# **COMPREHENSIVE MONITORING PLAN NOTES:**

- 1. A Comprehensive Monitoring Plan (CMP) must be implemented as part of the project's Erosion, Sedimentation and Pollution Control Plan in compliance with the EPD's General Permit No. 100002 (NPDES) prior to conducting any construction activity. The contractor shall keep a copy of the Erosion, Sedimentation and Pollution Control Plan on site at all times from the project beginning until final stabilization is achieved.
- 2. This CMP has been prepared by a Design Professional in accordance with the Permit.
- 3. For linear construction, the monitoring may be phased so that a monitor is always downstream of active construction. Monitoring of outfalls (drainage ditches) and streams is not required for inactive phases or for areas that have undergone final stabilization and all storm water discharges associated with construction activity from that phase have ceased.
- 4. For monitoring oufalls, the disturbed area associated with this project is 7.2 acres. The receiving streams are not trout streams. THIS PROJECT DOES NOT REQUIRE THE MONITORING OF OUTFALLS, SO THE APPENDIX B RATIONALE FOR OUTFALL SAMPLING IS NOT APPLICABLE.

## Warm Water (Supporting Warm Water Fisheries)

	Surface V	Vater Drain	age Area, s	quare miles	
0.4.00	E 0 00	10 24 00	25 40 00	EO 00 00 400 040 00 0EO 400 00	EAA

		0-4.99	5-9.99	10-24.99	25-49.99	50-99.99	100-249.99	250-499.99	500+
	1.00-10	<b>75</b> )	150	200	400	750	750	750	750
Site Size,	10.01-25	50	100	100	200	300	500	<b>750</b>	750
acres	25.01-50	50	50	100	100	200	300	750	750
	50.01-100	50	50	50	100	100	150	300	600
	100.01+	50	50	50	50	50	100	200	100

# 5. MONITORING SITES

For the monitoring of this linear infrastructure project, two monitoring sites have been selected and are shown on the map on Sheet CMP-02 of these plans. Both monitoring points A and B are to be located in a perennial blue line streams tributary to Toonigh Creek. The Contractor needs to seek out the source of any silt found in the streams after rain events. If the silt is a result of the sanitary sewer construction work, the BMP needs to be repaired or replaced with a BMP that will better control the silt source. If the silt is a result of land disturbance by others, then the Contractor needs to gather evidence of the source, including digital photos, to protect the Contractor and Owner from any allegations of fault, and alert the City of Holly Springs regarding the source of the silt. As described in the permit, stream monitoring is required for any section of stream that collects stormwater from areas disturbed by the sanitary sewer construction.

- Monitor A This monitor shall be installed as shown on Sheet EC-02, in an unnamed perennial blue line stream tributary to Toonigh Creek, 100 feet upstream of the culvert where the creek crosses under Hickory Road. This monitoring point shall monitor turbidity levels to compare with the levels recorded at Monitor B. If the turbidity of the stream increases more than 25 NTUs between Monitor A and Monitor B, the Contractor shall seek out and document the source of the silt entering the stream. If the source is due to the sanitary sewer construction, the cause of the silt shall be located and corrected with proper BMPs. No sewer construction work shall be conducted upstream of Monitor A while the turbidity measurements at Monitor A are being compared with the readings at Monitor B. Storm water from approximately 438 acres of basin flows to this point.
- b. Monitor B This monitor shall be installed as shown on Sheet EC-01, in an unnamed perennial blue line stream tributary to Toonigh Creek, approximately 200 feet downstream of the proposed lift station site, and downstream of any wet weather ditches entering the stream from the construction site. This monitor shall monitor turbidity levels to compare with the levels recorded at Monitor A. This monitoring site will collect storm water flows from the sanitary sewer construction from the entire project, including the lift station site, the gravity sewer paralleling the stream up to Hickory Road and the force main construction along Walnut Street and Palm Street. The area flowing to this location includes approximately 7.12 acres of disturbed area and a total acreage of approximately 684 acres. The allowable increase in the NTU value for this stream between Monitors A and B is 25 NTUs. Existing land use is residential, light industrial, office/institutional and woodlands.
- Construction stormwater from the sanitary sewer construction between the point of connection at the existing manhole in the parking lot at Sta. 20+25 and the peak of the hill at Sta. 18+40 leaves the site via sheet flow. The disturbed area at this location measures approximately 0.08 acres in disturbed area.

# 6. COMPLIANCE WITH THE EPD'S NPDES GAR 100002 PERMIT

This project is expected to disturb approximately 7.2 acres of land. This in turn requires the Contractor and Owner to comply with the NPDES GAR 100002 Permit. A copy of the permit is enclosed in the bid documents. This contract has been set up to have the Design Professional prepare the Erosion, Sedimentation and Pollution Control Plan (the Plan). The Primary Permittee (the Contractor) will prepare and submit the NOI and the NOT to the EPD and the local issuing authority as the permit requires. If the site exceeds 50 acres, the Plan will be submitted with the NOI. The Contractor shall sign the NOI and the NOT as the primary permittee. The Contractor will be responsible for the installation and maintenance of the BMPs, daily inspections as required by the Permit and daily rainfall measurements as stated in the Erosion Control Notes shown on Sheet EC-04. The Contractor will also be responsible for the implementation of the Comprehensive Monitoring Plan (CMP), the storm water flow monitoring, the 14-day and monthly inspections of the BMPs, collection of records, and the required report preparation and submittal. Reports are required for every month. Since the design, installation and maintenance of the BMPs presents a complete defense against actions by the EPD for violations, and the Contractor is responsible for the installation and maintenance of the BMPs, the Contractor shall be responsible for any fines imposed by the EPD against the project, and the Owner shall be held blameless. The Contractor is also responsible for suggesting revisions and improvements to the BMPs. The Design Professional shall inspect the installation of the BMPs within seven days after construction activities begin as required by the permit.

7. The Contractor shall submit copies of all inspection and monitoring reports to the Owner and to the Engineer on a monthly basis and to the EPD when the permit requires. Failure to comply with this requirement shall result in the Owner holding payments due to the Contractor.

### 8. COLLECTION AND ANALYSIS OF STORM WATER SAMPLES

All sampling shall be collected by "grab samples" and the analysis of these samples must be conducted in accordance with the methodology and test procedures established by 40 CFR Part 136, entitled "NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001" and other guidance documents that may be prepared by the EPD. Sample containers should be labeled prior to collecting the samples.

Samples should be well mixed before transferring to a secondary container.

Large mouth, well cleaned and rinsed glass or plastic jars should be used for collecting samples. The jar should be cleaned thoroughly to avoid contamination.

Manual or automatic sampling may be utilized. (If automatic samplers are used, use only those samplers approved for use by the Georgia EPD.) Samples required by this permit should be analyzed immediately, but in no case later than 48 hours after collection. However, samples from automatic samplers must be collected no later than the next business day after their accumulation, unless flow through automated analysis is utilized. Dilution of samples is not required. Samples may be analyzed directly with a properly calibrated turbidimeter. Samples are not required to be cooled. Sampling and analysis of the receiving waters or outfalls beyond the minimum frequency required by this permit must be reported to the EPD as specified in Section IV.E of the permit.

Samples taken for the purpose of compliance with this permit must be representative of the monitored activity and representative of the water quality of the receiving waters and/or outfalls using the following guidelines, detailed in Section

- a. The upstream sample for each receiving water must be taken immediately upstream of the confluence of the first storm water discharge from the construction project, but downstream of any other storm water discharges not associated with the construction of this project.
- b. The downstream sample for each receiving water must be taken downstream of the confluence of the last storm water discharge from the construction project, but upstream of any other storm water discharges not associated with the construction of this project.
- c. Ideally, the samples should be taken from the horizontal and vertical center of the receiving water(s) or the storm water outfall channel(s).
- d. Care should be taken to avoid stirring the bottom sediments in the receiving water or outfall channel.
- e. The sampling container should be held so that the opening faces upstream.
- f. The samples should be kept free from floating debris.

### PHASING OF SAMPLING AREAS

If the Contractor chooses to use automated sample collection equipment, the Contractor shall provide a minimum of three sampling assemblies to work in a sequence so as not to delay the construction of the project. In a typical area, the Contractor shall arrange to have the sample collectors installed to monitor the area that was just seeded, the area where work is currently ongoing, and the next area to be worked in. Please note that no work can occur in a drainage basin until a monitor is operational in that basin. Please also note that areas where the work is complete and the area has been seeded must be monitored until the area has reached final stabilization. For these purposes, final stabilization is defined as meaning that at least 70% of the soil surface is uniformly covered in permanent vegetation or equivalent permanent stabilization measures (such as rip-rap, permanent mulches or geo-textiles). Permanent 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. Once an area has achieved final stabilization, as determined by the Engineer, the monitor can be removed and relocated to a site in advance of the construction.

The Contractor's certified personnel must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, the Contractor shall sample at the beginning of any storm water discharge to a monitored receiving water and/or from a monitored outfall location within forty-five (45) minutes or as soon as possible.

However, where manual and automatic sampling are impossible, as defined in the permit, or are beyond the Contractor's control, the Contractor shall take the sample as soon as possible, but in no case more than 12 hours after the beginning of the storm water discharge.

## Sampling by the Contractor shall occur for the following events:

- a. For each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a storm water discharge that occurs during normal business hours as defined in the permit that occurs after all clearing and grubbing operations have been completed but completed prior to completion of mass grading operations,
- in the drainage area of the location selected; In addition to (a) above, for each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a storm water discharge that occurs during normal business hours as defined in this permit that occurs either 90 days after the first sampling event or after all mass grading operations have been completed, but prior to the submittal of a NOT, in the drainage area of the location selected, whichever comes first;
- At the time of sampling performed pursuant to (a) and (b) above, if BMPs are found to be properly designed, installed and maintained, no further action is required. If BMPs in any area of the site that discharges to a receiving water or from an outfall are not properly designed, installed and maintained, corrective action shall be defined and implemented within 2 business days, and turbidity samples shall be taken from discharges from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours\* until the selected turbidity standard is attained, or until post-storm event inspections determine that BMPs are properly designed, installed and maintained;
- Where sampling pursuant to (a), (b), or (c) above is required but not possible (or not required because there was no discharge), the permittee, in accordance with Part IV.D.4.a(6), must include a written jurisdiction in the inspection report of why sampling was not performed. Providing this justification does not relieve the permittee of any subsequent sampling obligations under (a), (b), or (c) above

\*Note that the Permittee may choose to meet the requirements of (a) and (b) above by collecting turbidity samples from any rain event that reaches or exceeds 0.5 inch and allows for sampling at any time of the day or week.

# 11. INSPECTIONS AND RAINFALL MEASUREMENTS

(1). Each day when any type of construction activity has taken place at a primary permittee's site, certified personnel provided by the primary permittee shall inspect: (a) all areas at the primary permittee's site where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment and (b) all locations at the primary permittee's site where vehicles enter or exit the site for evidence of off-site sediment tracking. These inspections must be conducted until a Notice of Termination is submitted.

(2). Measure rainfall once every 24 hours except any non-working Saturday, non-working Sunday and non-working Federal holiday until a Notice of Termination is submitted. Measurement of rainfall may be suspended if all areas of the site have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region.

(3). Certified personnel (provided by the primary permittee) shall inspect the following at least once every fourteen (14) calendar days and within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM on any Friday or on any nonworking Saturday, non-working Sunday or any non-working Federal holiday in which case the inspection shall be completed by the end of the next business day and/or working day, whichever occurs tirst): (a) disturbed areas of the primary permittee's construction site; (b) areas used by the primary permittee for storage of materials that are exposed to precipitation; and (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the primary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). For areas of a site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region, the permittee must comply with Part IV.D.4.a.(4). These inspections must be conducted until a Notice of Termination is submitted.

(4). Certified personnel (provided by the primary permittee) shall inspect at least once per month during the term of this permit (i.e., until a Notice of Termination is submitted to EPD) the areas of the site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region, These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving water(s). Erosion and sediment control measures identified in the Plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible; they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s).

(5). Based on the results of each inspection, the site description and the pollution prevention and control measures identified in the Eroslon, Sedimentation and Pollution Control Plan, the Plan shall be revised as appropriate not later than seven (7) calendar days following each inspection. Implementation of such changes shall be made as soon as practical but in no case later than seven (7) calendar days following each inspection.

(6). A report of each inspection that includes the name(s) of certified personnel making each inspection, the date(s) of each inspection, construction phase (i.e., initial, intermediate or final), major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan, and actions taken in accordance with Part IV.D.4.a.(5). of the permit shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction project that has been phased has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall be readily available by end of the second business day and/or working day and shall identify all incidents of dest management practices that have not been properly installed and/or maintained as described in the Plan. Where the report does not identify any incidents, the inspection report shall contain a statement that the best management practices are in compliance with the Erosion, Sedimentation and Pollution Control Plan. The report shall be signed in accordance with Part V.G.2. of this

### 12. REPORTING

- A. The Contractor is required to submit the sampling results to the EPD at the address shown below by the fifteenth day of the month following the reporting period. Reporting periods are months during which samples are taken in accordance with this permit. Sampling results shall be in a clearly legible format. Upon written notification, EPD may require the applicable permittee to submit the sampling results on a more frequent basis. The sampling reports must be signed in accordance with Part V.G. Sampling reports must be submitted to EPD until such time as a NOT is submitted in accordance with Part VI.
- B. All written correspondence required by this permit shall be submitted by return receipt certified mail (or similar service) to the District Office of the EPD shown below. The permittee shall retain a copy of the proof of submittal at the construction site or the proof of submittal shall be readily available at a designated location from commencement of construction until such time as a NOT is submitted in accordance with Part VI. If an electronic submittal is provided by EPD, then the written correspondence may be submitted electronically. If required, a paper copy must also be submitted by return receipt certified mail.

### Summary reports shall be submitted as required to:

Mountain District - Cartersville Office Georgia Environmental Protection Division P.O. Box 3250 Cartersville, Georgia 30120-1705

- C. The Contractor shall be familiar with and adhere to all requirements included in this EPD NPDES Permit GAR 100002 with regards to inspections, sampling and reporting. The Contractor shall also submit copies of all reports and sampling results to the Owner and the Engineer.
- D. All sampling results shall include the following information:
  - The rainfall amount, date, exact place and time of sampling or measurements.
  - b. The name(s) of the certified personnel who performed the sampling and measurements.
  - c. The date(s) analyses were performed. d. The time(s) analyses were initiated.
  - The names of the certified personnel who performed the analyses.
  - References and written procedures, when available, for the analytical techniques or methods used;
  - The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results:
  - Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU".
  - The summary report detailing the findings of the daily, 14-day, and monthly inspections of the BMPs, including the log of the erosion control measures and rainfall.
  - Certification statement that sampling was conducted as per the plan.

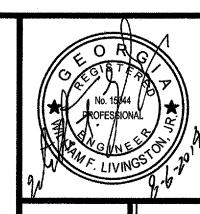
# 13. RETENTION OF RECORDS

- A. The primary permittee shall retain the following records at the construction site or the records shall be readily available at a designated alternate location from commencement of construction until such time as a NOT is submitted in accordance with Part VI of the Permit:
  - A copy of all Notices of Intent submitted to EPD (NOIs, NOTs, etc.);
  - A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit;
  - The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5 of this
  - A copy of all sampling information, results and reports required by this permit:
  - m. A copy of all inspection reports generated in accordance with Part IV.D.4.a of this permit; n. A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2 of this

  - o. Daily rainfall information collected in accordance with Part IV.D.4.a.(2) of this permit.
- B. Copies of all Notices of Intent, Notices of Termination, inspection reports, sampling reports, including all calibration and maintenance reports and all original strip chart recordings for continuous monitoring instrumentation, other reports requested by the EPD, Erosion, Sedimentation and Pollution Control Plans, records of all data used to complete the Notice of Intent to be covered by this permit and all other records required by this permit shall be retained by the Contractor and Owner for a period of at least three years from the date that the NOT is submitted in accordance with Part VI of this permit. These records must be maintained at the Contractor's and Owner's primary places of business or at a designated location once the construction activity has ceased at the permitted site. This period may be extended by request of the EPD at any time upon written notification to the Primary Permittee.

I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATION DESCRIBED HERE-IN BY MYSELF OR MY AUTHORIZED AGENT UNDER MY DIRECT SUPERVISION.

William F. Livingston, Jr., Professional Engineer GSWCC LEVEL II Certified Design Professional Certification # 21845 Expiration Date: 11-04-2015



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HOLLY SPRINGS	DESIGNED BY: W.F.L.		
DOWNTOWN SANITARY SEWER SYSTEM	DRAWN BY: M.R.T.		
	CHECKED BY: W.F.L.		
COMPREHENSIVE MONITORING DI ANI	APPROVED BY: W.F.L.		
	DATE: AUGUST, 2013		
	SCALE: NO SCALE		

SHEET NO.