special attention should be given during the cleaning operations to ensure the complete removal of grease from the pipe. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root cutter and porcupines, and equipment such as high-velocity jet cleaners, and hot water. Chemical means of grease removal will be allowed upon request by the Contractor; however, it is considered subsidiary to Line Cleaning, and no additional payment will be allowed.

- J. **Cleaning & CCTV Verification:** CCTV verification of the cleaning operation will be required for each line segment submitted for payment. CCTV Cleaning Verification will not be measured separately for payment. The costs shall be included in the price bid per LF of Cleaning & CCTV Cleaning Verification. Note that Cleaning & CCTV Cleaning Verification will be measured for payment based upon the CCTV verification footage associated with the Cleaning activity.

3.02 ACCEPTANCE

- . Acceptance of pipe/manhole cleaning shall be made upon the successful completion of the television inspection indicating that cleaning has been completed in accordance with these specifications. If the inspection shows the cleaning to be unsatisfactory, the Contractor shall be required to re-clean and re-inspect the pipe until the cleaning is shown to be satisfactory at no additional cost to the County,

3.03 CLEANING PRECAUTIONS

- . Bucket machines or rodding machines shall be used very carefully because of their tendency to "hang-up" on or "wedge against" the sewer main and break it. Only experienced and well-trained operators shall operate the machines(s).
- A. Whenever hydraulically propelled cleaning tools, or high velocity, hydro-cleaning equipment or any tools retarding the flow of water in the sewer mains are used, precautions shall be taken to ensure the water pressure created does not cause any damage or flooding to public or private property being served by the main involved.
- B. Any damage to the sewer mains caused by the Contractor's operations shall be repaired in a manner approved by the County at the Contractor's expense. The County reserves the right to make said repairs itself and charge the Contractor accordingly.
- C. Damage due to flooding of any public or private property being served by any main over-filled by Contractor's cleaning operations shall also be repaired or otherwise paid for by the Contractor.

3.04 PUBLIC NOTIFICATION – CLEANING

- . Reference Specification Section 01041 – Project Coordination. Public Notification for Cleaning will be included with the notification for CCTV.

3.05 DOCUMENTATION

- . The Work will be assigned by Cityworks work orders. The Contractor shall update records on a daily basis for the work accomplished in the cleaning and the CCTV

cleaning verification of the pipes. With each pay request, for every line segment cleaned and submitted for payment, a digital video will be submitted as documentation that cleaning was performed and meets the requirement of these specification. The following information shall be required as a minimum for pay requests:

1. Location (street address)
 2. Upstream Manhole ID
 3. Downstream Manhole ID
 4. Date and Time
 5. Inspected Length of Pipe (from CCTV video)
 6. Size and type of main
 7. Type of manhole
 8. Type of cleaning performed and various types of equipment used.
 9. Hydrant Meter readings (fire hydrant use)
 10. Seminole RD Dump Ticket with date and tare weight
- A. The Contractor shall complete work on each asset as assigned via the Program Manager. Upon start of work, the Contractor shall receive work orders as assigned by the Program Manager. The Contractor shall maintain and synchronize the status of each work order issued.

END OF SECTION

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