

# Environmental Management Plan (Revision 2)

## NC DOT Road Construction State Project R-4707 Greensboro, North Carolina

**Brownfields Project ID: 15010-11-41**

**H&H Job No. ROW-603  
June 18, 2020**



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Completed EMP Form

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## **NORTH CAROLINA BROWNFIELDS PROGRAM ENVIRONMENTAL MANAGEMENT PLAN**

This form is to be used to prepare an Environmental Management Plan (EMP) for projects in the North Carolina Brownfields Program at the direction of a Brownfields project manager.

The EMP is a typical requirement of a Brownfields Agreement (BFA). Its purpose is to clarify actions to be taken during the demolition and construction at Brownfields properties in an effort to avoid delays in the event of the discovery of new contamination sources or other environmental conditions. The EMP provides a means to document redevelopment plans and environmental data for each applicable environmental medium to inform regulatory-compliant decision-making at the site. As much detail as possible should be included in the EMP, including contingency planning for unknowns. Consult your project manager if you have questions.

Prospective Developers and/or their consultants must complete and submit this form and all pertinent attachments, see checklist below, to their Brownfields project manager prior to any earthmoving or other development-related activities that have the potential to disturb soil at the Brownfields Property, including demolition. For the resultant EMP to be valid for use, it must be completed, reviewed by the program, signed by all parties working on the project, and approved by the Brownfields project manager. Failure to comply with the requirements of the EMP could jeopardize project eligibility, or in the event of a completed agreement, be cause for a reopener

So that the EMP provides value in protecting brownfields eligibility and public health, the preparer shall ensure that the following steps have been completed prior to submitting the EMP for review. **Any EMP prepared without completing these steps is premature.**

- Site sampling and assessment that meets Brownfields' objectives is complete and has been reviewed and approved by the Brownfields Project Manager.

Submitted 2/25/20

- Specific redevelopment plans, even if conceptual, have been developed for the project, submitted and reviewed by the Brownfields Project Manager.

Please submit, along with the completed EMP form, the following attachments, as relevant and applicable to the proposed redevelopment:

- A set of redevelopment plans, including architectural/engineering plans, if available; if not conceptual plans may suffice if updated when detailed plans are drafted.
- A figure overlaying redevelopment plans on a map of the extent of contamination for each media.
- Site grading plans that include a cut and fill analysis.
- A figure showing the proposed location and depth of impacted soil that would remain on site after construction grading.
- Any necessary permits for redevelopment (i.e. demolition, etc.).
- A detailed construction schedule that includes timing and phases of construction.
- Tabulated data summaries for each impacted media (i.e. soil, groundwater, soil gas, etc.) applicable to the proposed redevelopment.
- Figures with the sampling locations and contamination extents for each impacted media applicable to the proposed redevelopment.
- A full final grade sampling and analysis plan, if the redevelopment plan is final.
- If known, information about each proposed potential borrow soil source, such as aerial photos, historic site maps, historic Sanborn maps, a site history, necessary for brownfields approval.
- Information and, analytical data if required, for quarries, or other borrow sources, detailing the type of material proposed for importation to the Brownfields Property.
- A work plan for the sampling and analysis of soil to be brought onto the Brownfields Property. Refer to Issue Resolution 15 in Brownfields Program Guidelines.
- A map of the Brownfields Property showing the location of soils proposed for export and sampling data from those areas.
- If a Vapor Mitigation System is required by the Brownfields Program, the Vapor Intrusion Mitigation System (VIMS) plan will be signed and sealed by a NC Professional Engineer. The VIMS Plan may also be submitted under separate cover.

**GENERAL INFORMATION**

**Date:** 6/18/2020

**Revision Date (if applicable):** Click or tap to enter a date.

**Brownfields Assigned Project Name:** This EMP has been developed for the North Carolina Department of Transportation (NC DOT) road improvement activities (State Project R-4707) on the Pennston Brownfields property (#15010-11-41).

**Brownfields Project Number:** 15010-11-41

**Brownfields Property Address:** 3600 Reedy Fork Parkway, Greensboro, NC. A site location map is included as Figure 1, and a site map is included as Figure 2.

**Brownfields Property Area (acres):** Approximately 78 acres.

**Is Brownfields Property Subject to RCRA Permit?**..... Yes  No

**If yes enter Permit No.:** Click or tap here to enter text.

**Is Brownfields Property Subject to a Solid Waste Permit**..... Yes  No

**If yes, enter Permit No.:** Click or tap here to enter text.

**COMMUNICATIONS**

**A copy of this EMP shall be distributed to all the parties below as well as any contractors or site workers that may be exposed to site vapors, soil, groundwater, and/or surface water. Additionally, a copy of the EMP shall be maintained at the Brownfields Property during redevelopment activities. NOTE, THE EMP DOES NOT TAKE THE PLACE OF A SITE-SPECIFIC HEALTH AND SAFETY PLAN.**

**Prospective Developer (PD):** The prospective developer for the Pennston Brownfields property is Reedy Fork Investments, LLC. Reedy Fork Investments, LLC will be responsible for the final condition of any fill placed outside of the DOT Permanent Easement on the Brownfields. The R-4707 road improvement project will be conducted by NC DOT, in part, within a Permanent Easement, and other easements, acquired by NC DOT on the Brownfields property. The NC DOT is not entering into a Brownfields Agreement.

**Contact Person:** NC DOT (Gordon Box) and Pennston Property (Jeff White)

**Phone Numbers: Office:** Gordon Box (919) 707-6859

**Mobile:** Click or tap here to enter text.

Jeff White (919) 422-5471

**Email:** [ghbox@ncdot.gov](mailto:ghbox@ncdot.gov); [jwhite@greenhawkcorp.com](mailto:jwhite@greenhawkcorp.com)

**Contractor for PD:** NCDOT – Contractor is pending.

**Contact Person:** TBD

**Phone Numbers: Office:** Click or tap here to enter text.

**Mobile:** Click or tap here to enter text.

**Email:** Click or tap here to enter text.

**Environmental Consultant:** Hart & Hickman, PC

Contact Person: David Graham  
Phone Numbers: Office: (704) 887-4630  
Email: [dgraham@harthickman.com](mailto:dgraham@harthickman.com)

Mobile: 704-649-5999

Brownfields Program Project Manager: Joselyn Harriger  
Phone Numbers: Office: (704)235-2195  
Email: [joselyn.harriger@ncdenr.gov](mailto:joselyn.harriger@ncdenr.gov)

Mobile: 704-431-9825

Other DEQ Program Contacts (if applicable, i.e., UST Section, Inactive Hazardous Site Branch, Hazardous Waste, Solid Waste):



**NOTIFICATIONS TO THE BROWNFIELDS PROGRAM**

Written advance Notification Times to Brownfields Project Manager: Check each box to accept minimum advance notice periods (in calendar days) for each type of onsite task:

On-site assessment or remedial activities:..... 10 days Prior

Construction or grading start:..... 10 days Prior

Discovery of stained soil, odors, USTs, buried drums or waste, landfill, or other signs of previously unknown contamination: ..... Within 48 hours

Implementation of emergency actions (e.g. dewatering, flood or soil erosion control measures in area of contamination, ventilation of work zones):..... Within 48 hours

Installation of mitigation systems:..... 10 days Prior

Other notifications as required by local, state or federal agencies to implement redevelopment activities: (as applicable): ..... Within 30 days

**REDEVELOPMENT PLANS**

1) Type of Redevelopment (check all that apply):

- Residential
- Recreational
- Institutional
- Commercial
- Office
- Retail
- Industrial
- Other specify:

This Environmental Management Plan (EMP) has been developed for the use of NC DOT for the proposed road improvement activities near Reedy Fork Parkway and Eckerson Road on the Pennston Brownfields property, and for the property owner who is solely responsible for the final outcome and placement of any fill delivered by NC DOT's contractor to the property owner's designated area on the Brownfields property. The owners designated area is located

outside of the NC DOT easements and construction area, to which NC DOT's contractor is permitted access by virtue of an Offsite Access Agreement between the DOT Right of Way Office and the property owner. The contractor shall deliver the excavated soil to the property owners designated area. DEQ Brownfields allows soils to be moved from one area on a Brownfields Property to another. Approval of this EMP is DEQ Brownfields approval of the proposed soil movement within the Brownfields Property.

Pursuant to this NC DEQ approved EMP, the measures set forth herein are for NC DOT State Project R-4707, which is limited in scope to construction within the acquired permanent easement. Work on this project includes and is related to the delivery of fill from the DOT project to outside of the DOT easements and construction area and within the Pennston Brownfields property. DOT is involved in no other activities of redevelopment of the Pennston Brownfields property outside of the DOT easements and construction area. NC DOT will only be transporting the soil into other locations on the Brownfields property that are outside of the DOT easements and construction area. The property owner will be responsible for moving the soils within the owner's designated area. NC DEQ Brownfields is not requiring the property owner to have a separate EMP for management of soil generated by NC DOT's contractor as this document will suffice for management of this soil (but not for other redevelopment activities by the property owner). NC DEQ Brownfields understands that some clearing and minimal soil disturbance may be conducted by the property owner to prepare for receiving the soils. However, NC DEQ Brownfields asks that the property owner notify NC DEQ of any issues (i.e. unknown tanks, waste materials, etc.) in accordance with this EMP. The property owner is responsible for the final outcome of the soil delivery by the Contractor, and any permits that may be required (including but not limited to sediment & erosion controls) for this work, and the property owner will be responsible for compliance with the Brownfields Land Use Restrictions for future work at the site and any future site use.

**2) Check the following activities that will be conducted prior to commencing earth-moving activities at the site:**

- Review of historic maps (Sanborn Maps, facility maps)**
- Conducting geophysical surveys to evaluate the location of suspect UST, fuel lines, utility lines, etc.**
- Interviews with employees/former employees/facility managers/neighbors**

**3) Summary of Redevelopment Plans (MANDATORY: attach detailed plans or conceptual plans, if detailed plans are not available. EMP review without such information would be premature): Provide brief summary of redevelopment plans, including demolition, removal of building slabs/pavement, grading plans and planned construction of new structures:**

NC DOT is planning road improvement activities along Reedy Fork Parkway near Eckerson Road and on portions of the Pennston Brownfields property. The NC DOT project will require soil (including impacted soil) and existing road surface to be cut and removed from certain areas in the proposed Right of Way (to be acquired by permanent easement) and construction and utility easements on the Brownfields property. The Brownfields property encompasses approximately

78 acres of land on five parcels (Guilford County Parcel Numbers 0219587, 0219588, 0219589, 0084331, and 0083998) that are separated by Eckerson Road and Reedy Fork Parkway (also identified as NC DOT Parcels 13, 14, and 15). The road improvement activities will be conducted to the north (alignment -Y2-) and south (alignment -Y-) of Reedy Fork Parkway between the eastern and western boundaries of the Brownfields property (see Figure 3). Certain land use restrictions set forth in the Pennston BFA will affect proposed NC DOT road construction activities. Land use restrictions in the BFA indicate that no activities that encounter, expose, remove, or use groundwater may occur on the Brownfields property without NC DEQ written approval. Soil may not be disturbed on the Brownfields property at a depth greater than 15 ft below ground surface (bgs) without NC DEQ's written approval. NC DOT plans indicate that soil may be cut to depths near 25 ft bgs on the Brownfields property. Information provided by NC DOT indicates over 69,000 cubic yards of soil will be cut from the Brownfields property during proposed road construction activities. Only, approximately 10,000 cubic yards of this soil will result from excavation below 15 ft bgs. That soil derived from the cut below 15 ft is anticipated to be used as fill material outside of proposed NC DOT easements and construction areas in an area designated by the property owner on the Brownfields property. This soil will be delivered by the NC DOT's contractor, but it will be graded by the property owner. Thus, the soil cut from below 15 ft on the Brownfields property will be reused as fill material on the Brownfields property (alternatively, if required, this soil will be transported and disposed at a permitted facility). Use of the soil derived from above 15 ft bgs is unrestricted, i.e., not subject to Brownfields Property land use restriction, and may be exported from the Brownfields site (in accordance with applicable regulations) for reuse as fill on either the NC DOT road construction project or wasted at another off-site location, or used as fill on the Brownfields Property by the Property Owner (note: regarding suitability as structural fill material, refer to the Geotechnical Roadway Subsurface Investigation Inventory and Subsurface Inventory and Geotechnical Report – Design and Construction Recommendations). If new areas of impacted/suspect soils are encountered within that soil derived from above 15 ft bgs, it would be managed in accordance with this EMP and any export will cease and soils stockpiled until it can be evaluated. Roughly 1,000 cubic yards fill material will be required to be imported into the Brownfields property. Stormwater drainage piping and catch basins will also be installed along the new road alignments (-Y- and -Y2-) up to approximate depths near 25 ft below existing grade. Soil generated from the road work on the Brownfields property may be used as backfill for the drainage piping if meeting the provisions in this EMP. Because groundwater impacts previously identified on the Brownfields property are likely present near the proposed drainage piping and catch basins along alignment -Y2- and because portions of this piping will be installed below the water table, three anti-seep collars will be installed around the new drainage piping at certain locations along alignment -Y2- to reduce the potential for a preferential pathway for groundwater flow on the Brownfields properties (see Figure 3). In addition, a sealed drainage piping system within the plume area (including ductile iron piping and precast drainage structures) will be installed along alignment -Y2- to prevent infiltration of contaminated groundwater into the drainage system. Note that the road construction activities (including drainage structures) will be conducted only within the proposed permanent easement, utility easement, and construction easement, etc.,



and are not part of any proposed Brownfields redevelopment plans. Soil management activities including excavation and grading within the permanent easement, and delivery of the soil originating from deeper than 15 ft bgs (or soil disposal, if required) will be conducted in accordance with this EMP. The property owner will be responsible for the final placement/grading of the fill and to conform to Brownfields' requirements and for any permitting, seeding, erosion control, etc. for fill material that is placed on the Brownfields property outside of the NC DOT easements and construction areas. The Brownfields property and approximate location of the proposed road construction activities (including drainage structures), and the designated area for soil delivery to the property owner outside of the DOT easements, are shown on Figures 2 and 3. A copy of the NC DOT plan sheet is included in Appendix A.

**4) Do plans include demolition of structure(s)?:**

Yes  No  Unknown

**If yes**, please check here to confirm that demolition will be conducted in accordance with applicable legal requirements, including without limitation those related to lead and asbestos abatement that are administered by the Health Hazards Control Unit within the Division of Public Health of the North Carolina Department of Health and Human Services. If available, please provide a copy of your demolition permit.

**5) Are sediment and erosion control measures required by federal, state, or local regulations?**

Yes  No  Unknown

**If yes**, please check here to confirm that demolition will be conducted in accordance with applicable legal requirements. If soil disturbance is necessary to install sediment and erosion control measures, they may not begin until this EMP is approved.

**6) Which category of risk-based screening level is used or is anticipated to be specified in the Brownfields Agreement? Note: If children frequent the property, residential screening levels shall be cited in the Brownfields Agreement for comparison purposes.**

Residential  Non-Residential or Industrial/Commercial

**7) Schedule for Redevelopment (attach construction schedule):**

a) **Construction start date:** The construction start date is unknown. The Let date for the project is discussed below.

b) **Anticipated duration (specify activities during each phase):**

The project duration is unknown at this time. The Let date for the project is August 18, 2020. The date of availability for the contractor to begin construction activities is currently unknown.

c) **Additional phases planned?**  Yes  No

**If yes**, specify the start date and/or activities if known:

**Start Date:** Click or tap to enter a date.

**Planned Activity:**

Click or tap here to enter text.

**Start Date:** N/A

**Planned Activity:**

Click or tap here to enter text.

**Start Date:** N/A

**Planned Activity:**

Click or tap here to enter text.

d) Provide the planned date of occupancy for new buildings: N/A

**CONTAMINATED MEDIA**

**1) Contaminated Media on the Brownfields Property**

- Part 1. Soil:.....  Yes  No  Suspected
- Part 2. Groundwater:.....  Yes  No  Suspected
- Part 3. Surface Water:.....  Yes  No  Suspected
- Part 4. Sediment:.....  Yes  No  Suspected
- Part 5. Soil Vapor:.....  Yes  No  Suspected
- Part 6. Sub-Slab Soil Vapor:.....  Yes  No  Suspected
- Part 7. Indoor Air:.....  Yes  No  Suspected

2) For the Area of Proposed Redevelopment on the Brownfields Property, attach tabulated data summaries for each impacted media and figure(s) with sample locations.

**PART 1. Soil – Please fill out the information below, using detailed site plans, if available, or estimate using known areas of contaminated soil and a conceptual redevelopment plan. Provide a figure overlaying new construction onto figure showing contaminated soil and groundwater locations.**

**1) Known or suspected contaminants in soil (list general groups of contaminants):**

As summarized in Hart & Hickman’s (H&H’s) Brownfields Assessment Report dated February 21, 2020, low level concentrations of target constituents were detected in soil and groundwater samples collected in proposed NC DOT work areas at the site in November 2019. As noted in the Brownfields Assessment Report, groundwater on the Brownfields property is contaminated with VOCs from a release associated with the Wysong and Miles (Wysong) facility (Incident # NCD982156812) that is located topographically upgradient and southwest of the Brownfields property. A tabular summary of soil analytical data from recent Brownfields assessment activities is included in Table 2 and the sample locations are shown on Figure 3 from the Brownfields Assessment Report which are included in Appendix B. The Brownfields assessment

analytical results are described below.

Concentrations of 1,4-dioxane and low-level hexavalent chromium were detected in soil samples collected in proposed NC DOT work areas at the site. The detected concentrations of 1,4-dioxane are below NC DEQ Residential and Industrial/Commercial Health-Based Preliminary Soil Remediation Goals (PSRGs). However, the concentration of 1,4-dioxane detected in one soil sample collected from MW-2/SB-2 exceeds the Protection of Groundwater (POG) PSRG. The detected hexavalent chromium concentration exceeds the Residential PSRG but appears to be naturally occurring.

**2) Depth of known or suspected contaminants (feet):**

Impacted soil was identified between 15 ft and 24 ft below ground surface (bgs) and likely extends into the water table.

**3) Area of soil disturbed by redevelopment (square feet):**

Up to approximately 370,000 sq ft

**4) Depths of soil to be excavated (feet):**

Soil will be excavated up to depths of approximately 25 ft bgs.

**5) Estimated volume of soil (cubic yards) to be excavated (attach grading plan):**

Over 69,000 cubic yards of soil are planned to be excavated from the proposed NC DOT work areas on the Brownfields property.  
Approximately 10,000 cubic yards are to be cut below 15 ft bgs.

**6) Estimated volume of excavated soil (cubic yards) anticipated to be impacted by contaminants:**

Approximately 10,000 cubic yards. For project planning purposes, it is assumed that all soil below 15 ft bgs will be either, reused on the Brownfields property, or disposed at an off-site permitted facility.

**7) Estimated volume of contaminated soil expected to be disposed of offsite, if applicable:**

Unknown

**Part 1.A. MANAGING ONSITE SOIL**

**If soil is anticipated to be excavated from the Brownfield Property, relocated on the Brownfields Property, or otherwise disturbed during site grading or other redevelopment activities, please provide a grading plan that clearly illustrates areas of cut and fill (approximate areas & volumes are acceptable, if only preliminary data available).**

**1) HAZARDOUS WASTE DETERMINATION:**

- a) Does the soil contain a LISTED WASTE as defined in the North Carolina Hazardous Waste Section under 40 CFR Part 261.31-261.35?.....  Yes  No

If yes, explain why below, including the level of knowledge regarding processes generating the waste (include pertinent analytical results as needed).

Click or tap here to enter text.

If yes, do the soils exceed the "Contained-Out" levels in Attachment 1 of the North Carolina Contained-In Policy?.....  Yes  No

b) **NOTE: IF SOIL MEETS THE DEFINITION OF A LISTED HAZARDOUS WASTE AND EXCEEDS THE CONTAINED-OUT LEVELS IN ATTACHMENT 1 TO THE NORTH CAROLINA CONTAINED-IN POLICY THE SOIL MAY NOT BE RE-USED ON SITE AND MUST BE DISPOSED OF IN ACCORDANCE WITH DEQ HAZARDOUS WASTE SECTION RULES AND REGULATIONS.**

c) Does the soil contain a CHARACTERISTIC WASTE?.....  Yes  No

If yes, mark reason(s) why below (and include pertinent analytical results).

**Ignitability** Click or tap here to enter text.

**Corrosivity** Click or tap here to enter text.

**Reactivity** Click or tap here to enter text.

**Toxicity** Click or tap here to enter text.

**TCLP results** Click or tap here to enter text.

**Rule of 20 results** (20 times total analytical results for an individual hazardous constituent on TCLP list cannot, by test method, exceed regulatory TCLP standard)

Click or tap here to enter text.

If no, explain rationale:

Click or tap here to enter text.

d) **NOTE: IF SOIL MEETS THE DEFINITION OF A CHARACTERISTIC HAZARDOUS WASTE, THE SOIL MAYNOT BE RE-USED ON SITE AND MUST BE DISPOSED OF IN ACCORDANCE WITH DEQ HAZARDOUS WASTE SECTION RULES AND REGULATIONS.**

2) Screening criteria by which soil disposition decisions will be made (e.g., left in place, capped in place with low permeability barrier, removed to onsite location and capped, removed offsite):

Preliminary Health-Based Residential SRGs

Preliminary Health-Based Industrial/Commercial SRGs

Division of Waste Management Risk Calculator (For Brownfields Properties Only)

Site-specific risk-based cleanup level. Please provide details of methods used for determination/explanation.

Click or tap here to enter text.

**Additional comments:**

Click or tap here to enter text.

- 3) If known impacted soil is proposed to be reused within the Brownfields Property Boundary, please check the measures that will be utilized to ensure safe placement and documentation of same. Please attach a proposed location diagram/site map.

- Provide documentation of analytical report(s) to Brownfields Project Manager
- Provide documentation of final location, thickness and depth of relocated soil on site map to Brownfields Project Manager once known
- Geotextile to mark depth of fill material.

**Provide description of material:**

Impacted soil that exceeds the Industrial/Commercial screening levels (if identified and reused as fill on the Brownfields property) will be demarked with a geotextile fabric or similar product. .

- Manage soil under impervious cap  or clean fill

Describe cap or fill:

No cap will be required if the soil is reused on-site. Contaminants in soil do not exceed Industrial/Commercial screening levels. However, if impacted soil is identified that exceeds Industrial/Commercial screening levels this soil will either be disposed off-site at a permitted facility or reused on the Brownfields property and covered with an impervious cap, 2 ft of clean fill, etc. .

- Confer with NC BF Project Manager if Brownfield Plat must be revised (or re-recorded if actions are Post-Recordation).

- GPS the location and provide site map with final location.

- Other. Please provide a description of the measure:

Click or tap here to enter text.

- 4) Please describe the following action(s) to be taken during and following excavation and management of site soils:

**Management of fugitive dust from site**

- Yes, describe the method will include:

NC DOT's Resident Engineer will consider conditions such as wind speed, wind direction, and moisture content of soil during soil grading and stockpiling activities to minimize dust generation. For contaminated soil that is encountered during site redevelopment that requires excavation, particular attention will be paid by NC DOT's Resident Engineer to implement dust control measures as needed based on site and atmospheric conditions (i.e., by controlled water application, hydro-seeding, and/or mulch, stone, or plastic cover). Contaminated soil will be managed as described below.

**No, explain rationale:**

Click or tap here to enter text.

**Field Screening of site soil**

**Yes, describe the field screening method, frequency of field screening, person conducting field screening:**

During soil disturbance, workers or contractors will observe soils for evidence of a distinct unnatural color, strong odor, sheen, or fill disposed materials of concern (i.e., dried sludge, chemicals, tanks, drums, subsurface piping, etc.). Should the above be noted during site work within the DOT Easements, NC DOT's Resident Engineer will contact NC DOT's specialty consultant (environmental consultant) to observe the suspect condition. If NC DOT's specialty consultant confirms that the material may be impacted (using field observations, screening with a photo-ionization detector [PID], and historical assessment information [if applicable]), then the soils will be managed in accordance with this EMP and the Brownfields Program Project Manager will be contacted within 48 hours to advise that person of the condition. The property owner and/or their contractor will observe soils for evidence of a distinct unnatural color, strong odor, sheen, or fill disposed materials of concern (i.e., dried sludge, chemicals, tanks, drums, subsurface piping, etc.) that may be disturbed on his private property in preparation for the delivery of fill and if identified will notify the Brownfields Property Project Manager.

**No, explain rationale:**

Click or tap here to enter text.

**Soil Sample Collection**

**Yes, describe the sampling method (e.g., in-situ grab, composite, stockpile, etc.):**

Click or tap here to enter text.

**No, explain rationale:**

Collection of additional soil samples is not anticipated based on results of previous site assessment activities. If unknown soil impacts are encountered during redevelopment activities, excavation will proceed only as far as needed to allow construction to continue and/or to allow the alternate corrective measures described below. Suspect significantly impacted soil excavated during grading and/or utility line installation or removal may be stockpiled and covered in a secure area to allow construction to progress. Suspect impacted soil will be underlain by and covered with minimum 10-mil plastic sheeting. At least one representative sample of the soil will be collected per 500 cubic yards or 1,000 cubic yards depending on its destination for analysis of total VOCs, SVOCs, and RCRA metals plus hexavalent chromium. If the results of analysis of the sample indicate that the soil could potentially exceed toxicity characteristic hazardous waste criteria, then the soil will also be analyzed by TCLP for those compounds that could exceed the toxicity characteristic hazardous waste criteria. Impacted soil will be handled in the manner described below based upon the laboratory analyses:

i. If detectable levels of compounds are found which do not exceed the Industrial/Commercial PSRGs (other than which are attributable to sampling or laboratory artifacts or which are consistent with background levels for metals) and the TCLP concentrations are below hazardous waste criteria, then the soil may be used on-site as fill without conditions on the Brownfields property.

ii. If detectable levels of compounds are found which exceed the Industrial/Commercial PSRGs (other than which are attributable to sampling or laboratory artifacts or which are consistent with background levels for metals) and the TCLP concentrations are below hazardous waste criteria, then the soil, with DEQ's written approval, may be used on the Brownfields property as fill below an impervious surface (i.e. parking lot), or below at least 2 ft of compacted demonstrably clean soil. If the impacted soil with concentrations above Industrial/Commercial PSRGs is moved to an on-site location, its location and depth will be documented, covered with a geotextile fabric so that its location can be identified if encountered in the future, and its location will be provided to DEQ in an updated survey plat if required by the Brownfields project manager.

iii. Impacted soil may be transported to a permitted facility such as a landfill provided that the soil is accepted at the disposal facility. If soil is transported to a permitted facility, the permitted facility's written approval to dispose of soil from the site will be included with the final summary report. In the event that the sample data indicates concentrations above TCLP hazardous waste criteria, then the soil must be transported off-site to a permitted disposal facility that can accept or treat hazardous waste.

**If soil samples are collected for analysis, please check the applicable chemical analytes:**

- Volatile organic compounds (VOCs) by EPA Method 8260**
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270**
- Metals RCRA List (8)** (arsenic, barium, cadmium, chromium, mercury, lead, selenium and silver): Specify Analytical Method Number(s):  
EPA Methods 6020/7471
- Pesticides:** Specify Analytical Method Number(s):  
Click or tap here to enter text.
- PCBs:** Specify Analytical Method Number(s):  
.
- Other Constituents & Respective Analytical Method(s)** (i.e. Hexavalent Chromium, Herbicides, etc.): Specify Analytical Method Number(s):  
Hexavalent chromium by EPA Method 7199 and 1,4-dioxane by EPA Method 8260

**Check to confirm that stockpiling of known or suspected impacted soils will be conducted**

in accordance with Figure 1 of this EMP. Stockpile methodology should provide erosion control, prohibiting contact between surface water/precipitation and contaminated soil, and preventing contaminated runoff. Explain any variances or provide additional details as needed:

Click or tap here to enter text.

- Final grade sampling of exposed native soil (i.e., soil that will not be under buildings or permanent hardscape).** Select chemical analyses for final grade samples with check boxes below (Check all that apply):

**Volatile organic compounds (VOCs) by EPA Method 8260**

**Semi-volatile organic compounds (SVOCs) by EPA Method 8270**

**Metals RCRA List (8) (arsenic, barium, cadmium, chromium, mercury, lead, selenium and silver): **Specify Analytical Method Number(s):****

Click or tap here to enter text.

**Pesticides: Specify Analytical Method Number(s):**

Click or tap here to enter text.

**PCBs: Specify Analytical Method Number(s):**

.

**Other Constituents & Respective Analytical Method(s) (i.e. Hexavalent Chromium, Herbicides, etc.):**

Click or tap here to enter text.

**Please provide a scope of work for final grade sampling, including a diagram of soil sampling locations, number of samples to be collected, and brief sampling methodology. Samples should be collected from 0-2 ft below ground surface, with the exception of VOCs which should be taken from 1-2 ft below ground surface. Alternatively, a work plan for final grade sampling may be submitted under separate cover.**

If impacted soil is encountered during the road construction activities, following completion of soil disturbance, NC DOT's specialty consultant will be contracted to assess the disturbed area for areas that are not covered with a minimum of 2 ft of demonstrably clean fill soil or topsoil, building foundations, sidewalks, asphalt or concrete parking areas, driveways or other impervious surfaces. A Work Plan will then be prepared for final grade sampling for DEQ review and approval.

***If final grade sampling was NOT selected please explain rationale:***

Because current soil assessment data indicate concentrations of soil impacts below Industrial/Commercial screening levels, no final grade sampling is proposed.



**Part 1.B. IMPORTED FILL SOIL**

**NO SOIL MAY BE BROUGHT ONTO THE BROWNFIELDS PROPERTY WITHOUT PRIOR APPROVAL FROM THE BROWNFIELDS PROGRAM.** According to the Brownfields IR 15, “Documenting imported soil (by sampling, analysis, and reporting in accordance with review and written approval in advance by the Brownfields Program), will safeguard the liability protections provided by the brownfields agreement and is in the best interest of the prospective developer/property owner.”

**Requirements for importing fill:**

1) Will fill soil be imported to the site?.....  Yes  No  Unknown

2) If yes, what is the estimated volume of fill soil to be imported?

It is anticipated that approximately 1,000 cubic yards of off-site fill material will be needed for road construction of the Brownfields property.

3) If yes, what is the anticipated depth that fill soil will be placed at the property? (If a range of depths, please list the range.)

Between new surface grade and approximately 6 ft bgs.

4) Provide the source of fill, including: location, site history, nearby environmental concerns, etc. Attach aerial photos, maps, historic Sanborn maps and a borrow source site history:

The source of fill is currently unknown.

5) PRIOR TO ITS PLACEMENT AT THE BROWNFIELDS PROPERTY, provide a plan to analyze fill soil to demonstrate that it meets acceptable standards applicable to the site and can be approved for use at the Brownfields property.

See No. 7 below for details outlining the proposed plan to demonstrate import soil meets acceptable standards applicable to the Brownfields property.

6) Please check the applicable chemical analytes for fill soil samples. (Check all that apply):

Volatile organic compounds (VOCs) by EPA Method 8260

Semi-volatile organic compounds (SVOCs) by EPA Method 8270

Metals RCRA List (8) (arsenic, barium, cadmium, chromium, mercury, lead, selenium and silver): Specify Analytical Method Number(s):  
6020/7471

Pesticides: Specify Analytical Method Number(s):  
Click or tap here to enter text.

PCBs: Specify Analytical Method Number(s):  
Click or tap here to enter text.

Other Constituents & Respective Analytical Method(s) (i.e. Hexavalent

**Chromium, Herbicides, etc.):**

Hexavalent Chromium by EPA Method 7199

- 7) The scope of work for import fill sampling may be provided below or in a Work Plan submitted separately for DEQ review and approval. Attach specific location maps for in-situ borrow sites. If using a quarry, provide information on the type of material to be brought onto the Brownfields Property.**

The contractor will follow the procedures outlined below to demonstrate import soil meets acceptable criteria for site use.

If the contractor plans to import virgin fill material from a DEQ Brownfields pre-approved quarry, no samples of the import material will be collected because adequate analytical data are available in the DEQ Brownfields database to demonstrate material from these facilities is suitable for use at a Brownfields property. If a DEMLR quarry is selected, only one sample will be required prior to import from this quarry. The sample will consist of 3 to 5 aliquots collected from various locations in the quarry material which will be composited into one sample and analyzed for the laboratory analyses indicated in number 6 above. Material from the aliquot with the highest field PID reading will be analyzed as a grab sample for VOCs. Sampling activities will be conducted in general accordance with NC DEQ Inactive Hazardous Sites Branch (IHSB) *Guidelines for Assessment and Cleanup of Contaminated Sites* dated *January 2020* and with the *EPA Region IV Science and Ecosystem Support Division (SES) Field Branches Quality System and Technical Procedures*.

If fill soil is obtained from an off-Site property that is not a Brownfields pre-approved permitted quarry or is recycled material from a DEQ Brownfields pre-approved borrow source, a sampling plan will be developed and submitted for DEQ review. DEQ approval of the sampling plan and analytical results will be obtained prior to transporting import soil to the Site. The specific sampling rate will be outlined in the aforementioned sampling plan. However, if the proposed borrow source has not been previously developed (i.e., virgin land), soil samples will be collected for laboratory analyses indicated above at a general rate of approximately one per 1,000 cubic yards. If the borrow source property has been previously developed, soil samples will be collected for laboratory analyses indicated above at a general rate of approximately one per 500 cubic yards. Fill soil will be considered suitable for use at the site if it does not contain compound concentrations above NC DEQ Industrial/Commercial PSRGs, DWM Risk Calculator risk thresholds, or typical metals concentrations consistent with site-specific background levels for metals.

**Part 1.C. EXPORTED SOIL**

**NO SOIL MAY LEAVE THE BROWNFIELDS PROPERTY WITHOUT APPROVAL FROM THE BROWNFIELDS PROGRAM. FAILURE TO OBTAIN APPROVAL MAY VIOLATE A BROWNFIELDS AGREEMENT CAUSING A REOPENER OR JEOPARDIZING ELIGIBILITY IN THE PROGRAM, ENDANGERING LIABILITY PROTECTIONS AND MAKING SAID ACTION POSSIBLY SUBJECT TO ENFORCEMENT. JUSTIFICATIONS PROVIDED BELOW MUST BE APPROVED BY THE PROGRAM IN WRITING PRIOR TO COMPLETING TRANSPORT ACTIVITIES. Please refer to Brownfields IR 15 for**

**additional details.**

- 1) If export from a Brownfields Property is anticipated, please provide details regarding the proposed export actions. Volume of exported soil, depths, location from which soil will be excavated on site, related sampling results, etc. Provide a site map with locations of export and sampling results included.**

NC DOT anticipates that unrestricted soil, i.e., not subject to the Brownfields Property land use restriction, that is removed from between current grade surface and 15 ft bgs on the Brownfields property may be exported off site for reuse as fill on the NC DOT project, or on the Brownfields property provided that it is arranged between the Contractor and the property owner, or if unsuitable for reuse as structural fill material and/or unwanted as non-structural fill, it may be wasted at another off-site location. Soils taken off-site will be managed in accordance with applicable regulations.

Soil excavated from 15 ft below current grade level may be reused on the Brownfields property. Alternatively, this soil may be transported to a permitted facility for off-site disposal. Because the soil will be reused on-site or disposed at a permitted facility, additional soil sampling is not proposed unless the disposal facility requires additional analytical data.

If the soil is disposed at a permitted off-site facility, NC DOT will notify DEQ Brownfields of the location receiving facility for the export soil. NC DEQ Brownfields approval will not be required.

- 2) To what type of facility will the export Brownfields soil be sent?**

- Subtitle D/Municipal Solid Waste Landfill** (analytical program to be determined by landfill)
- Permitted but Unlined Landfill** (i.e. LCID, C&D, etc.) Analytical program to be determined by the accepting Landfill;
- Landfarm or other treatment facility**
- Use as fill at another suitable Brownfields Property** – determination that a site is suitable will require, at a minimum, that similar concentrations of the same or similar contaminants already exist at both sites, use of impacted soil will not increase the potential for risk to human health and the environment at the receiving Brownfields property, and that a record of the acceptance of such soil from the property owner of the receiving site is provided to Brownfields. Please provide additional details below.
- Use as Beneficial Fill off-site at a non-Brownfields Property** - Please provide documentation of approval from the property owner for receipt of fill material. This will also require approval by the DEQ Solid Waste Section. Additional information is provided in IR 15. Please provide additional details below.

- 3) Additional Details: (if transfer of soil to another property is requested above, please provide details related to the proposed plans).**



<b>Part 1.D. MANAGEMENT OF UTILITY TRENCHES</b>
---

**Install liner between native impacted soils and base of utility trench before filling with clean fill (Preferred)**

**Last out, first in principle for impacted soils (if soil can safely be reused onsite and is not a hazardous waste), i.e., impacted soils are placed back at approximately the depths they were removed from such that impacted soil is not placed at a greater depth than the original depth from which it was excavated.**

**Evaluate whether necessary to install barriers in conduits to prevent soil vapor transport, and/or degradation of conduit materials due to direct impact with contaminants?**

**If yes**, provide specifications on barrier materials:

Because the drainage piping that will be installed near impacted soil will only be installed on the Brownfields property, it is not likely that soil vapors will migrate off-site. However, low permeability flowable fill anti-seep collars will be installed at three locations along the proposed drainage piping near alignment -Y2-. The drainage piping system near alignment -Y2- will also be sealed. Ductile iron pipe and precast concrete structures with seals that are resistant to those contaminants identified in groundwater will be utilized in the drainage piping system along alignment -Y2-. The anti-seep collars and sealed system will help mitigate potential migration of vapors and impacted groundwater in the piping trench. Anti-seep collar and sealed piping specifications are included in Appendix C.

**If no**, include rationale here:

Click or tap here to enter text.

**Other comments regarding managing impacted soil in utility trenches:**

In the event that currently unknown contaminated soil and/or vapors are encountered in utility trenches during redevelopment activities, the trench will be evacuated and appropriate safety screening of the vapors will be performed to protect workers. If results indicate further action is warranted in response to vapors to protect workers, appropriate engineering controls (such as use of industrial fans) will be implemented.

The contractor and workers will observe soil for potential impacts during utility installation activities. Evidence of potential significant impacted soil includes a distinct unnatural color, strong odor, or filled or previously disposed materials of concern (i.e. chemicals, tanks, drums, utilities, etc.). Should the above be noted during utility work, NC DOT's Resident Engineer will contact the NC DOT's specialty consultant to observe the suspect condition. If NC DOT's specialty consultant confirms that the material may be impacted, then the procedures outlined in Managing On-Site Soil above will be implemented. In addition, NC DOT's specialty consultant or NC DOT will contact the DEQ Brownfields project manager within 48 hours to advise that person of the condition.

<b>PART 2. GROUNDWATER – Please fill out the information below.</b>
---

**1) What is the depth to groundwater at the Brownfields Property?**

Depth to groundwater ranges from approximately 23 ft bgs (MW-1) in the northeastern portion of proposed NC DOT work areas to approximately 28 ft bgs (MW-2) in the northern/central portion of proposed NC DOT work areas (see Table 1 in Appendix B).

**2) Is groundwater known to be contaminated by  onsite  offsite  both or  unknown sources? Describe source(s):**

As mention above, groundwater on the Brownfields property is contaminated from a release associated with the Wysong facility. Previous assessment activities associated with Wysong indicate VOCs including 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), and 1,4-dioxane have been detected above the 15A NCAC 2L .0202 Groundwater Quality Standards (2L Standards) in groundwater on the Brownfields property (see historical Wysong data in Appendix D).

During the recent Brownfields assessment activities, VOCs including 1,1-DCA, 1,2-DCA, 1,1-DCE, 1,1,1-TCA, 1,1,2-TCA, and/or 1,4-dioxane were detected in the groundwater samples collected from MW-2 and MW-4 within proposed NC DOT work areas. The concentrations of 1,2-DCA and/or 1,4-dioxane detected in wells MW-2 and MW-4 exceed the 2L Standards. The concentrations of 1,4-dioxane also exceed the NC Water Quality Standards for Surface Water (2B Standards). A low level concentration of diethylphthalate was detected in MW-4 below the 2L Standard and low level metals including barium and/or chromium were also detected in the groundwater samples collected from wells MW-1, MW-2 and MW-4 below the 2L Standards (see Table 3 and Figure 4 in Appendix B).

**3) What is the direction of groundwater flow at the Brownfields Property?**

Based on historical groundwater elevation data from Wysong, groundwater flow is generally to the northeast.

**4) Will groundwater likely be encountered during planned redevelopment activities?**

Yes  No

**If yes, describe these activities:**

Based on the proposed cut depths (near 25 ft bgs), groundwater will likely be encountered during construction activities along alignment -Y2-.

**Regardless of the answer; in the event that contaminated groundwater is encountered during redevelopment activities (even if no is checked above), list activities for contingent management of groundwater (e.g., dewatering of groundwater from excavations or foundations, containerizing, offsite disposal, discharge to sanitary sewer, NPDES permit, or sampling procedures).**

If impacted groundwater is encountered during construction activities appropriate worker safety measures will be undertaken if groundwater gathers in an open excavation within an area determined to be impacted during construction activities. The accumulated water will be

allowed to evaporate/infiltrate to the extent time for dissipation does not disrupt the construction schedule. Should the time needed for natural dissipation of accumulated water be deemed inadequate, the water will be containerized and disposed off-site, or tested for VOCs including 1,4-dioxane by EPA Method 8260 and SVOCs by EPA Method 8270 and discharged to the storm sewer (if not impacted above DEQ surface water standards) in accordance with applicable municipal and State regulations for erosion control and construction stormwater control.

- 5) Are monitoring wells currently present on the Brownfields Property?.....  Yes  No  
 If yes, are any monitoring wells routinely monitored through DEQ or other agencies?.....  Yes  No

- 6) Please check methods to be utilized in the management of known and previously unidentified wells.
  - Abandonment of site monitoring wells in accordance with all applicable regulations. It is the Brownfields Program’s intent to allow proper abandonment of well(s) as specified in the Brownfields Agreement, except if required for active monitoring through another section of DEQ or the EPA.
  - Location of existing monitoring wells marked
  - Existing monitoring wells protected from disturbance
  - Newly identified monitoring wells will be marked and protected from further disturbance until notification to DEQ Brownfields can be made and approval for abandonment is given.

7) Please provide additional details as needed:

Existing monitoring wells (MW-1 through MW-5 and TW-15), and other wells (if identified) within proposed NC DOT work areas, will be abandoned by NC DOT in accordance with local and state regulations prior to site work. Wells MW-1 through MW-5 were installed by DOT for the Brownfields assessment. If existing monitoring wells (TW-1, TW-3, TW-16 and/or PWR-4) are located within the property owner’s designated soil placement area on the Brownfields property and will be covered by the potential fill, the property owner will abandon these well(s) in accordance with local and state regulations. The location of wells TW-1, TW-3, TW-16 and PWR-4 are shown on historical environmental documents in Appendix D. DOT and the property owner will notify NC DEQ Hazardous Waste Section and also provide email documentation of this notification to the Brownfields program prior to abandonment of non-Brownfields wells (TW-15, TW-1, TW-3, TW-16 and PWR-4 and others if identified).

**Please note, disturbance of existing site monitoring wells without approval by DEQ is not permissible. If monitoring wells are damaged and/or destroyed, DEQ may require that the PD be responsible for replacement of the well.**

**PART 3. SURFACE WATER -Please fill out the information below.**

- 1) Is surface water present at the property?  Yes  No
- 2) **Attach a map** showing the location of surface water at the Brownfields Property.
- 3) Is surface water at the property known to be contaminated?  Yes  No
- 4) Will workers or the public be in contact with surface water during planned redevelopment activities?  Yes  No
- 5) In the event that contaminated surface water is encountered during redevelopment activities, or clean surface water enters open excavations, list activities for management of such events (e.g. flooding, contaminated surface water run-off, stormwater impacts):

Surface water bodies appear to be located outside of proposed NC DOT work areas (see Figure 3). However, if surface water run-off gathers in an open excavation within an area determined to be impacted during construction activities, appropriate worker safety measures will be undertaken. The accumulated water will be allowed to evaporate/infiltrate to the extent time for dissipation does not disrupt the construction schedule. Should the time needed for natural dissipation of accumulated water be deemed inadequate, the water will be tested and disposed off-site (if impacted), or tested and discharged to the storm sewer (if not impacted above DEQ surface water standards) in accordance with applicable municipal and State regulations for erosion control and construction stormwater control.

**PART 4. SEDIMENT – Please fill out the information below.**

- 1) Are sediment sources present on the property?  Yes  No
- 2) If yes, is sediment at the property known to be contaminated:  Yes  No
- 3) Will workers or the public be in contact with sediment during planned redevelopment activities?  Yes  No
- 4) **Attach a map** showing location of known contaminated sediment at the property.
- 5) In the event that contaminated sediment is encountered during redevelopment activities, list activities for management of such events (stream bed disturbance):

If impacted sediment is encountered during NC DOT construction activities, impacted sediment will be managed in accordance with the methods for impacted soil management described above.

**PART 5. SOIL VAPOR – Please fill out the information below.**

- 1) Do concentrations of volatile organic compounds at the Brownfields property exceed the

following vapor intrusion screening levels (current version) in the following media:

**IHSB Residential Screening Levels:**

Soil Vapor:.....  Yes  No  Unknown

Groundwater:.....  Yes  No  Unknown

**IHSB Industrial/Commercial Screening Levels:**

Soil Vapor:.....  Yes  No  Unknown

Groundwater:.....  Yes  No  Unknown

- 2) **Attach a map** showing the locations of soil vapor contaminants that exceed site screening levels.

- 3) **If applicable, at what depth(s) is soil vapor known to be contaminated?**

No structures are planned in the proposed NC DOT work areas. Thus, no soil vapor sampling was conducted during recent Brownfields assessment activities.

Analytical results of groundwater sampled during the recent Brownfields assessment activities indicate the presence of several VOCs at concentrations below the NC DEQ Non-Residential Vapor Intrusion Groundwater Screening Levels (GWSLs).

- 4) **Will workers encounter contaminated soil vapor during planned redevelopment activities?**

Yes  No  Unknown

- 5) **In the event that contaminated soil vapor is encountered during redevelopment activities (trenches, manways, basements or other subsurface work,) list activities for management of such contact:**

In the unlikely event contaminated soil vapors are encountered during road construction activities, the area will be evacuated and appropriate safety screening of the vapors will be performed. If results indicate further action is warranted, appropriate engineering controls (such as use of industrial fans) will be implemented. If further action is performed, NC DOT's specialty consultant or NC DOT will contact the DEQ Brownfields project manager within 48 hours to advise that person of the condition.

**PART 6. SUB-SLAB SOIL VAPOR – Please fill out the information below if existing buildings or foundations will be retained in the redevelopment.**

- 1) **Are sub-slab soil vapor data available for the Brownfields Property?**  Yes  No  Unknown
- 2) **If data indicate that sub-slab soil vapor concentrations exceed screening levels, attach a map showing the location of these exceedances.**
- 3) **At what depth(s) is sub-slab soil vapor known to be contaminated?**  0-6 inches  Other, please describe:

No sub-slab vapor data is available for Brownfields property.



- 4) Will workers encounter contaminated sub-slab soil vapor during planned redevelopment activities?  Yes  No  Unknown
- 5) In the event that contaminated soil vapor is encountered during redevelopment activities, list activities for management of such contact

In the unlikely event impacted soil vapors are encountered during road construction activities, the worker breathing zone will be monitored using a calibrated photoionization detector. If results indicate further action is warranted, appropriate engineering controls (such as use of industrial fans) will be implemented. If further action is performed, NC DOT's specialty consultant or NC DOT will contact the DEQ Brownfields project manager within 48 hours to advise that person of the condition.

**PART 7. INDOOR AIR – Please fill out the information below.**

- 1) Are indoor air data available for the Brownfields Property?  Yes  No  Unknown
- 2) Attach a map showing the location(s) where indoor air contaminants exceed site screening levels.
- 3) If the structures where indoor air has been documented to exceed risk-based screening levels will not be demolished as part of redevelopment activities, will workers encounter contaminated indoor air during planned redevelopment activities?  Yes  No  Unknown
- 4) In the event that contaminated indoor air is encountered during redevelopment activities, list activities for management of such contact:

There are no structures in proposed NC DOT work areas.

**VAPOR INTRUSION MITIGATION SYSTEM – Please fill out the information below.**

Is a vapor intrusion mitigation system (VIMS) proposed for this Brownfields Property?

Yes  No  Unknown

If yes,  VIMS Plan Attached or  VIMS Plan to be submitted separately

If submitted separately provide date:

Click or tap here to enter text.

VIMS Plan shall be signed and sealed by a NC Professional Engineer

If no, please provide a brief rationale as to why no vapor mitigation plan is warranted:

Click or tap here to enter text.

**CONTINGENCY PLAN – encountering unknown tanks, drums, or other waste materials**

In this section please provide actions that will be taken to identify or manage unknown potential new sources of contamination. During redevelopment activities, it is not uncommon that unknown tanks, drums, fuel lines, landfills, or other waste materials are encountered. Notification to DEQ Brownfields Project Manager, UST Section, Fire Department, and/or other officials, as necessary and appropriate, is required when new potential source(s) of contamination are discovered. These Notification Requirements were outlined on Page 1 of this EMP.

Should potentially impacted materials be identified that are inconsistent with known site impacts, the DEQ Brownfields Project Manager will be notified and a sampling plan will be prepared based on the EMP requirements and site-specific factors. Samples will generally be collected to document the location of the potential impacts.

Check the following chemical analysis that are to be conducted on newly identified releases:

- Volatile organic compounds (VOCs) by EPA Method 8260
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270
- Metals RCRA List (8) (arsenic, barium, cadmium, chromium, mercury, lead, selenium and silver)  
EPA Methods 6020/7471
- Pesticides: Specify Analytical Method Number(s):  
Click or tap here to enter text.
- PCBs: Specify Analytical Method Number(s):  
Click or tap here to enter text.
- Other Constituents & Analytical Method(s) (i.e. Hexavalent Chromium, Herbicides, etc.)  
Please note, if field observations indicate the need for additional analyses, they should be conducted, even if not listed here.  
Hexavalent chromium by EPA Method 7199

**Please provide details on the proposed methods of managing the following commonly encountered issues during redevelopment of Brownfields Properties.**

During construction activities in the DOT project area, contractors may encounter unknown subsurface environmental conditions (i.e. tanks, drums, utilities, or waste materials) that if encountered, will require proper management. Prior to beginning site work, NC DOT's specialty consultant will attend a pre-construction kick-off meeting with NC DOT and construction contractors to discuss the DEQ approved EMP and various scenarios when it would be appropriate and necessary to notify NC DOT's specialty consultant of the discovery of unknown subsurface features or potentially impacted media at the Site.

In the event that such conditions are encountered during site development activities, the

environmental actions noted below will be used to direct environmental actions to be taken during these activities and sampling data for potentially impacted soil and the disposition of impacted soil will be provided to DEQ when the data becomes available.

During fill delivery or fill placement construction activities outside of the DOT project area, the property owner will be responsible for any unknown environmental conditions (e.g., tanks, drums, utilities, or waste materials) that if encountered, will require proper management. The property owner is responsible for any other permits that may be required (including but not limited to sediment & erosion controls) for this work, and will be responsible for compliance with the Brownfields Land Use Restrictions for future work at the site and any future site use.

**Underground Storage Tanks:**

In the event a previously unidentified UST or impacts associated with a UST release are discovered at the site during construction activities, the UST and/or UST related impacts will be addressed through the Brownfields Program.

If a previously unidentified UST is encountered, the UST will be removed in general accordance with NC DEQ UST Section Guidelines. The UST will be removed and transported off-site for disposal at a suitable facility. If the UST contains residual fluids, the fluids will be sampled in accordance with the sample analysis selected above, and transported off-Site for disposal at a suitable facility based on the laboratory analytical results prior to removing the UST from the ground. If a UST is encountered that cannot be removed or does not require removal for geotechnical or construction purposes, with DEQ Brownfields prior approval it will be abandoned in-place and construction will proceed. Impacted soil in the vicinity of the UST and confirmatory sampling (quantity and analyses) will be managed in accordance with UST guidance and with the Managing On-Site Soil section outlined above in the EMP.

**Sub-Grade Feature/Pit:**

If a sub-grade feature or pit is encountered and does not require removal for geotechnical or construction purposes, it will be filled with soil or suitable fill and construction will proceed. Where appropriate, the bottom may be penetrated before back filling to prevent fluid accumulation. If the pit has waste in it, the waste may be set aside in a secure area and will be sampled for waste disposal purposes for Total (if required by disposal facility) and TCLP VOCs, Total (if required by disposal facility) and TCLP SVOCs, Total (if required by disposal facility) and TCLP metals and disposed off-Site at a permitted facility or the waste will be managed in accordance with the Managing On-Site Soil section outlined above in the EMP, whichever is most applicable based on the type of waste present. If the pit must be removed and the observed waste characteristics indicate the concrete may potentially be contaminated to a significant degree, the concrete will be sampled and analyzed by methods specified by the disposal facility. Confirmatory soil sampling will be conducted in accordance with the Managing On-Site Soil section outlined above in the EMP.

**Buried Waste Material:**

If excavation into buried wastes or significantly impacted soils occurs, NCDOT's Resident Engineer is

instructed to stop work in that location and notify NC DOT's specialty consultant. NC DOT's specialty consultant will review the materials and collect samples if warranted. In this event, confirmation sampling will be conducted at representative locations in the base and the sidewalls of the excavation after the waste or significantly impacted soil is removed. The confirmation samples will be analyzed in accordance with the sample analysis selected above. Areas of suspected contaminated soil that remain at the site after excavation is complete above the NC DEQ Industrial/Commercial PSRGs will be managed in accordance with the Managing On-Site Soil section outlined above in the EMP.

**Re-Use of Impacted Soils On-Site:**

Please refer to description outlined in the Managing On-Site Soil section of the EMP above.

**If unknown, impacted soil is identified on-site, management on-site can be considered after the project team provides the necessary information, outlined in Part 1.A. Item 11, for Brownfields Project Manager approval prior to final placement on-site.**

**If other potential contingency plans are pertinent, please provide other details or scenarios as needed below:**

Click or tap here to enter text.

**POST-REDEVELOPMENT REPORTING**

Check this box to acknowledge that a Redevelopment Summary Report will be required for the project. If the project duration is longer than one year, an annual update is required and will be due by January 31 of each year, or 30 days after each one-year anniversary of the effective date of this EMP (as agreed upon with the Project Manager). These reports will be required for as long as physical redevelopment of the Brownfields Property continues, except that the final Redevelopment Summary Report will be submitted within 90 days after completion of redevelopment. Based on the estimated construction schedule, the first Redevelopment Summary Report is anticipated to be submitted on A one-time summary report will be submitted to the NC DEQ Brownfields Program upon completion of the road construction activities. If the project extends beyond one year, additional reports will be submitted as required above. The summary report will include the items described below.

The Redevelopment Summary Report shall include environment-related activities since the last report, with a summary and drawings, that describes:

1. actions taken on the Brownfields Property;
2. soil grading and cut and fill actions;
3. methodology(ies) employed for field screening, sampling and laboratory analysis of environmental media;

4. stockpiling, containerizing, decontaminating, treating, handling, laboratory analysis and ultimate disposition of any soil, groundwater or other materials suspected or confirmed to be contaminated with regulated substances; and
5. removal of any contaminated soil, water or other contaminated materials (for example, concrete, demolition debris) from the Brownfields Property (copies of all legally required manifests shall be included).

Check box to acknowledge consent to provide a NC licensed P.G. or P.E. sealed, Redevelopment Summary Report in compliance with the site's Brownfields Agreement.

**APPROVAL SIGNATURES**

**Brownfields Project Number:** 15010-11-41

**Brownfields Project Name:** Pennston Property

DocuSigned by:  
*Christopher M. Werner* 1/12/2021  
2AC982A09DAA465...

**Prospective Developer:** NC DOT **Date**  
**Printed Name/Title/Company:** Christopher M. Werner, P.E., Director of  
Technical Services Division, NCDOT

*Lindwood Jackson* 8-25-20

**Brownfields Property Owner:** **Date**  
**Printed Name/Title/Company:** LINDWOOD JACKSON, MANAGER, AF-REEDY FORK COMMERCIAL, LLC

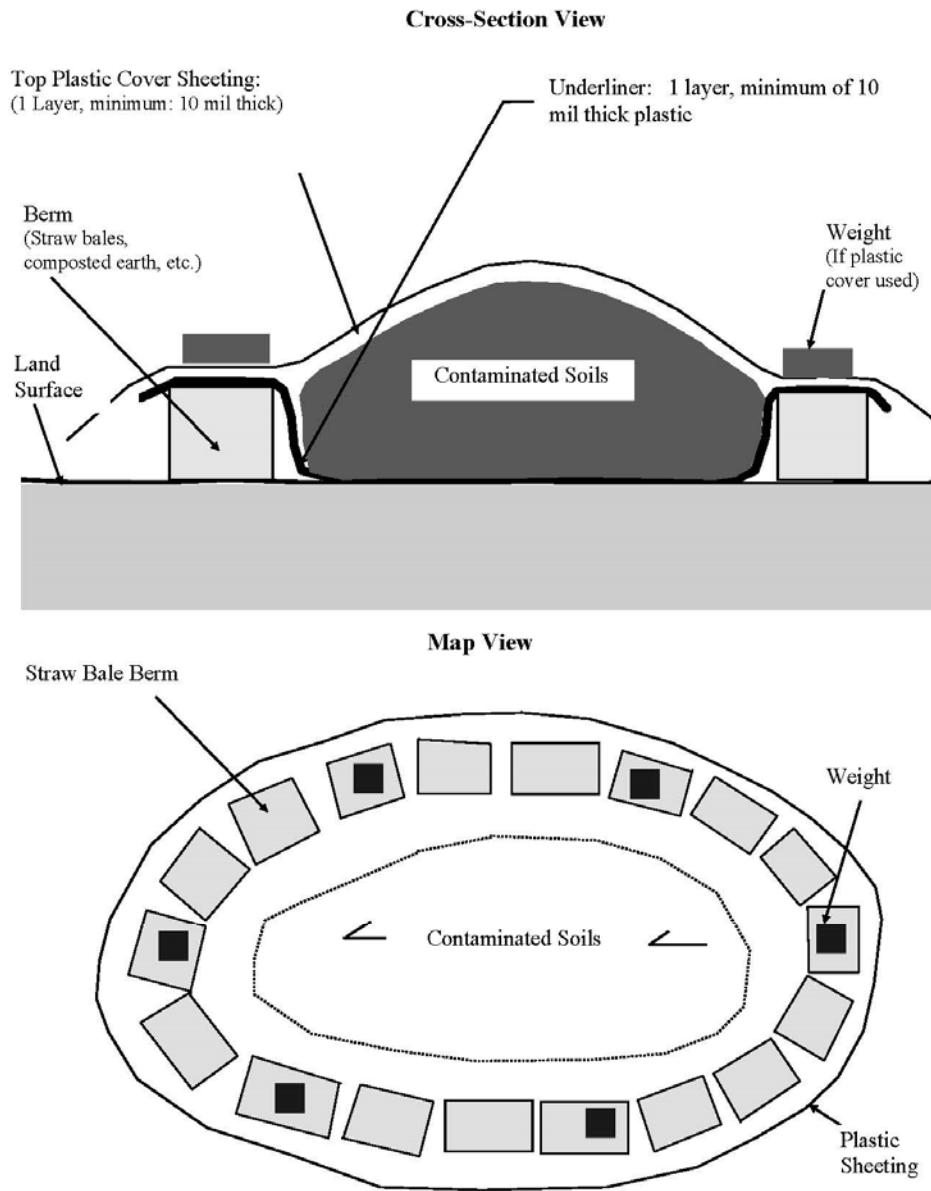
DocuSigned by:  
*Matt Bramblett* 8/27/2020  
CBCA88CDF0E547B

**Consultant:** Hart & Hickman, PC **Date**  
**Printed Name/Title/Company:** Mr. Matt Bramblett, PE  
Principal and Project Manager/Hart & Hickman, PC

DocuSigned by:  
*Joselyn Harriger* 1/12/2021  
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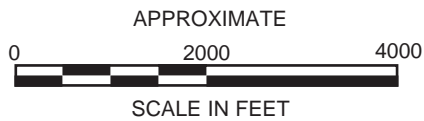
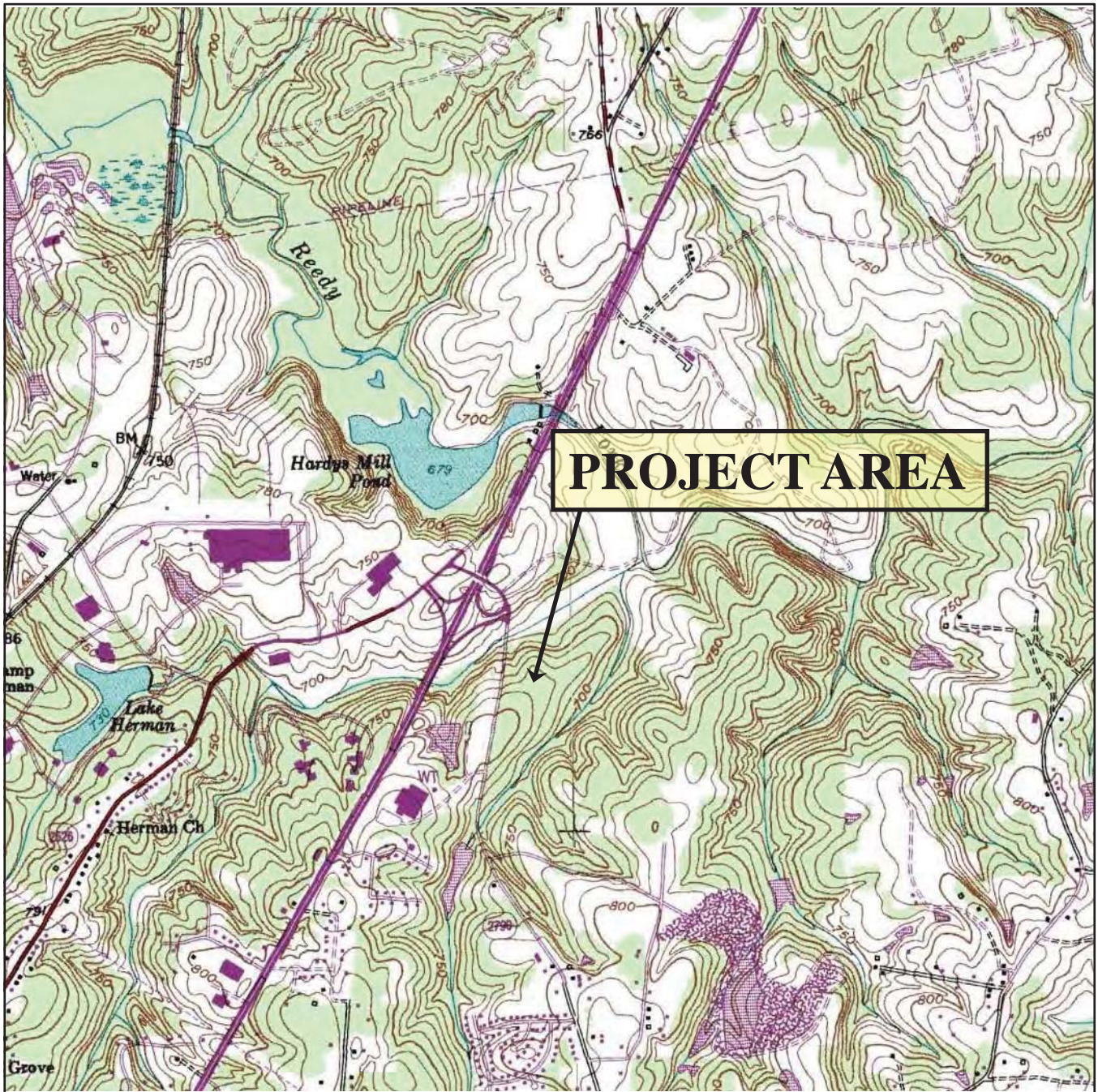
**Brownfields Project Manager:** Joselyn Harriger, PG **Date**

**Figure 1**  
**NCBP Diagram for Temporary**  
**Containment of Impacted or Potentially**  
**Impacted Soil**



Note: Adapted from NC DEQ UST Section "Guidelines for Ex Situ Petroleum Contaminated Soil Remediation" dated December, 1, 2013






U.S.G.S. QUADRANGLE MAP

**BROWNS SUMMIT, NORTH CAROLINA, 1994**

QUADRANGLE  
7.5 MINUTE SERIES (TOPOGRAPHIC)

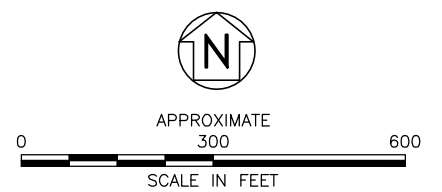
TITLE	<b>PROJECT LOCATION MAP</b>		
PROJECT	BROWNFIELDS PROJECT #15010-11-41 3600 REEDY FORK PARKWAY GREENSBORO, NORTH CAROLINA		
			2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f)
	SMARTER ENVIRONMENTAL SOLUTIONS		
DATE:	2-12-20	REVISION NO:	0
JOB NO:	ROW-603	FIGURE:	1



S:\AAA-Master Projects\DOT Right-Of-Way -ROW\ROW-603\ROW-603 Guilford County Phase II Investigations\BF EMP\EMP Revision 2\Parcels-row603-R2-Site Map.dwg, FIG 2, 4/30/2020 4:24:56 PM, sperry

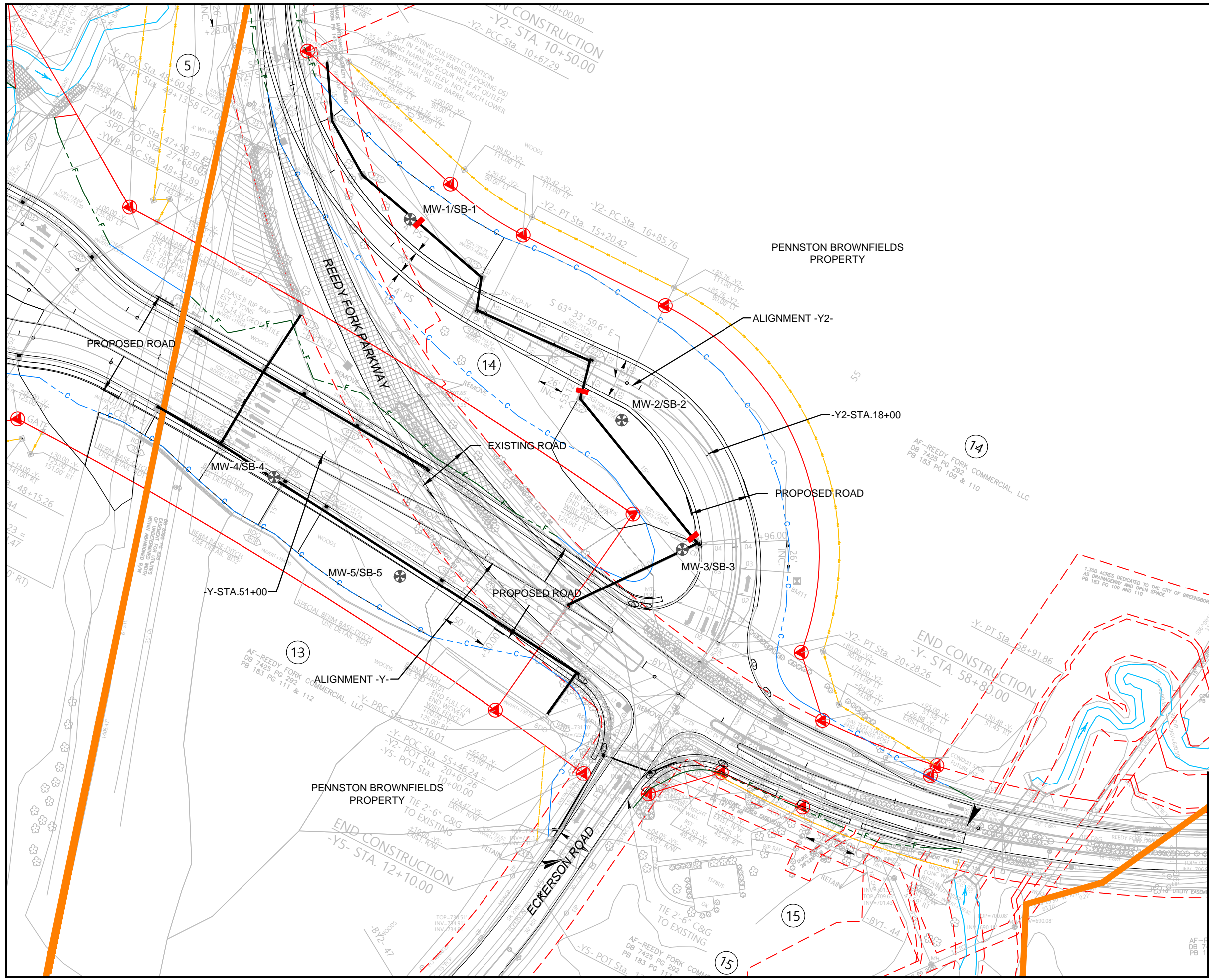


- LEGEND**
- APPROXIMATE BROWNFIELDS PROPERTY BOUNDARY
  - - - EXISTING RIGHT-OF-WAY.
  - PROPOSED ROAD
  - PROPOSED RIGHT-OF-WAY
  - - - PROPOSED CONSTRUCTION EASEMENT
  - PROPOSED UTILITY EASEMENT
  - MONITORING WELL AND SOIL SAMPLE LOCATIONS
  - 14 NC DOT PARCEL ID
  - W W- KNOWN GROUNDWATER CONTAMINATION
  - S S- KNOWN SOIL CONTAMINATION
  - - - APPROXIMATE LOCATION FOR DOT FILL PLACEMENT OUTSIDE OF DOT EASEMENT AREAS
  - APPROXIMATE STREAM LOCATION



TITLE <b>SITE MAP</b>	
PROJECT <b>BROWNFIELDS PROJECT #15010-11-41 ECKERSON ROAD &amp; REEDY FORK PARKWAY GREENSBORO, NORTH CAROLINA</b>	
	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE: 4-30-20	REVISION NO. 0
JOB NO. ROW-603	FIGURE NO. 2





**LEGEND**

- BROWNFIELDS PROPERTY BOUNDARY
- MONITORING WELL AND SOIL SAMPLE LOCATION
- - - EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- - - PROPOSED CONSTRUCTION EASEMENT
- PROPOSED UTILITY EASEMENT
- - - C - - - PROPOSED CUT LINE
- - - F - - - PROPOSED FILL LINE
- 14 NC DOT PARCEL ID
- PROPOSED DRAINAGE PIPE
- PROPOSED CATCH BASIN
- >— SURFACE WATER AND FLOW DIRECTION
- ANTI-SEEP COLLAR

APPROXIMATE  
 SCALE IN FEET  
 0 100 200

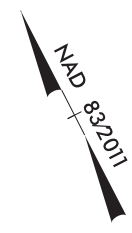
<b>TITLE</b>	
NCDOT CONSTRUCTION AREA MAP	
<b>PROJECT</b>	
BROWNFIELDS PROJECT #15010-11-41 ECKERSON ROAD & REEDY FORK PARKWAY GREENSBORO, NORTH CAROLINA	
<b>SMARTER ENVIRONMENTAL SOLUTIONS</b>	
2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology	
DATE: 2-13-2020	REVISION NO. 0
JOB NO. ROW-603	FIGURE NO. 3

S:\AAA-Master Projects\NC DOT Right-of-Way -ROW\ROW-603 Guilford County Phase II Investigations\BF EMP\Figures\Figure-3.dwg, FIG 3, 3/11/2020 3:00:48 PM, idemmer

**Appendix A**  
**NC DOT Plan Sheet**



PROJECT REFERENCE NO. R-4707	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
<b>Mead &amp; Hunt</b>	
111 E. Hargett Street, Suite 300 Raleigh, North Carolina 27601 919-714-8870   meadandhunt.com NC License No. F-1235	



**TRAFFIC VOLUME DATA**

	OLD REEDY FORK PARKWAY	
	4,400	3,400
	9,000	8,100
REEDY FORK PARKWAY	1,700	700
	2,100	1,200
2020 AADT	2,400	ECKERSON ROAD
2040 AADT	3,300	

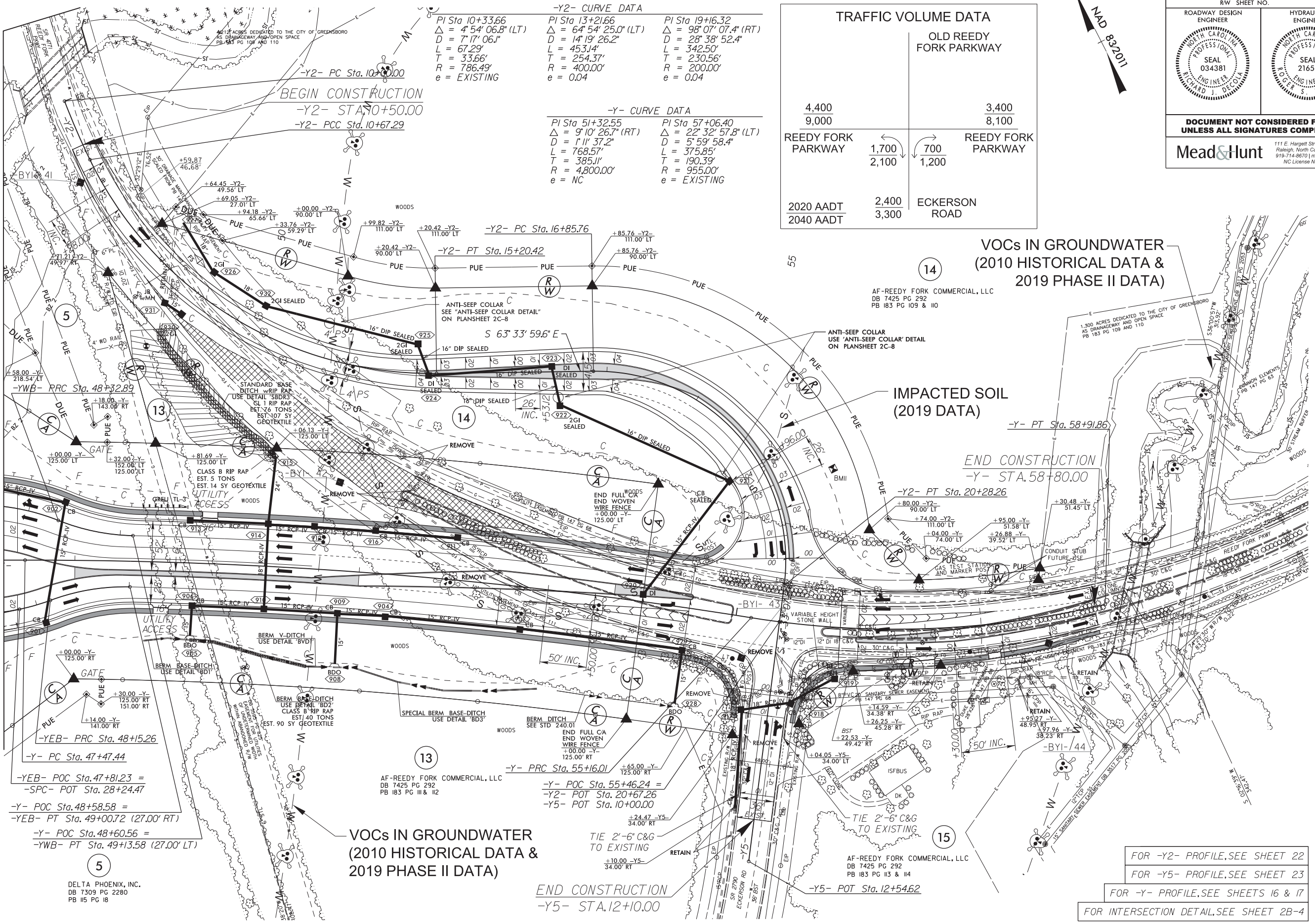
**-Y2- CURVE DATA**

PI Sta 10+33.66 Δ = 4° 54' 06.8" (LT) D = 7' 17" 06.1" L = 67.29' T = 33.66' R = 786.49' e = EXISTING	PI Sta 13+21.66 Δ = 6° 54' 25.0" (LT) D = 14' 19" 26.2" L = 453.14' T = 254.37' R = 400.00' e = 0.04	PI Sta 19+16.32 Δ = 9° 07' 07.4" (RT) D = 28' 38" 52.4" L = 342.50' T = 230.56' R = 200.00' e = 0.04
---	--	--

**-Y- CURVE DATA**

PI Sta 51+32.55 Δ = 9° 10' 26.7" (RT) D = 1' 11" 37.2" L = 768.57' T = 385.11' R = 4,800.00' e = NC	PI Sta 57+06.40 Δ = 22° 32' 57.8" (LT) D = 5' 59" 58.4" L = 375.85' T = 190.39' R = 955.00' e = EXISTING
---	--

MATCHLINE -Y- STA. 47 + 25.00 SEE SHEET 6



**VOCs IN GROUNDWATER (2010 HISTORICAL DATA & 2019 PHASE II DATA)**

**VOCs IN GROUNDWATER (2010 HISTORICAL DATA & 2019 PHASE II DATA)**

-YWB- PRC Sta. 48+32.89  
-YWB- POC Sta. 47+81.23 =  
-SPC- POT Sta. 28+24.47  
-Y- POC Sta. 48+58.58 =  
-YEB- PT Sta. 49+00.72 (27.00' RT)  
-Y- POC Sta. 48+60.56 =  
-YWB- PT Sta. 49+13.58 (27.00' LT)

-Y- PRC Sta. 55+16.01  
-Y- POC Sta. 55+46.24 =  
-Y2- POT Sta. 20+67.26  
-Y5- POT Sta. 10+00.00

END CONSTRUCTION  
-Y5- STA. 12+10.00

AF-REEDY FORK COMMERCIAL, LLC  
DB 7425 PG 292  
PB 183 PG 113 & 114

FOR -Y2- PROFILE, SEE SHEET 22  
FOR -Y5- PROFILE, SEE SHEET 23  
FOR -Y- PROFILE, SEE SHEETS 16 & 17  
FOR INTERSECTION DETAIL, SEE SHEET 2B-4

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## **Appendix B**

**Tables and Figures From H&H Brownfields Assessment Report dated  
February 21, 2020**

**Table 1 (Page 1 of 1)**  
**Summary of Well Construction and Water Level Data**  
**Pennston Brownfields Property**  
**Greensboro, Guilford County, North Carolina**  
**H&H Job No. ROW-603**

<b>Monitoring Well ID</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Screened Interval (ft bgs)</b>	<b>Total Depth (ft bgs)</b>	<b>Depth to Water (ft TOC) 11/22/19</b>
MW-1	36.1727680	-79.7103046	15 - 30	30	23.30
MW-2	36.1723693	-79.7097359	17 - 32	32	29.23
MW-3	36.1718009	-79.7093579	16 - 31	31	Dry
MW-4	36.1719994	-79.7108018	16 - 31	31	29.05
MW-5	36.1716812	-79.7101881	15 - 30	30	Dry

**Notes:**

1) Well location data collected by H&H using a Trimble GeoExplorer 6000 handheld GPS unit.

bgs = Below ground surface

ft TOC = Depth in feet below top of well casing.

Monitoring wells MW-1 and MW-5 were completed with flush mount manhole covers. MW-2, MW-3, and MW-4 were completed with sitck-up well covers.

The TOC's for monitoring wells MW-2, MW-3, and MW-4 are approximately 1.5 ft, 1.8 ft, and 1.5 ft above ground surface, respectively.

**Table 2 (Page 1 of 1)  
Soil Analytical Results  
Pennston Brownfields Property  
Greensboro, Guilford County, North Carolina  
H&H Job No. ROW-603**

Sample ID	SB-1	SB-2		SB-3		SB-4		SB-5		DUP-1-Soil (SB-5)	NCDEQ Residential PSRG <sup>1</sup>	NCDEQ Industrial PSRG <sup>2</sup>	NCDEQ POG PSRG <sup>3</sup>		
	Sample Depth (ft)	15-16.5	15-17	22-24	15-17	17-19	15-17	19-21	15-17	19-21					
Sample Date	11/19/2019	11/19/2019	11/19/2019	11/20/2019	11/20/2019	11/20/2019	11/20/2019	11/20/2019	11/20/2019	11/20/2019	11/20/2019				
<b><u>VOCs (8260) (mg/kg)</u></b>	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	--	--	--		
<b><u>SVOCs (8270) (mg/kg)</u></b>	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	--	--	--		
<b><u>VOCs (8260 SIM) (mg/kg)</u></b> 1,4-Dioxane	<0.0025	0.0047 J	<b>0.014</b>	<0.0040	<0.0042	<0.0031	<0.0024	<0.0037	<0.0032	<0.0038	5.4	25	0.012	<b>Background<sup>4</sup></b>	
<b><u>RCRA Metals (6010/7471) (mg/kg)</u></b>														<b>Range</b>	<b>Mean</b>
Arsenic	<0.52	0.78 J	3.3 J	1.5	<3.5	<0.53	<0.43	<0.65	<0.55	<0.61	0.68	3	5.8	1.0 - 18	4.8
Barium	355	453	468	169	323	366	319	96.9	55	64	3,100	47,000	580	50 - 1,000	356
Cadmium	<0.052	<0.061	<0.32	<0.070	<0.35	0.073 J	0.069 J	<0.065	<0.055	<0.061	14	200	3	1.0 - 10	4.3
Chromium <sup>5</sup>	18.6	21.4	167	31.6	119	14.5	19.6	9.8	11.8	13.2	23,000	350,000	360,000	7.0 - 300	65
Lead	1.2	7.2	8.3	11.1	13.1	1.3	1.5	7.0	2.2	1.6	400	800	270	N.D. - 50	16
Mercury	0.0024 J	0.012	0.0053	0.0044	0.02	<0.0017	<0.0011	0.0042	<0.0013	0.0029	2.3	9.7	1	0.03 - 0.52	0.121
Selenium*	1.0 J	0.87 J	<b>3.7 J</b>	<0.70	<3.5	<0.53	0.64 J	0.86 J	0.71 J	0.63 J	78	1,200	2.1	<0.1 - 0.8	0.42
Silver	<0.26	<0.31	<1.6	<0.35	<1.8	<0.26	<0.22	<0.33	<0.28	<0.31	78	1,200	3.4	N.D. - 5.0	--
<b><u>Hexavalent Chromium (7199) (mg/kg)</u></b> Hexavalent Chromium	NA	NA	<0.327	NA	<u>0.870 J</u>	NA	NA	NA	NA	NA	0.31	6.5	3.8		

**Notes:**

1. NC DEQ Residential Health-Based Preliminary Soil Remediation Goals (PSRGs) (December 2019).
  2. NC DEQ Industrial Health-Based PSRG (December 2019).
  3. NC DEQ Protection of Groundwater (POG) PSRG (December 2019).
  4. Range and mean values of background metals for North Carolina soils taken from Elements in North American Soils by Dragun and Chekiri, 2005.
  5. Screening levels for chromium are for chromium III.
- \* = Selenium concentrations in bold are more than two times background levels for published NC soils. However, note that the NC values are based on a limited data set and concentrations are within the range of values published for eastern US soils (<0.1 to 3.9).
- mg/kg = milligrams per kilogram; VOCs = Volatile Organic Compounds
- Bold** = value exceeds Protection of Groundwater PSRG (and twice background value for metals)
- Underline = value exceeds Residential Health-Based PSRG
- <MDL = All values below Method Detection Limit; SIM = Select Ion Monitoring
- J = Estimated concentration between laboratory Reporting Limit and Method Detection Limit
- Hexavalent chromium samples were analyzed outside of hold time.



**Table 3 (Page 1 of 1)**  
**Groundwater Analytical Results**  
**Pennston Brownfields Property**  
**Greensboro, Guilford County, North Carolina**  
**H&H Job No. ROW-603**

Sample ID Sample Date	MW-1 11/22/2019	MW-2 11/22/2019	MW-4 11/22/2019	DUP-2-GW (MW-4) 11/22/2019	NC 2L Standards <sup>1</sup>	NC 2B Standards <sup>2</sup>	Water Quality Criteria <sup>3</sup>
<b><u>VOCs (8260) (ug/L)</u></b>							
1,1-Dichloroethane	<0.27	3.2	0.91 J	0.89 J	6	NE	6
1,2-Dichloroethane	<0.34	<b>0.63 J</b>	<0.34	<0.34	0.4	NE	9.9
1,1-Dichloroethene	<0.24	55.9	23.5	22.3	350	NE	300
1,1,1,-Trichloroethane	<0.18	8.4	1.1	1.1	200	NE	10,000
1,1,2-Trichloroethane	<0.24	0.32 J	<0.24	<0.24	0.6*	NE	0.55
<b><u>SVOCs (8270) (ug/L)</u></b>							
Diethylphthalate	<2.4	<2.4	6.9 J	10 J	6,000	NE	600
<b><u>VOCs (8260 SIM) (ug/L)</u></b>							
1,4-Dioxane	<1.2	<b><u>39.9</u></b>	<b><u>8.9</u></b>	<b><u>7.4</u></b>	3	NE	0.35
<b><u>RCRA Metals (6010/7470) (ug/L)</u></b>							
Barium	504	40.6	126	118	700	1,000	---
Chromium <sup>4</sup>	8.8	<1.0	<1.0	<1.0	10	37.13	---

**Notes:**

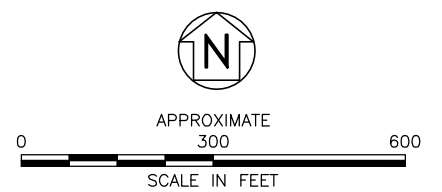
1. NC DEQ 15A NCAC 2L .0202 Groundwater Quality Standards - April 2013
2. NC DEQ Water Quality Standards for Surface Waters - Class WS-V, NSW (June 2019).
3. Lower of EPA Recommended Water Quality Criteria for Aquatic Life & Human Health - Water Supply or NC In-Stream Target Values for Surface Water - Water Supply (June 2019)
4. 2B Standard shown for chromium is for chromium III; no confirmed sources of chromium VI have been identified in the area. Standard derived using DEQ Hardness-Dependent Metal Calculator dated June 2019 and DEQ published median hardness for receiving stream (alternately titled Unnamed Tributary at Camp Herman and Smith Branch-Reedy Fork) of 43 milligrams per liter.  
The nearest discharge is to a Class WS-V surface water body (alternately titled Unnamed Tributary at Camp Herman and Smith Branch-Reedy Fork). Based on the classification of the receiving water body, surface water standards and criteria are based on water supply classification.  
\* = NC DEQ Interim Maximum Allowable Concentration (August 1, 2010)  
EPA Method follows parameter in parenthesis  
ug/L = micrograms per liter. NE = Not established.  
VOCs = Volatile Organic Compounds; SVOCs = semi-VOCs  
**Bold** indicates above 2L Standard; Underline exceeds 2B Standard or Water Quality Criteria.



S:\AAA-Master Projects\DOT Right-Of-Way -ROW\ROW-603\ROW-603 Guilford County Phase II Investigations\BF EMP\EMP Revision 2\Parcels-row603-R2-Site Map.dwg, FIG 2, 4/30/2020 4:24:56 PM, sperry

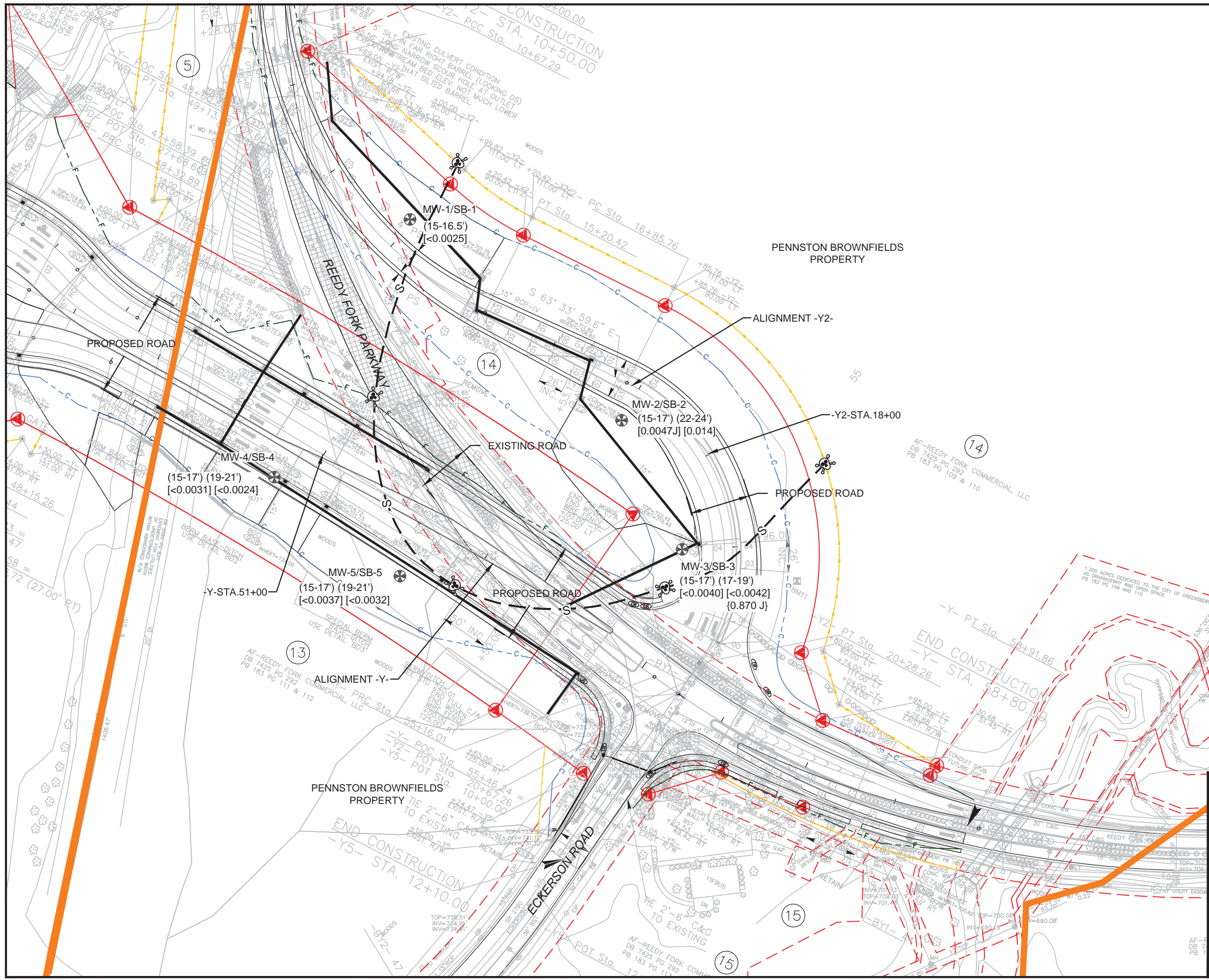


- LEGEND**
- APPROXIMATE BROWNFIELDS PROPERTY BOUNDARY
  - - - EXISTING RIGHT-OF-WAY.
  - PROPOSED ROAD
  - PROPOSED RIGHT-OF-WAY
  - - - PROPOSED CONSTRUCTION EASEMENT
  - PROPOSED UTILITY EASEMENT
  - MONITORING WELL AND SOIL SAMPLE LOCATIONS
  - 14 NC DOT PARCEL ID
  - W W- KNOWN GROUNDWATER CONTAMINATION
  - S S- KNOWN SOIL CONTAMINATION
  - - - APPROXIMATE LOCATION FOR DOT FILL PLACEMENT OUTSIDE OF DOT EASEMENT AREAS
  - APPROXIMATE STREAM LOCATION

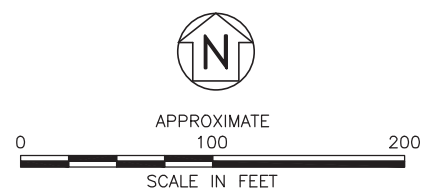


TITLE <b>SITE MAP</b>	
PROJECT <b>BROWNFIELDS PROJECT #15010-11-41 ECKERSON ROAD &amp; REEDY FORK PARKWAY GREENSBORO, NORTH CAROLINA</b>	
	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE: 4-30-20	REVISION NO. 0
JOB NO. ROW-603	FIGURE NO. 2





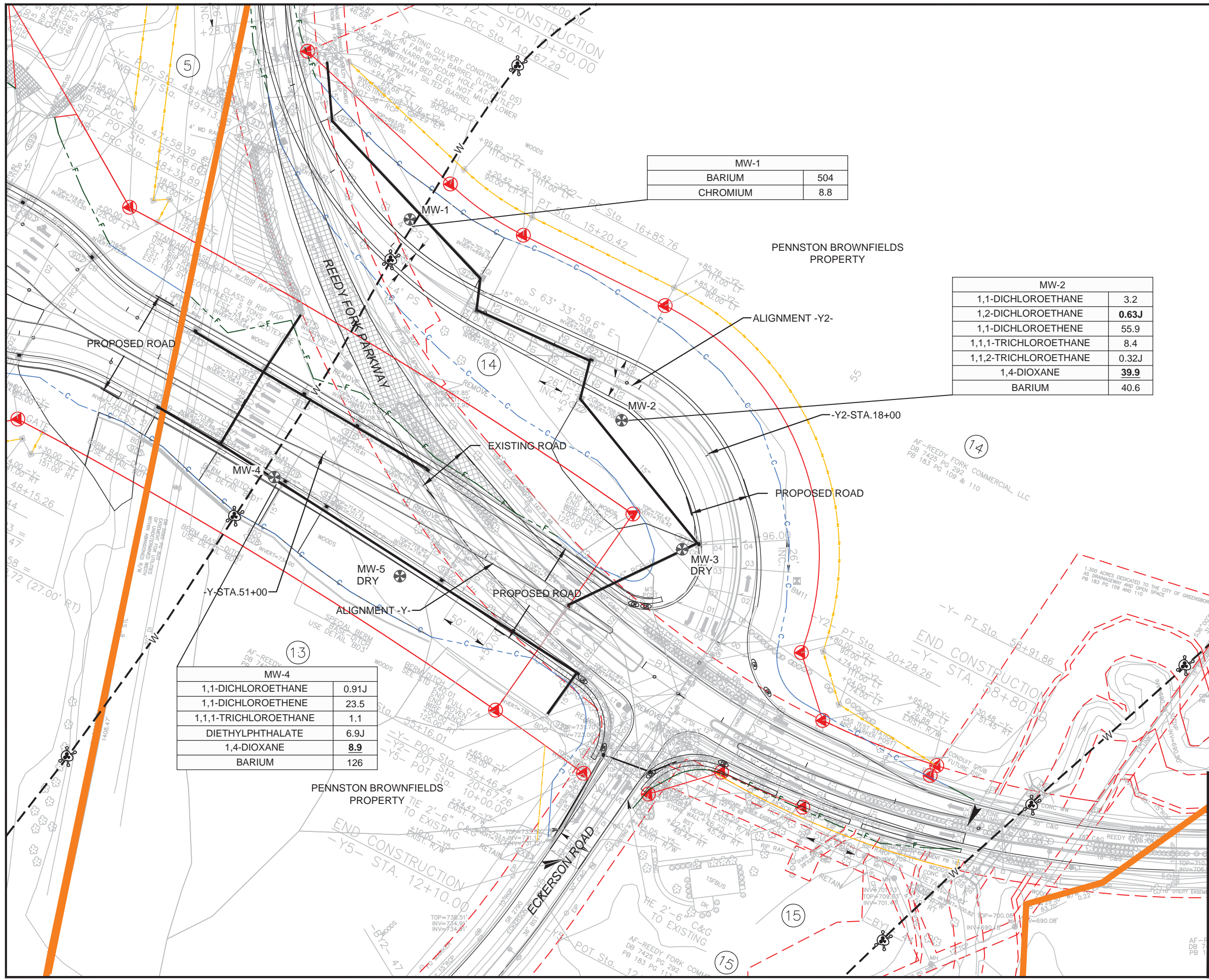
- LEGEND**
- BROWNFIELDS PROPERTY BOUNDARY
  - MONITORING WELL AND SOIL SAMPLE LOCATION
  - - - EXISTING RIGHT-OF-WAY
  - PROPOSED RIGHT-OF-WAY
  - PROPOSED CONSTRUCTION EASEMENT
  - PROPOSED UTILITY EASEMENT
  - - - C - - - C - - - C PROPOSED CUT LINE
  - - - F - - - F - - - F PROPOSED FILL LINE
  - ⑭ NC DOT PARCEL ID
  - PROPOSED DRAINAGE PIPE
  - PROPOSED CATCH BASIN
  - S--S- KNOWN SOIL CONTAMINATION
  - [0.014] 1,4-DIOXANE CONCENTRATION (mg/kg)
  - {0.870 J} HEXAVALENT CHROMIUM CONCENTRATION (mg/kg)
  - MW-2/SB-2 (15-17') SAMPLE ID/DEPTH



TITLE <b>SOIL ANALYTICAL RESULTS</b>	
PROJECT <b>BROWNFIELDS PROJECT #15010-11-41 ECKERSON ROAD &amp; REEDY FORK PARKWAY GREENSBORO, NORTH CAROLINA</b>	
	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE: 2-13-2020	REVISION NO. 0
JOB NO. ROW-603	FIGURE NO. 3

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MW-1	
BARIUM	504
CHROMIUM	8.8

MW-2	
1,1-DICHLOROETHANE	3.2
1,2-DICHLOROETHANE	<b>0.63J</b>
1,1-DICHLOROETHENE	55.9
1,1,1-TRICHLOROETHANE	8.4
1,1,2-TRICHLOROETHANE	0.32J
1,4-DIOXANE	<u>39.9</u>
BARIUM	40.6

MW-4	
1,1-DICHLOROETHANE	0.91J
1,1-DICHLOROETHENE	23.5
1,1,1-TRICHLOROETHANE	1.1
DIETHYLPHTHALATE	6.9J
1,4-DIOXANE	<b>8.9</b>
BARIUM	126

**LEGEND**

- BROWNFIELDS PROPERTY BOUNDARY
- MONITORING WELL LOCATION
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONSTRUCTION EASEMENT
- PROPOSED UTILITY EASEMENT
- PROPOSED CUT LINE
- PROPOSED FILL LINE
- NC DOT PARCEL ID
- PROPOSED DRAINAGE PIPE
- PROPOSED CATCH BASIN
- KNOWN GROUNDWATER CONTAMINATION

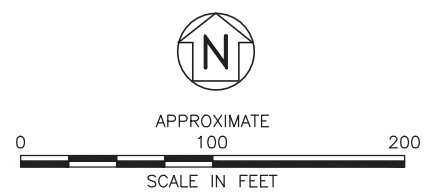
SAMPLE ID

MW-1	
BARIUM	504
CHROMIUM	8.8

CONSTITUENT

CONCENTRATION (ug/L)

- NOTES:**
- BOLD** EXCEEDS 2L STANDARD.
  - UNDERLINE EXCEEDS 2B STANDARD OR, IF NO 2B STANDARD EXISTS, LOWER OF EPA NATIONAL RECOMMENDED WATER QUALITY CRITERIA OR NC IN-STREAM TARGET VALUES.

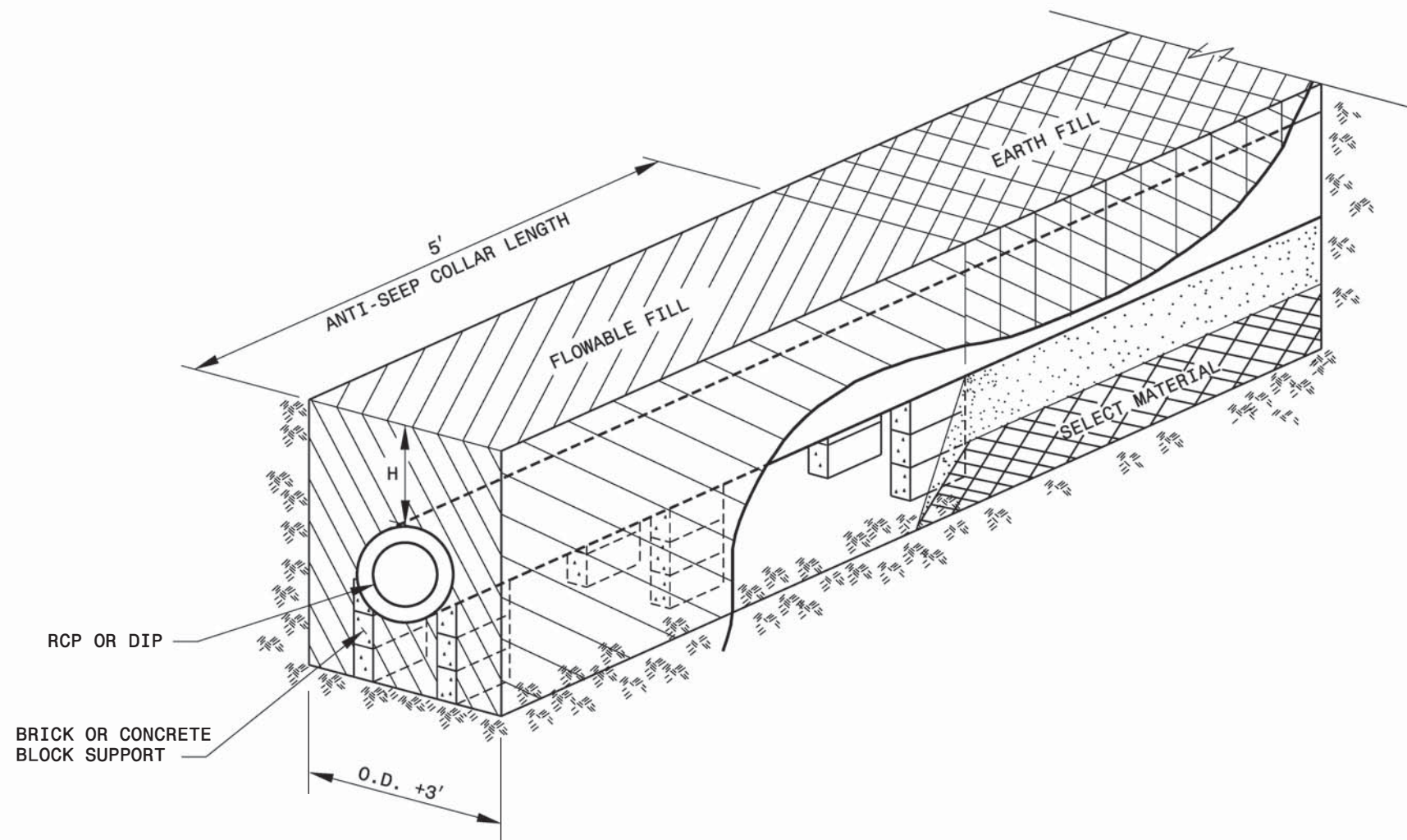


<b>TITLE</b> GROUNDWATER ANALYTICAL RESULTS	
<b>PROJECT</b> BROWNFIELDS PROJECT #15010-11-41 ECKERSON ROAD & REEDY FORK PARKWAY GREENSBORO, NORTH CAROLINA	
<b>SMARTER ENVIRONMENTAL SOLUTIONS</b>	2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
<b>DATE:</b> 2-13-2020	<b>REVISION NO.</b> 0
<b>JOB NO.</b> ROW-603	<b>FIGURE NO.</b> 4

## **Appendix C**

### **Anti-Seep Collar and Piping Specifications**





**NOTES:**

ANTI-SEEP COLLAR LENGTH ALONG PIPE IS 5 FEET, CONSTRUCTED OF 35 PSI FLOWABLE FILL.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

SEE ROADWAY STANDARD DRAWING NO.300.01, 2 OF 3, NCDOT, JANUARY 2018 FOR UNSUITABLE MATERIAL FOUNDATION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

RCP = REINFORCED CONCRETE PIPE.

DIP = DUCTILE IRON PIPE.

	FLOWABLE FILL MATERIAL.
	SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.
	LOOSELY PLACED SELECT MATERIAL, CLASS III OR CLASS II, TYPE I FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.
	UNDISTURBED EARTH MATERIAL.
	BRICK OR CONCRETE BLOCK SUPPORT
	EARTH MATERIAL

**ANTI-SEEP COLLAR**



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

**CONTRACT STANDARDS & DEVELOPMENT UNIT  
STANDARDS AND SPECIAL DESIGN**  
Office 919-707-6950 FAX 919-250-4119

**ANTI-SEEP COLLAR**

ORIGINAL BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 MODIFIED BY: rnbritt DATE: 05-15-15  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 FILE SPEC\_details/rnbritt/english/hydro/anti\_seep\_collar.dgn



R-4707

**GV-5**

Guilford County

**SPECIAL SEALED DRAINAGE SYSTEM****(3/10/2020)**

A Special Sealed Drainage System has been designated on the plans as “Sealed” and in the Drainage Summary Sheet as “Sealed Pipe System”. Most of the special sealed drainage system passes through areas of documented groundwater contamination and with invert elevations potentially below the groundwater table. The work covered by the Special Sealed Drainage System provision consists of constructing a special sealed system of underground storm drainage pipes and structures. The extents of the Special Sealed Drainage System shall be adhered to as shown on the plans and drainage summary sheets, or as directed by the Engineer.

No underdrains will be allowed for any reason within the extents of the Special Sealed Drainage System, as referenced above.

**Materials**

Ductile Iron Pipe shall be Type 3, Pressure Classes 150, 200, & 250 (as shown on the Drainage Summary Sheets) and shall conform to ANSI A21.51-17 (AWWA C151), Grade 60-42-10 for ductile iron pipe centrifugally cast in metal molds or sand lined molds. All ductile iron pipe shall conform to ANSI A21.50 (AWWA C150) for thickness design and shall be supplied in 18- or 20-foot nominal lengths, unless otherwise indicated on the Drawings. Fittings and specials shall be cast iron or ductile iron, conforming to the requirements of ANSI A21.10 (AWWA C110) and shall have a minimum rated working pressure of 250 psi, and minimum iron strength of 30,000 psi. Joints shall be a push on type conforming to ANSI A21.11 (AWWA C111), unless otherwise specified or shown on the Drawings.

Drainage Structures shall be precast concrete conforming to ASTM C478. Joints between sections shall conform to ASTM C443 and shall be sealed with O-Ring gaskets. O-Ring gaskets shall be made of material resistant to the contaminants identified in the Phase 2 investigation and shall be approved for use with precast drainage structure sections.

Connection of pipe to drainage structure shall be by a flexible, resilient connector conforming to ASTM C923. The drainage structure to pipe connector shall be made of material resistant to the contaminants identified in the Phase 2 investigation.

Non shrink cement grout shall be used in precast drainage structures per the requirements of Article 1040-9 of the *Standard Specifications*.

The contractor shall provide Anti-Seep Collars of excavatable flowable fill with a minimum tensile strength of 35 PSI in locations shown on the plans as indicated in the Anti-Seep Collar detail in the plans.

The Contractor shall submit to the Engineer catalog cuts and/or shop drawings for materials proposed to be used on the project. Allow 40 days for the review of each submittal.

Materials which have not been approved shall not be delivered to the project. Eight (8) copies of each catalog cut and/or drawing shall be submitted and each shall show the material description,

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brand name, stock number, size, rating, manufacturing specification and the use for which it is intended.

The Engineer shall approve all backfill material.

### **Construction Methods**

Installation of the sealed drainage system pipe and drainage structures shall meet the requirements of Section 300 and Section 1505 of the *Standard Specifications*.

All materials shall be carefully examined for defects before placing, and any defective materials shall be replaced. As the work progresses, the interior of the pipe shall be cleared of all foreign materials. Obtain approval by the Engineer prior to any cleaning or flushing activities. Any pipeline or drainage structure that contains silt, sedimentation, or other foreign material shall be flushed or otherwise cleaned out of the line and drainage structures. If it is determined by the Engineer to be contaminated, the material shall be handled and disposed of in a manner approved of by the Engineer.

Trenches shall be kept free from water until backfilled and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work. Handling of contaminated groundwater removed from the excavation and handling of excavated contaminated soil, including any soil that is excavated from below the groundwater table within an area indicated to have groundwater contamination, shall be governed by Special Provision GV-1.

Gasket joints for pipe and drainage structures shall be installed in accordance with the recommendations of the manufacturer.

### **Sealed Drainage System Testing**

The sealed drainage system shall be tested in accordance with Article 1520-3 of the *Standard Specifications* for Gravity Sanitary Sewer. Both infiltration and exfiltration tests will be required. For the exfiltration test, the system shall be plugged and filled to the rim of the drainage structure as directed by the Engineer.

### **Measurement and Payment**

Trenching, excavation and backfilling for Special Sealed Drainage System will be considered as included in the contract price for the applicable pay item and no separate measurement will be made, therefore. Such work as shoring, sheeting and dewatering of the excavation will also be considered as incidental to the contract price for the applicable pay item and no separate measurement will be made.

\_\_\_” *Ductile Iron Pipe* for the sealed drainage system will be measured and paid at the contract unit price per linear foot. The quantity of sealed drainage system lines of the various sizes, which has been incorporated into the completed and accepted work, will be measured from end to end by the linear foot in place with no deduction for length through drainage structures. Where two different sizes enter or exit a drainage structure, each size will be measured to the center of the



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drainage structure. Unless otherwise shown on the plans, branch connections, ells, or other fixtures will be included in the length measurement.

*Sealed Precast Drainage Structures* will be measured and paid for in units of each. The quantity of drainage structures above a height of 5 feet to be paid for will be the number of vertical linear feet in which the height of the drainage structure exceeds 5 feet. The height will be measured vertically to the nearest 0.1-feet from the top of the bottom slab to the top of the wall.

Foundation conditioning material will be paid for as stated in Article 300-9 of the Standard Specifications.

Anti-Seep Collars will be paid by the cubic yard of excavatable flowable fill required to construct the collars. The quantity of contaminated soil shall be paid for at the contract unit price per cubic yard for "Anti-Seep Collar"

Such prices and payments will be full compensation for all work covered by these special provisions, including, but not limited to: materials, labor, equipment, backfilling, compaction, testing, pumping, O-Ring gaskets, pipe connectors, non-shrink cement grout, and incidentals necessary to complete the work as required.

Payment will be made under:


**Pay Item**

- 16" Sealed Ductile Iron Pipe Class 250
- 24" Sealed Ductile Iron Pipe Class 200
- 30" Sealed Ductile Iron Pipe Class 150
- 36" Sealed Ductile Iron Pipe Class 150
- 42" Sealed Ductile Iron Pipe Class 150
- Sealed Precast Drainage Structure
- Sealed Precast Drainage Structure
- Boots for Sealed Drainage Structures
- Anti-Seep Collar

**Pay Unit**

- Linear Foot
- Linear Foot
- Linear Foot
- Linear Foot
- Linear Foot
- Each
- Linear Foot
- Each
- Cubic Yard



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## **Appendix D**

### **Historical Environmental Documents (Wysong & Miles)**

**TABLE 5**  
**Summary of Three Most Recent Groundwater Sampling Event**  
**Wysong & Miles Corporation**  
**Greensboro, North Carolina**  
**H&H Job No. WYM-002**

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Vinyl Chloride
MW-1	6/22/2006	ND	<b>9.6</b>	ND	<b>720</b>	ND	NS	<b>1</b>	140	2	ND	ND
	12/19/2007	ND	<b>11</b>	ND	<b>70</b>	ND	<b>170</b>	<b>1.2</b>	130	2.1	ND	ND
	6/26/2008	ND	<b>13</b>	ND	<b>55</b>	ND	<b>140</b>	<b>1.2</b>	92	1.9	ND	ND
MW-2	8/25/2005	ND	ND	ND	<b>12.5</b>	ND	NS	ND	3.78	ND	ND	ND
	3/13/2006	ND	ND	ND	<b>13.6</b>	ND	NS	ND	4.08	ND	ND	ND
	6/19/2006	ND	ND	ND	<b>8.7</b>	ND	NS	ND	2.8	ND	ND	ND
MW-3	8/17/2004	ND	1.02	<b>2.1</b>	3.73	ND	NS	ND	ND	ND	ND	ND
	3/13/2006	ND	1.47	<b>2.32</b>	ND	ND	NS	ND	ND	ND	ND	ND
	6/20/2006	ND	2.8	<b>2</b>	6	ND	NS	ND	1.2	ND	ND	ND
MW-4	8/25/2005	ND	ND	ND	<b>38.7</b>	ND	NS	ND	ND	ND	ND	ND
	3/13/2006	ND	2.4	ND	<b>20.2</b>	ND	NS	ND	2.4	ND	ND	ND
	6/20/2006	ND	1.8	ND	<b>44</b>	ND	NS	ND	1.9	ND	ND	ND
MW-5D	8/25/2005	ND	ND	ND	<b>87.5</b>	ND	NS	ND	27.3	ND	ND	ND
	3/13/2006	ND	ND	ND	<b>96.4</b>	ND	NS	ND	25.5	ND	ND	ND
	6/23/2006	ND	2.2	ND	<b>92</b>	ND	NS	ND	26	ND	ND	ND
MW-6	8/17/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/22/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
MW-8	8/25/2005	ND	ND	ND	<b>121</b>	ND	NS	ND	37.8	ND	ND	ND
	3/13/2006	ND	ND	ND	<b>122</b>	ND	NS	ND	36.4	ND	ND	ND
	6/22/2006	ND	<b>6.7</b>	ND	<b>140</b>	ND	NS	ND	40	ND	ND	ND
MW-9D	3/13/2006	ND	ND	ND	ND	ND	NS	ND	<b>1,560</b>	ND	ND	ND
	12/19/2007	ND	<b>85</b>	ND	<b>390</b>	ND	<b>240</b>	<b>9.1J</b>	<b>2,000</b>	7.4J	ND	ND
	6/26/2008	ND	<b>60</b>	ND	<b>290</b>	ND	<b>1,662</b>	<b>6.3J</b>	<b>1,300</b>	5.4J	ND	ND
<b>NCAC 2L Standard</b>		<b>3000</b>	<b>6.0</b>	<b>0.4</b>	<b>7.0</b>	<b>70</b>	<b>3.0</b>	<b>0.7</b>	<b>200</b>	<b>NS</b>	<b>3.0</b>	<b>0.03</b>
<b>Risk Based Screening Level <sup>1</sup></b>		<b>NS</b>	<b>65</b>	<b>20</b>	<b>38</b>	<b>NS</b>	<b>NS</b>	<b>5.7</b>	<b>1500</b>	<b>44</b>	<b>30</b>	<b>1.5</b>

1. IHSB Residential Vapor Intrusion Screening Level for Groundwater, January 2010

Concentrations Reported in Micrograms per Liter (µg/L)

**Bold** = Concentration Exceeds NCAC 2L Standard

NS = no standard

**TABLE 5**  
**Summary of Three Most Recent Groundwater Sampling Events**  
**Wysong & Miles Corporation**  
**Greensboro, North Carolina**  
**H&H Job No. WYM-002**

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Vinyl Chloride
MW-10	6/22/2006	ND	<b>14</b>	<b>7.9</b>	<b>870</b>	ND	NS	ND	60	2.2	1.5	ND
	12/19/2007	ND	<b>15</b>	<b>9.0</b>	<b>870</b>	ND	<b>952</b>	<b>1.7</b>	52	2.5	1.8J	ND
	6/26/2008	ND	<b>10</b>	<b>7.1</b>	<b>350</b>	ND	<b>405</b>	<b>1.1</b>	31	2.2	1.1J	ND
MW-11	8/16/2004	ND	ND	ND	ND	ND	NS	ND	ND	ND	<b>5.22</b>	ND
	3/13/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	<b>3.82</b>	ND
	6/21/2006	ND	ND	ND	ND	1.1	NS	ND	ND	ND	<b>4.1</b>	ND
MW-12	5/17/1995	ND	ND	ND	2.4	ND	NS	ND	2.1	ND	ND	ND
MW-13D	6/22/2006	ND	<b>13</b>	ND	<b>72</b>	ND	NS	ND	22	ND	1.8	ND
	12/19/2007	ND	<b>13</b>	<b>0.71J</b>	<b>130</b>	ND	<b>62</b>	0.62J	45	ND	0.71J	<b>1.2J</b>
	6/25/2008	ND	<b>8.4</b>	ND	<b>140</b>	ND	<b>174</b>	ND	26	ND	ND	ND
MW-14	3/27/2008	ND	<b>97</b>	<b>8.6J</b>	<b>1,100</b>	ND	<b>520</b>	ND	<b>550</b>	6.3J	ND	ND
	6/27/2008	ND	<b>110</b>	<b>9.2J</b>	<b>1,700</b>	ND	<b>2,576</b>	ND	<b>750</b>	6.4J	ND	ND
	10/1/2008	ND	<b>100</b>	<b>8.6J</b>	<b>1,400</b>	ND	<b>490</b>	ND	<b>540</b>	6.2J	ND	ND
MW-15	8/25/2005	ND	ND	ND	<b>67</b>	ND	NS	ND	108	ND	ND	ND
	3/13/2006	ND	ND	ND	<b>90.2</b>	ND	NS	ND	156	ND	ND	ND
	6/22/2006	ND	<b>12</b>	ND	<b>74</b>	ND	NS	ND	120	1.1	ND	ND
MW-16D	8/16/2004	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	6/21/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
MW-17	8/17/2004	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	3/13/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	6/19/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
<b>NCAC 2L Standard</b>		<b>3000</b>	<b>6.0</b>	<b>0.4</b>	<b>7.0</b>	<b>70</b>	<b>3.0</b>	<b>0.7</b>	<b>200</b>	<b>NS</b>	<b>3.0</b>	<b>0.03</b>
<b>Risk Based Screening Level <sup>1</sup></b>		<b>NS</b>	<b>65</b>	<b>20</b>	<b>38</b>	<b>NS</b>	<b>NS</b>	<b>5.7</b>	<b>1500</b>	<b>44</b>	<b>30</b>	<b>1.5</b>

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Concentrations Reported in Micrograms per Liter (µg/L)

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**TABLE 5**  
**Summary of Three Most Recent Groundwater Sampling Events**  
**Wysong & Miles Corporation**  
**Greensboro, North Carolina**  
**H&H Job No. WYM-002**

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Vinyl Chloride
MW-18	8/17/2004	ND	ND	ND	<b>93.6</b>	ND	NS	ND	12.9	ND	ND	ND
	3/13/2006	ND	ND	NS	<b>39.9</b>	ND	NS	ND	ND	ND	ND	ND
	6/20/2006	ND	ND	NS	<b>81</b>	ND	NS	ND	<b>9.5</b>	ND	ND	ND
MW-19	2/28/2005	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	8/25/2005	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	6/20/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-20	8/16/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/25/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-21D	3/27/2008	ND	<b>8.6</b>	ND	<b>23</b>	1.2	<b>61</b>	ND	13	ND	<b>5.4</b>	ND
	6/25/2008	ND	<b>11</b>	ND	<b>43</b>	0.98J	<b>70</b>	ND	19	ND	<b>5.5</b>	ND
	10/1/2008	ND	<b>10</b>	ND	<b>32</b>	1.1	<b>62</b>	ND	13	ND	<b>5.3</b>	ND
MW-22	3/27/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-23D	3/27/2008	ND	<b>84</b>	ND	<b>950</b>	ND	<b>2,634</b>	ND	<b>1,600</b>	ND	ND	ND
	6/26/2008	ND	<b>98</b>	ND	<b>1,400</b>	ND	<b>660</b>	ND	<b>2,000</b>	ND	ND	ND
	10/1/2008	ND	<b>78</b>	ND	<b>920</b>	ND	<b>560</b>	ND	<b>1,400</b>	ND	ND	ND
WSW-D	3/27/2008	ND	<b>14</b>	<b>0.88J</b>	<b>140</b>	ND	<b>208</b>	0.69J	51	0.51J	0.52J	ND
	6/27/2008	ND	<b>12</b>	<b>0.75J</b>	<b>120</b>	ND	<b>94</b>	0.69J	48	ND	ND	ND
	10/1/2008	ND	<b>9.7</b>	<b>0.55J</b>	<b>110</b>	ND	<b>153</b>	0.63J	32	ND	ND	ND
PWR-1	8/11/2006	ND	1.6	<b>0.625</b>	<b>500</b>	ND	<b>39</b>	ND	<b>250</b>	2.4	1.7J	ND
	12/18/2007	ND	ND	ND	<b>290</b>	ND	ND	ND	140	ND	ND	ND
	6/25/2008	ND	0.67J	ND	<b>200</b>	ND	ND	ND	110	ND	0.69J	ND
<b>NCAC 2L Standard</b>		<b>3000</b>	<b>6.0</b>	<b>0.4</b>	<b>7.0</b>	<b>70</b>	<b>3.0</b>	<b>0.7</b>	<b>200</b>	<b>NS</b>	<b>3.0</b>	<b>0.03</b>
<b>Risk Based Screening Level <sup>1</sup></b>		<b>NS</b>	<b>65</b>	<b>20</b>	<b>38</b>	<b>NS</b>	<b>NS</b>	<b>5.7</b>	<b>1500</b>	<b>44</b>	<b>30</b>	<b>1.5</b>

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**Wysong & Miles Corporation**  
**Greensboro, North Carolina**  
**H&H Job No. WYM-002**

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Vinyl Chloride
<b>PWR-2</b>	8/11/2006	ND	<b>19</b>	<b>2.0</b>	<b>200</b>	ND	<b>76</b>	ND	47	1.8	ND	ND
	12/17/2007	ND	<b>27</b>	ND	<b>340</b>	ND	<b>57</b>	ND	67	ND	ND	ND
	6/26/2008	ND	<b>29</b>	<b>3.0</b>	<b>310</b>	ND	<b>120</b>	ND	69	2.5	<b>0.66J</b>	ND
<b>PWR-3</b>	5/23/2007	ND	ND	ND	<b>11</b>	ND	ND	ND	1.4	ND	ND	ND
	12/17/2007	ND	0.74J	ND	<b>16</b>	ND	ND	ND	2.0	ND	ND	ND
	6/25/2008	ND	0.67J	ND	<b>11</b>	ND	ND	ND	1.5	ND	ND	ND
<b>PWR-4</b>	5/23/2007	ND	<b>45</b>	<b>5.0</b>	<b>590</b>	ND	<b>200</b>	ND	95	4	1.1	ND
	12/18/2007	ND	<b>64</b>	<b>7.4J</b>	<b>600</b>	ND	<b>210</b>	ND	140	6.1J	ND	ND
	6/26/2008	ND	<b>54</b>	<b>6.1J</b>	<b>700</b>	ND	<b>270</b>	ND	100	ND	ND	ND
<b>PWR-5</b>	5/23/2007	ND	<b>26</b>	ND	<b>260</b>	ND	<b>120</b>	<b>1.4</b>	<b>460</b>	3.7	ND	ND
	12/18/2007	ND	<b>24</b>	ND	<b>190</b>	ND	<b>190</b>	ND	<b>490</b>	ND	ND	ND
	6/26/2008	ND	<b>22</b>	ND	<b>150</b>	ND	<b>100</b>	ND	<b>440</b>	ND	ND	ND
<b>PWR-6</b>	8/30/2007	ND	<b>170</b>	ND	<b>1,100</b>	ND	<b>780</b>	ND	<b>1,800</b>	ND	ND	ND
	12/19/2007	ND	<b>170</b>	ND	<b>1,100</b>	ND	<b>510</b>	ND	<b>2,200</b>	ND	ND	ND
	6/27/2008	ND	<b>140</b>	ND	<b>960</b>	ND	<b>480</b>	ND	<b>1,800</b>	ND	ND	ND
<b>TW-1</b>	6/20/2006	ND	<b>7.2</b>	ND	<b>77</b>	ND	<b>29</b>	ND	16	ND	ND	ND
	12/18/2007	ND	<b>6.6</b>	<b>0.75J</b>	<b>77</b>	ND	<b>29</b>	ND	14	0.61J	ND	ND
	6/25/2008	ND	5.0	<b>0.59J</b>	<b>52</b>	ND	<b>41</b>	ND	9.3	ND	ND	ND
<b>TW-2</b>	8/26/2005	ND	ND	ND	<b>45.6</b>	ND	NS	ND	20.8	ND	ND	ND
	3/14/2006	ND	ND	ND	<b>12</b>	ND	NS	ND	53.8	ND	ND	ND
	6/21/2006	ND	ND	ND	<b>40</b>	ND	ND	ND	16	ND	ND	ND
<b>TW-3</b>	8/26/2005	ND	ND	ND	1.7	ND	NS	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	1.3	ND	NS	ND	ND	ND	ND	ND
	6/20/2006	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND
<b>NCAC 2L Standard</b>		<b>3000</b>	<b>6.0</b>	<b>0.4</b>	<b>7.0</b>	<b>70</b>	<b>3.0</b>	<b>0.7</b>	<b>200</b>	<b>NS</b>	<b>3.0</b>	<b>0.03</b>
<b>Risk Based Screening Level <sup>1</sup></b>		<b>NS</b>	<b>65</b>	<b>20</b>	<b>38</b>	<b>NS</b>	<b>NS</b>	<b>5.7</b>	<b>1500</b>	<b>44</b>	<b>30</b>	<b>1.5</b>

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Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Vinyl Chloride
<b>TW-14</b>	2/21/2000	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	8/15/2000	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	8/23/2001	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
<b>TW-15</b>	6/21/2006	ND	1.8	ND	<b>120</b>	ND	<b>46</b>	ND	55	2.3	ND	ND
	12/18/2007	ND	2.2	<b>0.85J</b>	<b>140</b>	ND	<b>60</b>	ND	48	2.7	0.64J	ND
	6/26/2008	ND	1.9	ND	<b>95</b>	ND	<b>59</b>	ND	34	2.2	ND	ND
<b>TW-16</b>	6/21/2006	ND	<b>82</b>	0.018	<b>1,500</b>	ND	<b>1,000E</b>	<b>2.1</b>	<b>640</b>	15	<b>4.6</b>	<b>6.1</b>
	12/18/2007	ND	<b>180</b>	<b>17</b>	<b>2,300</b>	ND	<b>980</b>	ND	<b>910</b>	15	ND	ND
	6/26/2008	ND	<b>170</b>	ND	<b>2,100</b>	ND	<b>1,000</b>	ND	<b>810</b>	ND	ND	ND
<b>RW-1</b>	6/22/2006	ND	<b>70</b>	<b>1.9</b>	<b>330</b>	ND	NS	<b>5.2</b>	<b>1,400</b>	10	2.0	ND
	6/27/2008	ND	5.3	ND	<b>65</b>	ND	<b>27</b>	ND	20	ND	ND	ND
	10/1/2008	ND	5.4	ND	<b>46</b>	ND	<b>82</b>	0.54J	30	ND	ND	ND
<b>RW-2</b>	6/22/2006	ND	<b>8.3</b>	ND	<b>86</b>	ND	NS	<b>4.4</b>	<b>1,300</b>	ND	ND	ND
	6/27/2008	ND	ND	ND	<b>290</b>	ND	<b>6.4</b>	ND	<b>2,700</b>	ND	ND	ND
	10/1/2008	ND	<b>12</b>	ND	<b>300</b>	ND	<b>1,816</b>	<b>4.1</b>	<b>1,500</b>	ND	ND	ND
<b>BR-1</b>	5/24/2007	ND	<b>34</b>	<b>3.6</b>	<b>390</b>	ND	NS	ND	77	3.1	ND	ND
	12/19/2007	ND	<b>44</b>	<b>5.0J</b>	<b>550</b>	ND	<b>150</b>	ND	110	ND	ND	ND
	6/26/2008	ND	<b>38</b>	ND	<b>500</b>	ND	<b>190</b>	ND	79	ND	ND	ND
<b>BR-2</b>	8/30/2007	ND	<b>100</b>	ND	<b>1,300</b>	ND	<b>670</b>	ND	<b>2,300</b>	ND	ND	ND
	12/19/2007	ND	<b>200</b>	ND	<b>1,600</b>	ND	<b>610</b>	ND	<b>2,600</b>	ND	ND	ND
	6/27/2008	ND	<b>95</b>	ND	<b>1,000</b>	ND	<b>320</b>	ND	<b>2,200</b>	ND	ND	ND
<b>NCAC 2L Standard</b>		<b>3000</b>	<b>6.0</b>	<b>0.4</b>	<b>7.0</b>	<b>70</b>	<b>3.0</b>	<b>0.7</b>	<b>200</b>	<b>NS</b>	<b>3.0</b>	<b>0.03</b>
<b>Risk Based Screening Level <sup>1</sup></b>		<b>NS</b>	<b>65</b>	<b>20</b>	<b>38</b>	<b>NS</b>	<b>NS</b>	<b>5.7</b>	<b>1500</b>	<b>44</b>	<b>30</b>	<b>1.5</b>

1. IHSB Residential Vapor Intrusion Screening Level for Groundwater, January 2010

Concentrations Reported in Micrograms per Liter (µg/L)

**Bold** = Concentration Exceeds NCAC 2L Standard

NS = no standard

**TABLE 6**  
**Summary of Three Most Recent Surface Water Sampling Events**  
**Wysong & Miles Corporation**  
**Greensboro, North Carolina**  
**H&H Job No. WYM-002**

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Vinyl Chloride
SW-A	10/22/2007	1.8J	31	3.5	110	ND	200	ND	13	ND	0.59J	18
SW-1	8/26/2005	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	6/22/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-2	8/26/2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/22/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-3	8/26/2005	ND	ND	ND	0.83	ND	NS	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	1.4	ND	NS	ND	ND	ND	ND	ND
	6/22/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-4	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-5	6/23/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-6	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
SW-7	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/23/2007	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
SW-8	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-9	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/23/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-10	6/23/2006	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-11	6/23/2006	ND	ND	ND	1.7	ND	24	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND
	10/22/2007	ND	ND	ND	ND	ND	24	ND	ND	ND	ND	ND
<b>NCAC 2B Standard</b>		<b>550</b>	<b>20000</b>	<b>37</b>	<b>5400</b>	<b>4900</b>	<b>110</b>	<b>3.3</b>	<b>2500</b>	<b>16</b>	<b>30</b>	<b>2.4</b>
<b>Risk Based Screening Level</b>		<b>190000</b>	<b>610</b>	<b>40</b>	<b>3000</b>	<b>3900</b>	<b>20000</b>	<b>8.5</b>	<b>80000</b>	<b>61</b>	<b>370</b>	<b>38</b>

## NOTES:

"NCAC 2B Standard" based on the most stringent of human health or freshwater aquatic life values, as applicable to a Class C water per 2-5-2010 EPA and NC standards and criteria

Risk Based Screening Level calculated based on 45-day per year adolescent exposure frequency to Reedy Fork Creek (HHRA, July 2009)

Concentrations Reported in Micrograms per Liter ( $\mu\text{g/L}$ )

**Bold** = Concentration Exceeds NCAC 2B Standard



**TABLE 7**  
**Summary of Pore Water Sampling Events**  
**Wysong & Miles Corporation**  
**Greensboro, North Carolina**  
**H&H Job No. WYM-002**

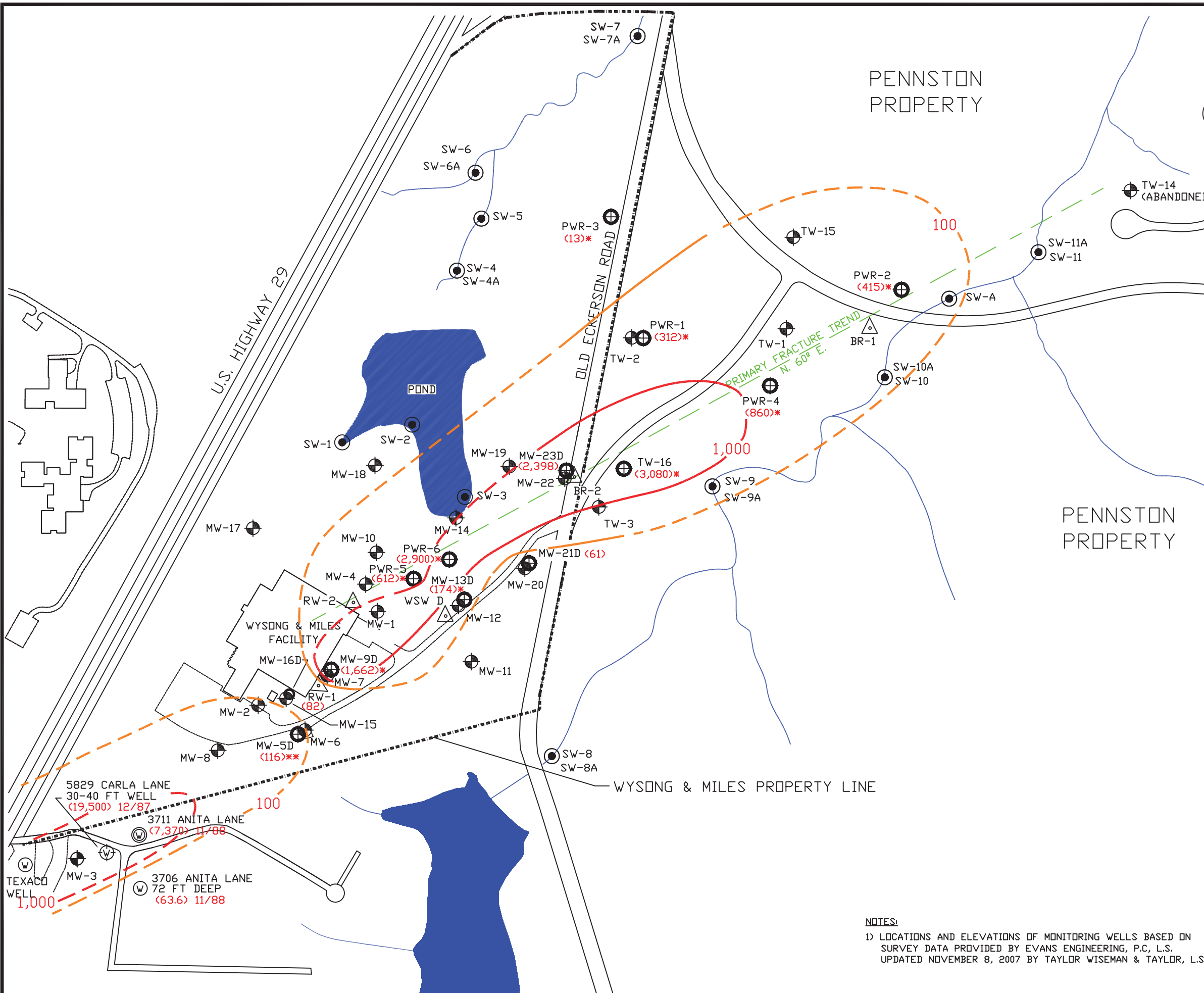
Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Vinyl Chloride
SW-4A	6/23/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-5A	6/23/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
SW-6A	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-7A	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/23/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-8A	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-9A	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/23/2007	ND	ND	ND	ND	ND	6.0	ND	ND	ND	ND	ND
SW-10A	6/23/2006	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-11A	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>NCAC 2B Standard</b>		<b>550</b>	<b>20000</b>	<b>37</b>	<b>5400</b>	<b>4900</b>	<b>110</b>	<b>3.3</b>	<b>2500</b>	<b>16</b>	<b>30</b>	<b>2.4</b>
<b>Risk Based Screening Level</b>		<b>190000</b>	<b>610</b>	<b>40</b>	<b>3000</b>	<b>3900</b>	<b>20000</b>	<b>8.5</b>	<b>80000</b>	<b>61</b>	<b>370</b>	<b>38</b>

## NOTES:

"NCAC 2B Standard" based on the most stringent of human health or freshwater aquatic life values, as applicable to a Class C water per 2-5-2010 EPA and NC standards and criteria  
Risk Based Screening Level calculated based on 45-day per year adolescent exposure frequency to Reedy Fork Creek (HHRA, July 2009)

Concentrations Reported in Micrograms per Liter ( $\mu\text{g/L}$ )

**Bold** = Concentration Exceeds NCAC 2B Standard

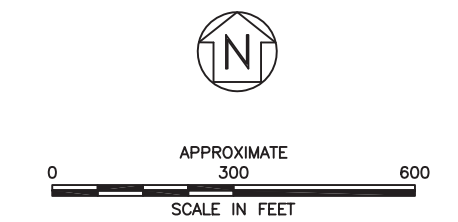


**LEGEND:**

- ⊕ SHALLOW MONITORING WELL
- △ RECOVERY WELL
- ⊕ INTERMEDIATE MONITORING WELL
- ⊙ DEEP MONITORING WELL
- ⊙ WATER SUPPLY WELL
- ⊙ SURFACE WATER SAMPLE

**SAMPLING NOTES:**  
 TOTAL CVOC CONCENTRATIONS IN ug/L  
 \* JUNE 2008 DATA  
 \*\* JUNE 2006 DATA  
 ALL OTHER DATA OCTOBER 2008  
 UNLESS NOTED OTHERWISE.

PUMP & TREAT SYSTEM INACTIVE  
 OFF-SITE ISOPLETHS DRAWN BASED ON  
 DATA FROM 1987/1988. CURRENT EXTENT  
 AND CONCENTRATIONS OF RESIDUAL  
 IMPACTS IS NOT KNOWN



INTERPRETED CVOC ISOPLETHS (ug/L)  
 INTERMEDIATE GROUNDWATER  
 OCTOBER 2008

WYSONG & MILES  
 GREENSBORO, NORTH CAROLINA

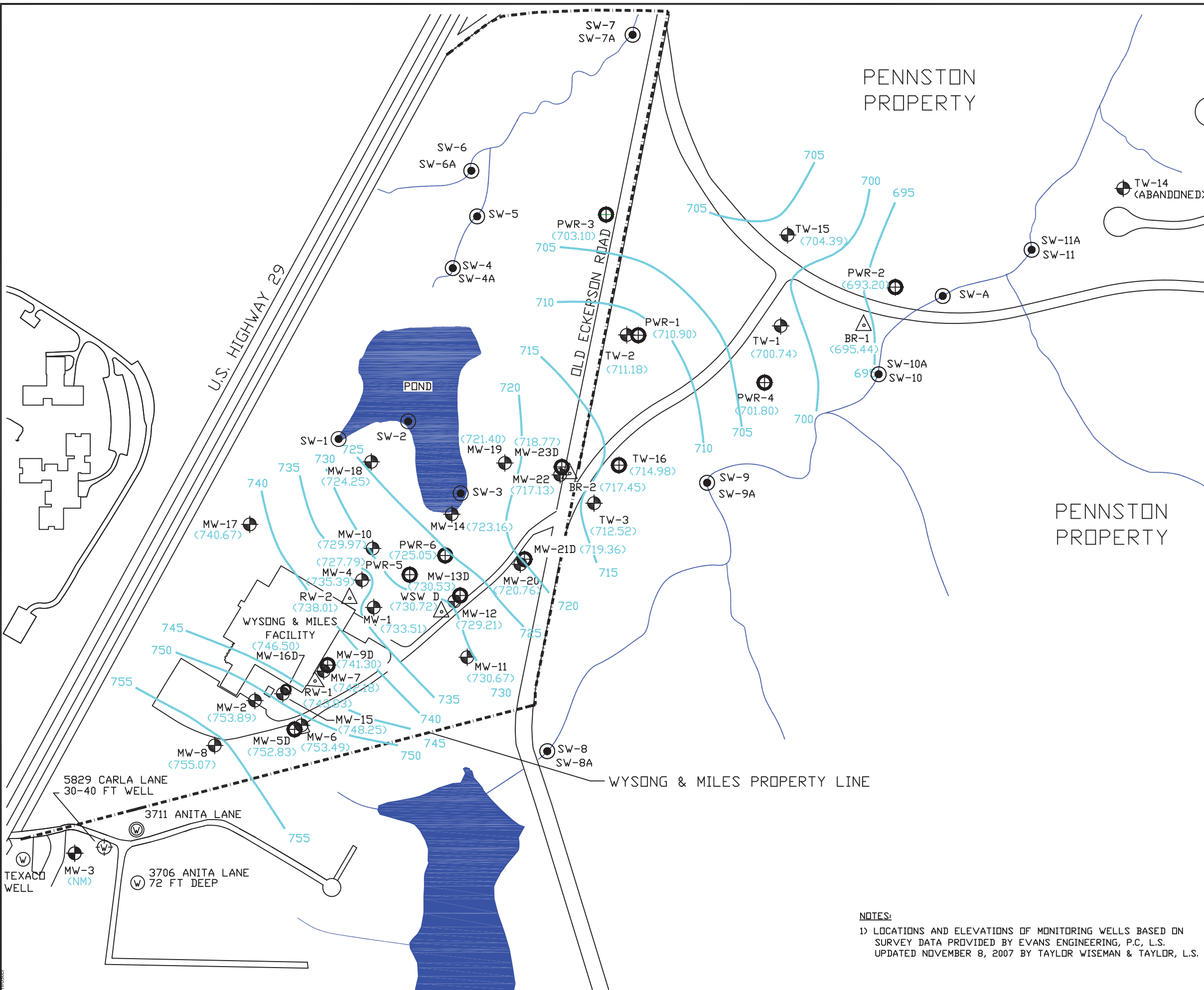
**Hart & Hickman**  
 A PROFESSIONAL CORPORATION  
 3334 Hillsborough Street  
 Raleigh, North Carolina 27607  
 919-847-4241(p) 919-847-4261(f)

DATE: 12/3/09	REVISION NO. 0
JOB NO: WYM-002	FIGURE NO. 3

**NOTES:**  
 1) LOCATIONS AND ELEVATIONS OF MONITORING WELLS BASED ON  
 SURVEY DATA PROVIDED BY EVANS ENGINEERING, P.C., L.S.  
 UPDATED NOVEMBER 8, 2007 BY TAYLOR WISEMAN & TAYLOR, L.S.

S:\AAA-Master Projects\Wysong & Miles - WY\MI\H&H 2009\RAPI\Figures\F2.3.7.11 Wysong Site Map.dwg, Model, 12/22/2009 12:05:54 PM

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**LEGEND:**

- SHALLOW MONITORING WELL
- RECOVERY WELL
- INTERMEDIATE MONITORING WELL
- DEEP MONITORING WELL
- WATER SUPPLY WELL
- SURFACE WATER SAMPLE

PUMP & TREAT SYSTEM INACTIVE

APPROXIMATE  
 0 300 600  
 SCALE IN FEET

POTENTIOMETRIC SURFACE MAP  
OCTOBER 1, 2008

WYSONG & MILES  
GREENSBORO, NORTH CAROLINA

3334 Hillsborough Street  
 Raleigh, North Carolina 27607  
 A PROFESSIONAL CORPORATION 919-847-4241 (p) 919-847-4261 (f)

DATE: 12/3/09	REVISION NO. 0
JOB NO: WYM-002	FIGURE NO. 6

**NOTES:**  
 1) LOCATIONS AND ELEVATIONS OF MONITORING WELLS BASED ON SURVEY DATA PROVIDED BY EVANS ENGINEERING, P.C., L.S. UPDATED NOVEMBER 8, 2007 BY TAYLOR WISEMAN & TAYLOR, L.S.





**Table 1**  
**Summary of Groundwater Analytical Results**  
**August 2010**  
**Wysong & Miles**  
**Greensboro, North Carolina**  
**H&H Project No. WYM-003**

Compound	NC Ground Water Standard <sup>1</sup>	Vapor Intrusion Screening Levels <sup>2</sup>	PWR-7	PWR-8
compounds exceeding 2L	Concentrations in (µg/L)			
1,1-Dichloroethene	7	38	<b>120</b>	<b>170</b>
1,4-Dioxane	3	NE	<b>37</b>	<b>65</b>
1,2-Dichloroethane	0.4	20	<1.0	<b>1.4</b>
compounds below 2L	Concentrations in (µg/L)			
1,1,1-Trichloroethane	200	1,500	19	37
1,1,2-Trichloroethane	NE	44	<1.0	2.0
1,1-Dichloroethane	6	65	4.2	2.0
Chloroform	70	7.3	<1.0	2.2

## Notes:

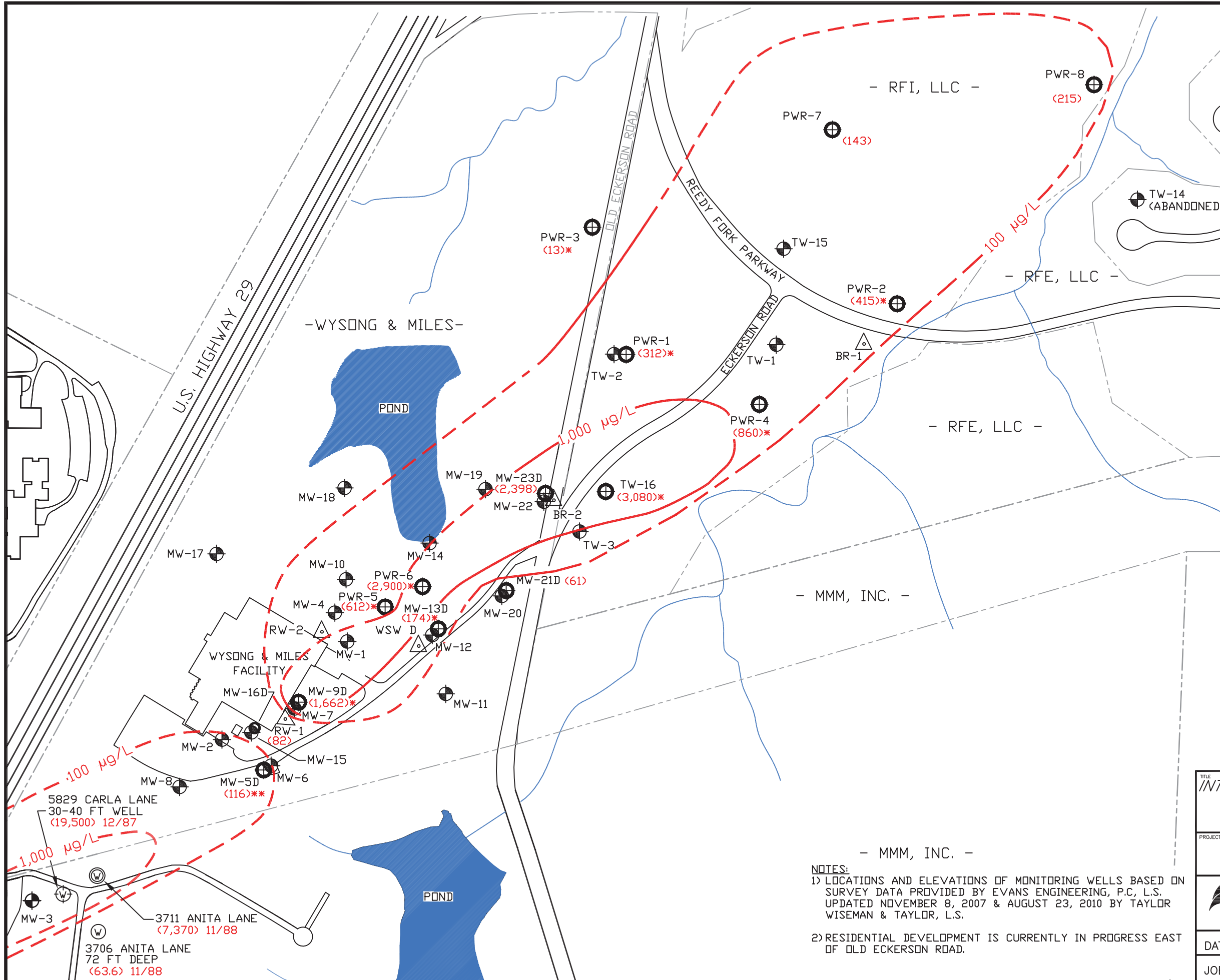
1. North Carolina 2L groundwater standards
2. NC Inactive Hazardous Sites Branch (IHSB) groundwater screening level for residential vapor intrusion (1/25/2010)

NE = Not Established

**Bold** values exceed NC2L groundwater standards.

Highlighted and boxed values exceed IHSB screening levels for vapor intrusion.
--

Only compounds detected are listed.



**LEGEND:**

- SHALLOW MONITORING WELL
- RECOVERY WELL
- INTERMEDIATE MONITORING WELL
- DEEP MONITORING WELL
- WATER SUPPLY WELL
- (TW-14) (ABANDONED)
- (180) TOTAL CVOC CONCENTRATIONS (µg/L)
- PROPERTY BOUNDARY
- RFE, LLC - PROPERTY OWNER

**SAMPLING NOTES:**

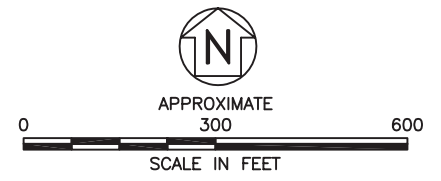
TOTAL CHLORINATED VOLATILE ORGANIC COMPOUNDS (CVOC) CONCENTRATIONS IN µg/L.  
 1,4-DIOXANE NOT INCLUDED AS IT IS NOT A CVOC

PUMP & TREAT SYSTEM INACTIVE

DATA DISPLAYED FOR NEW MONITORING WELLS:

PWR-7 & PWR-8 CORRESPONDS TO AUG 2010 SAMPLING

\* JUNE 2008 DATA  
 \*\* JUNE 2006 DATA  
 ALL OTHER DATA OCTOBER 2008



TITLE  
 INTERPRETED CVOC ISOPLETHS (µg/L)  
 INTERMEDIATE GROUNDWATER  
 AUGUST 2010

PROJECT  
 WYSONG & MILES  
 GREENSBORO, NORTH CAROLINA

**Hart & Hickman**  
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 919-847-4241 (p) 919-847-4261 (f)  
 License # C-1269

DATE: 09/14/10	REVISION NO. 0
JOB NO. WYM-003	FIGURE NO. 3

**NOTES:**

1) LOCATIONS AND ELEVATIONS OF MONITORING WELLS BASED ON SURVEY DATA PROVIDED BY EVANS ENGINEERING, P.C., L.S. UPDATED NOVEMBER 8, 2007 & AUGUST 23, 2010 BY TAYLOR WISEMAN & TAYLOR, L.S.

2) RESIDENTIAL DEVELOPMENT IS CURRENTLY IN PROGRESS EAST OF OLD ECKERSON ROAD.

S:\AA-Master Projects\Wysong & Miles - WYMH\RFI 2010\Personnel Well Install June 2010\Report\Figures\Wysong Site Map - Aug 2010.dwg, 11/17/2010 4:57:44 PM





Table 1  
Summary of Ground Water Elevation Measurements

Wysong & Miles Facility  
Greensboro, North Carolina  
H&H Job No. WYM.001

Monitoring Well ID	Date Installed	Well Depth (ft - bgs)	Screen Length (ft)	Well TOC Elevation (ft)	10/22/2007		12/17/2007		3/27/2008		6/25/2008		10/1/2008	
					Depth to Water (ft)	Ground Water Elevation (ft)	Depth to Water (ft)	Ground Water Elevation (ft)	Depth to Water (ft)	Ground Water Elevation (ft)	Depth to Water (ft)	Ground Water Elevation (ft)	Depth to Water (ft)	Ground Water Elevation (ft)
MW-1	1/20/1988	45	10	772.75	Wet	-	41.67	731.01	NM	-	39.21	733.54	39.24	733.51
MW-2	1/22/1988	33	10	779.65	27.78	751.87	28.15	751.50	NM	-	NM	-	25.76	753.89
MW-3	1/27/1988	41	10	799.43	28.49	770.94	27.78	771.65	NM	-	NM	-	Destroyed	
MW-4	9/8/1988	51	10	777.19	43.17	734.02	42.31	734.88	NM	-	NM	-	41.80	735.39
MW-5D	9/13/1988	78	5	778.31	27.70	750.61	27.68	750.63	NM	-	NM	-	25.48	752.83
MW-6	9/14/1988	30.5	10	778.33	27.08	751.25	27.18	751.15	NM	-	NM	-	24.84	753.49
MW-7	9/15/1988	40.82	10	780.84	Dry	-	Dry	-	NM	-	NM	-	38.66	742.18
MW-8	9/15/1988	25.4	10	778.34	Dry	-	25.31	753.03	NM	-	NM	-	23.27	755.07
MW-9D	7/19/1989	75	5	780.55	43.53	737.02	42.25	738.30	NM	-	39.93	740.62	39.25	741.30
MW-10	6/28/1989	49.5	10	775.20	47.11	728.09	46.54	728.66	NM	-	45.01	730.19	45.23	729.97
MW-11	6/28/1989	30	10	754.56	26.48	728.08	26.95	727.61	NM	-	NM	-	23.89	730.67
MW-12	6/27/1989	37	10	760.92	36.96	723.96	36.71	724.21	NM	-	NM	-	31.71	729.21
MW-13D	7/21/1989	82	5	760.72	57.87	702.85	35.19	725.53	NM	-	30.84	729.88	30.19	730.53
MW-14	11/15/1990	11	5	728.87	9.70	719.17	7.35	721.52	5.84	723.03	5.68	723.19	5.71	723.16
MW-15	6/25/1992	45	20	777.61	32.87	744.74	32.25	745.36	NM	-	NM	-	29.36	748.25
MW-16D		188	5-10	777.53	50.14	727.39	45.85	731.68	NM	-	NM	-	31.03	746.50
MW-17	6/25/1992	33.5	10	771.46	31.62	739.84	32.10	739.36	NM	-	NM	-	30.79	740.67
MW-18	6/23/1992	27.5	10	747.91	27.20	720.71	24.44	723.47	NM	-	NM	-	23.66	724.25
MW-19	6/24/1992	23	10	740.58	22.83	717.75	20.61	719.97	NM	-	NM	-	19.18	721.40
MW-20	6/26/1992	33.06	10	753.45	Dry	-	Dry	-	Dry	-	32.67	720.78	32.69	720.76
MW-21D		79.5	5	753.05	37.61	715.44	36.86	716.19	35.31	717.74	33.52	719.53	33.69	719.36
MW-22		42.77	10	753.28	38.04	715.24	37.91	715.37	36.96	716.32	35.47	717.81	36.15	717.13
MW-23D		63	5	753.81	37.44	716.37	36.78	717.03	35.39	718.42	34.31	719.50	35.04	718.77
RW-1	7/24/1989	101	75	780.63	75.80	704.83	40.09	740.54	NM	-	37.38	743.25	36.80	743.83
RW-2	7/20/1989	57	45	779.90	Dry	-	43.43	736.47	NM	-	42.46	737.44	41.89	738.01
WSW-D	Circa 1970's	280	Open	761.34	72.01	689.33	35.58	725.76	33.34	728.00	31.29	730.05	30.62	730.72
TW-1		49.5		734.41	33.72	700.69	33.97	700.44	NM	-	32.73	701.68	33.67	700.74
TW-2		56		761.55	50.14	711.41	50.46	711.09	NM	-	NM	-	50.37	711.18
TW-3		50		748.73	38.03	710.70	37.96	710.77	NM	-	NM	-	36.21	712.52
TW-15		33.5		734.14	29.41	704.73	29.78	704.36	NM	-	28.51	705.63	29.75	704.39
TW-16		69		751.48	37.90	713.58	38.10	713.38	NM	-	35.99	715.49	36.50	714.98
PWR-1	7/19/2006	73	10	761.23	50.07	711.16	50.48	710.75	NM	-	49.79	711.44	50.33	710.90
PWR-2	7/20/2006	45	10	715.98	24.28	691.70	22.86	693.12	NM	-	22.59	693.39	22.78	693.20
PWR-3	5/15/2007	73.5	10	741.05	38.73	702.32	38.45	702.60	NM	-	37.78	703.27	37.95	703.10
PWR-4	5/16/2007	57.5	10	726.28	26.87	699.41	25.11	701.17	NM	-	23.94	702.34	24.48	701.80
PWR-5	5/22/2007	67	10	763.52	39.84	723.68	37.77	725.75	NM	-	35.52	728.00	35.73	727.79
PWR-6	8/2/2007	52	10	748.42	27.08	721.34	25.74	722.68	NM	-	23.17	725.25	23.37	725.05
BR-1	5/21/2007	110	Open	722.41	28.51	693.90	27.11	695.30	NM	-	26.06	696.35	26.97	695.44
BR-2	7/31/2007	250	Open	754.05	38.83	715.22	38.16	715.89	37.26	716.79	35.95	718.10	36.60	717.45

## Notes:

TOC = Top of Casing  
BGS = Below Grade Surface





**Table 1**  
**2018 Sampling Event Data**  
**Wysong Miles Corporation**  
**Greensboro, NC**

Well	TD	DGW	Volume purged	Sampled date	Sampled Time	ORP (MV)	TURB (NTU)	SPC ( $\mu\text{s/cm}$ )	Temp ( C )	PH	DO (mg/l)
MW-9D	75.9	36.33	13 GAL	1/10/2018	10:00:00 AM	-177.90	0.35	125.7	17.9	8.1	0.53
MW-14	9.2	8.75	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-23D	65.2	29.30	9 GAL	1/10/2018	9:00:00 AM	-167.90	2.99	65.07	15.2	14.0	6.4
PWR-2	45.0	23.08	11 GAL	10/10/2018	9:00:00 AM	-40.30	14	125.2	15.8	6.2	13.22
PWR-7	34.8	13.07	6 GAL	1/9/2018	11:46:00 AM	17.30	28	96.2	14.7	6.4	5.27
PWR-8	32.9	14.24	20 GAL	1/9/2018	10:45:00 AM	23.10	52.7	107.4	14.9	6.2	5.69
RW-2	57.0	39.35	20 GAL	1/10/2018	11:00:00 AM	83.40	9.23	143.4	17.9	7.1	5.22
TW-15	33.7	30.63	1.2 GAL	1/10/2018	8:20:00 AM	-61.30	50.4	181.1	13.6	12.5	8.65
TW-16	71.2	36.75	15 GAL	1/9/2017	2:30:00 PM	-8.12	5.85	151.8	15.7	6.6	2.19
SW-4	NA	NA	NA	1/9/2018	11:00:00 AM	-24.80	1.67	96.5	0.3	6.5	21.92
SW-1	NS	NA	NA	1/9/2018	12:10:00 PM	-45.80	5.1	92.6	4.9	6.8	12.71

Table 2  
Summary of Four Most Recent Groundwater Sampling Events  
Wysong & Miles Corporation  
Greensboro, North Carolina

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Chloroform	xylene	MTBE	Acetone	1,2,4 Trimethylbenzene	1,3,5 Trimethylbenzene	Vinyl Chloride
MW-1	6/22/2006	ND	9.6	ND	720	ND	NS	1	140	2	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/2007	ND	11	ND	70	ND	170	1.2	130	2.1	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	13	ND	55	ND	140	1.2	92	1.9	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	8/25/2005	ND	ND	ND	12.5	ND	NS	ND	3.78	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	ND	ND	13.6	ND	NS	ND	4.08	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/19/2006	ND	ND	ND	8.7	ND	NS	ND	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	8/17/2004	ND	1.02	2.1	3.73	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	1.47	2.32	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/20/2006	ND	2.8	2	6	ND	NS	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	8/25/2005	ND	ND	ND	38.7	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	2.4	ND	20.2	ND	NS	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/20/2006	ND	1.8	ND	44	ND	NS	ND	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-5D	8/25/2005	ND	ND	ND	87.5	ND	NS	ND	27.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	ND	ND	96.4	ND	NS	ND	25.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/23/2006	ND	2.2	ND	92	ND	NS	ND	26	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-6	8/17/2004	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/22/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-8	8/25/2005	ND	ND	ND	121	ND	NS	ND	37.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	ND	ND	122	ND	NS	ND	36.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/22/2006	ND	6.7	ND	140	ND	NS	ND	40	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-9D	3/13/2006	ND	ND	ND	ND	ND	NS	ND	1,560	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/2007	ND	85	ND	390	ND	240	9.1J	2,000	7.4J	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	60	ND	290	ND	1,662	6.3J	1,300	5.4J	ND	ND	ND	ND	ND	ND	ND	ND
	1/10/2018	0.77	93	0.57	210	ND	29	9.5	630	6.3	2.4	0.6	3.5	ND	1.3	1.5	0.68	
<b>NCAC 2L Standard</b>		3000	6	0.4	7.0	70	3.0	0.7	200	NS	3	70	500	20	6000	400	400	0.015
<b>Groundwater Screening Level</b>		4.60E+03	7.60E+01	2.20E+01	3.90E+01	NA	NA	1.20E+01	1.50E+03	1.20E+00	1.00E+00	8.10E+00	9.80E+01	4.50E+03	4.50E+06	5.00E+01	3.50E+01	1.5

Concentrations Reported in Micrograms per Liter (µg/L)

**Bold = Concentration Exceeds NCAC 2L Standard**

**Piedmont ind = 2018 sampling event**

TABLE 2  
Summary of Four Most Recent Groundwater Samples  
Wysong & Miles Corporation  
Greensboro, North Carolina

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Chloroform	xylene	MTBE	Acetone	1,2,4 trimethylbenzene	1,3,5 trimethylbenzene	Vinyl Chloride
MW-10	6/22/2006	ND	14	7.9	870	ND	NS	ND	60	2.2	1.5	ND	ND	ND	ND	ND	ND	ND
	12/19/2007	ND	15	9.0	870	ND	952	1.7	52	2.5	1.8J	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	10	7.1	350	ND	405	1.1	31	2.2	1.1J	ND	ND	ND	ND	ND	ND	ND
MW-11	8/16/2004	ND	ND	ND	ND	ND	NS	ND	ND	ND	5.22	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	3.82	ND	ND	ND	ND	ND	ND	ND
	6/21/2006	ND	ND	ND	ND	1.1	NS	ND	ND	ND	4.1	ND	ND	ND	ND	ND	ND	ND
MW-12	5/17/1995	ND	ND	ND	2.4	ND	NS	ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-13D	6/22/2006	ND	13	ND	72	ND	NS	ND	22	ND	1.8	ND	ND	ND	ND	ND	ND	ND
	12/19/2007	ND	13	0.71J	130	ND	62	0.62J	45	ND	0.71J	ND	ND	ND	ND	ND	ND	1.2J
	6/25/2008	ND	8.4	ND	140	ND	174	ND	26	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-14	3/27/2008	ND	97	8.6J	1,100	ND	520	ND	550	6.3J	ND	ND	ND	ND	ND	ND	ND	ND
	6/27/2008	ND	110	9.2J	1,700	ND	2,576	ND	750	6.4J	ND	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	100	8.6J	1,400	ND	490	ND	540	6.2J	ND	ND	ND	ND	ND	ND	ND	ND
MW-15	8/25/2005	ND	ND	ND	67	ND	NS	ND	108	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	ND	ND	90.2	ND	NS	ND	156	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/22/2006	ND	12	ND	74	ND	NS	ND	120	1.1	ND	ND	ND	ND	ND	ND	ND	ND
MW-16D	8/16/2004	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/21/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-17	8/17/2004	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/19/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NCAC 2L Standard	3000	6	0.4	7.0	70	3.0	0.7	200	NS	3	70	500	20	6000	400	400	0.015	
Groundwater Screening Level	4.60E+03	7.60E+01	2.20E+01	3.90E+01	NA	NA	1.20E+01	1.50E+03	1.20E+00	1.00E+00	8.10E+00	9.80E+01	4.50E+03	4.50E+06	5.00E+01	3.50E+01	1.5	

Concentrations Reported in Micrograms per Liter (µg/L)

Bold = Concentration Exceeds NCAC 2L Standard

Piedmont ind = 2018 sampling event



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Wysong & Miles Corporation  
Greensboro, North Carolina

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Chloroform	o-xylene	MTBE	Acetone	1,2,4 trimethylbenzene	1,3,5 trimethylbenzene	Vinyl Chloride
MW-18	8/17/2004	ND	ND	ND	<b>93.6</b>	ND	NS	ND	<b>12.9</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/13/2006	ND	ND	NS	<b>39.9</b>	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/20/2006	ND	ND	NS	<b>81</b>	ND	NS	ND	<b>9.5</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-19	2/28/2005	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	8/25/2005	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/20/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-20	8/16/2004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/25/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-21D	3/27/2008	ND	<b>8.6</b>	ND	<b>23</b>	<b>1.2</b>	<b>61</b>	ND	<b>13</b>	ND	<b>5.4</b>	ND	ND	ND	ND	ND	ND	ND
	6/25/2008	ND	<b>11</b>	ND	<b>43</b>	<b>0.98J</b>	<b>70</b>	ND	<b>19</b>	ND	<b>5.5</b>	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	<b>10</b>	ND	<b>32</b>	<b>1.1</b>	<b>62</b>	ND	<b>13</b>	ND	<b>5.3</b>	ND	ND	ND	ND	ND	ND	ND
MW-22	3/27/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-23D	3/27/2008	ND	<b>84</b>	ND	<b>950</b>	ND	<b>2,634</b>	ND	<b>1,600</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	<b>98</b>	ND	<b>1,400</b>	ND	<b>660</b>	ND	<b>2,000</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	<b>78</b>	ND	<b>920</b>	ND	<b>560</b>	ND	<b>1,400</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	<b>39</b>	<b>1.6</b>	<b>230</b>	ND	<b>97</b>	<b>0.69</b>	<b>220</b>	<b>2.5</b>	<b>1.5</b>	ND	ND	<b>7.1</b>	<b>15</b>	ND	ND	ND
WSW-D	3/27/2008	ND	<b>14</b>	<b>0.88J</b>	<b>140</b>	ND	<b>208</b>	<b>0.69J</b>	<b>51</b>	<b>0.51J</b>	<b>0.52J</b>	ND	ND	ND	ND	ND	ND	ND
	6/27/2008	ND	<b>12</b>	<b>0.75J</b>	<b>120</b>	ND	<b>94</b>	<b>0.69J</b>	<b>48</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	<b>9.7</b>	<b>0.55J</b>	<b>110</b>	ND	<b>153</b>	<b>0.63J</b>	<b>32</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND
PWR-1	8/11/2006	ND	<b>1.6</b>	<b>0.625</b>	<b>500</b>	ND	<b>39</b>	ND	<b>250</b>	<b>2.4</b>	<b>1.7J</b>	ND	ND	ND	ND	ND	ND	ND
	12/18/2007	ND	ND	ND	<b>290</b>	ND	ND	ND	<b>140</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/25/2008	ND	<b>0.67J</b>	ND	<b>200</b>	ND	ND	ND	<b>110</b>	ND	<b>0.69J</b>	ND	ND	ND	ND	ND	ND	ND
<b>NCAC 2L Standard</b>	<b>3000</b>	<b>6</b>	<b>0.4</b>	<b>7.0</b>	<b>70</b>	<b>3.0</b>	<b>0.7</b>	<b>200</b>	<b>NS</b>	<b>3</b>	<b>70</b>	<b>500</b>	<b>20</b>	<b>6000</b>	<b>400</b>	<b>400</b>	<b>0.015</b>	
<b>Groundwater Screening Level</b>	<b>4.60E+03</b>	<b>7.60E+01</b>	<b>2.20E+01</b>	<b>3.90E+01</b>	<b>NA</b>	<b>NA</b>	<b>1.20E+01</b>	<b>1.50E+03</b>	<b>1.20E+00</b>	<b>1.00E+00</b>	<b>8.10E+00</b>	<b>9.80E+01</b>	<b>4.50E+03</b>	<b>4.50E+06</b>	<b>5.00E+01</b>	<b>3.50E+01</b>	<b>1.5</b>	

Concentrations Reported in Micrograms per Liter (µg/L)

Bold = Concentration Exceeds NCAC 2L Standard

Piedmont ind = 2018 sampling event

TABLE 2  
Summary of Three Most Recent Groundwater Samples  
Wysong & Miles Corporation  
Greensboro, North Carolina

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Chloroform	xylene	MTBE	Acetone	1,2,4 trimethylbenzene	1,3,5 trimethylbenzene	Vinyl Chloride
PWR-2	8/11/2006	ND	19	2.0	200	ND	76	ND	47	1.8	ND	ND	ND	ND	ND	ND	ND	ND
	12/17/2007	ND	27	ND	340	ND	57	ND	67	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	29	3.0	310	ND	120	ND	69	2.5	0.66J	ND	ND	ND	ND	ND	ND	ND
	1/10/2018	ND	71	5.8	840	ND	390	1.7	91	6	1.4	0.73	ND	2.1	ND	ND	ND	ND
PWR-3	5/23/2007	ND	ND	ND	11	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/17/2007	ND	0.74J	ND	16	ND	ND	ND	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/25/2008	ND	0.67J	ND	11	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
PWR-4	5/23/2007	ND	45	5.0	590	ND	200	ND	95	4	1.1	ND	ND	ND	ND	ND	ND	ND
	12/18/2007	ND	64	7.4J	600	ND	210	ND	140	6.1J	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	54	6.1J	700	ND	270	ND	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
PWR-5	5/23/2007	ND	26	ND	260	ND	120	1.4	460	3.7	ND	ND	ND	ND	ND	ND	ND	ND
	12/18/2007	ND	24	ND	190	ND	190	ND	490	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	22	ND	150	ND	100	ND	440	ND	ND	ND	ND	ND	ND	ND	ND	ND
PWR-6	8/30/2007	ND	170	ND	1,100	ND	780	ND	1,800	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/2007	ND	170	ND	1,100	ND	510	ND	2,200	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/27/2008	ND	140	ND	960	ND	480	ND	1,800	ND	ND	ND	ND	ND	ND	ND	ND	ND
PWR-7	1/9/2018	ND	4.6	0.62	130	ND	28	ND	22	ND	ND	ND	ND	ND	ND	ND	ND	ND
PWR-8	1/9/2018	ND	3.9	1.7	190	ND	110	ND	25	2.8	1.4	ND	ND	ND	ND	ND	ND	ND
TW-1	6/20/2006	ND	7.2	ND	77	ND	29	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/18/2007	ND	6.6	0.75J	77	ND	29	ND	14	0.61J	ND	ND	ND	ND	ND	ND	ND	ND
	6/25/2008	ND	5.0	0.59J	52	ND	41	ND	9.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
TW-2	8/26/2005	ND	ND	ND	45.6	ND	NS	ND	20.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	12	ND	NS	ND	53.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/21/2006	ND	ND	ND	40	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	ND
TW-3	8/26/2005	ND	ND	ND	1.7	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	1.3	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/20/2006	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NCAC 2L Standard	3000	6	0.4	7.0	70	3.0	0.7	200	NS	3	70	500	20	6000	400	400	0.015	
Groundwater Screening Level	4.60E+03	7.60E+01	2.20E+01	3.90E+01	NA	NA	1.20E+01	1.50E+03	1.20E+00	1.00E+00	8.10E+00	9.80E+01	4.50E+03	4.50E+06	5.00E+01	3.50E+01	1.5	

Concentrations Reported in Micrograms per Liter (µg/L)

Bold = Concentration Exceeds NCAC 2L Standard

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Summary of Three Most Recent Groundwater Samples  
Wysong & Miles Corporation  
Greensboro, North Carolina

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Chloroform	xylene	MTBE	Acetone	1,2,4 trimethylbenzene	1,3,5 trimethylbenzen	Vinyl Chloride
TW-14	2/21/2000	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	8/15/2000	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	8/23/2001	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TW-15	6/21/2006	ND	1.8	ND	120	ND	46	ND	55	2.3	ND	ND	ND	ND	ND	ND	ND	ND
	12/18/2007	ND	2.2	<b>0.85J</b>	140	ND	60	ND	48	2.7	<b>0.64J</b>	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	1.9	ND	95	ND	59	ND	34	2.2	ND	ND	ND	ND	ND	ND	ND	ND
	1/10/2018	ND	5.4	0.75	130	ND	56	ND	32	1.2	ND	ND	ND	ND	ND	ND	ND	ND
TW-16	6/21/2006	ND	82	0.018	1,500	ND	1,000E	2.1	640	15	4.6	ND	ND	ND	ND	ND	ND	6.1
	12/18/2007	ND	180	17	2,300	ND	980	ND	910	15	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	170	ND	2,100	ND	1,000	ND	810	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1/9/2018	ND	77	5.9	700	ND	390	1.8	130	5.2	1.6	0.66	ND	10	ND	ND	ND	ND
RW-1	6/22/2006	ND	70	1.9	330	ND	NS	5.2	1,400	10	2.0	ND	ND	ND	ND	ND	ND	ND
	6/27/2008	ND	5.3	ND	65	ND	27	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	5.4	ND	46	ND	82	0.54J	30	ND	ND	ND	ND	ND	ND	ND	ND	ND
RW-2	6/22/2006	ND	8.3	ND	86	ND	NS	4.4	1,300	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/27/2008	ND	ND	ND	290	ND	6.4	ND	2,700	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/1/2008	ND	12	ND	300	ND	1,816	4.1	1,500	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1/10/2018	ND	16	0.066	220	ND	55	2.6	3,100	0.74	ND	ND	ND	ND	ND	ND	ND	ND
BR-1	5/24/2007	ND	34	3.6	390	ND	NS	ND	77	3.1	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/2007	ND	44	5.0J	550	ND	150	ND	110	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/2008	ND	38	ND	500	ND	190	ND	79	ND	ND	ND	ND	ND	ND	ND	ND	ND
BR-2	8/30/2007	ND	100	ND	1,300	ND	670	ND	2,300	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/19/2007	ND	200	ND	1,600	ND	610	ND	2,600	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/27/2008	ND	95	ND	1,000	ND	320	ND	2,200	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>NCAC 2L Standard</b>		3000	6	0.4	7.0	70	3.0	0.7	200	NS	3	70	500	20	6000	400	400	0.015
<b>Groundwater Screening Level</b>		4.60E+03	7.60E+01	2.20E+01	3.90E+01	NA	NA	1.20E+01	1.50E+03	1.20E+00	1.00E+00	8.10E+00	9.80E+01	4.50E+03	4.50E+06	5.00E+01	3.50E+01	1.5

Concentrations Reported in Micrograms per Liter (µg/L)

Bold = Concentration Exceeds NCAC 2L Standard

**Piedmont Ind** = 2018 sampling event



**TABLE 3**  
**Summary of Four Most Recent Surface Water Samples**  
**Wysong & Miles Corporation**  
**Greensboro, North Carolina**

Well	Date	Chloroethane	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	1,4-Dioxane	PCE	1,1,1-TCA	1,1,2-TCA	TCE	Vinyl Chloride
SW-A	10/22/2007	1.8J	31	3.5	110	ND	200	ND	<b>13</b>	ND	0.59J	<b>18</b>
SW-1	8/26/2005	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	6/22/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1/9/2018	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND
SW-2	8/26/2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/22/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-3	8/26/2005	ND	ND	ND	<b>0.83</b>	ND	NS	ND	ND	ND	ND	ND
	3/14/2006	ND	ND	ND	<b>1.4</b>	ND	NS	ND	ND	ND	ND	ND
	6/22/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-4	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1/9/2018	ND	<b>0.7</b>	ND	<b>7</b>	ND	<b>9</b>	ND	ND	ND	ND	ND
SW-5	6/23/2006	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-6	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
SW-7	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/23/2007	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND
SW-8	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-9	6/23/2006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/23/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-10	6/23/2006	ND	ND	ND	ND	ND	<b>11</b>	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW-11	6/23/2006	ND	ND	ND	<b>1.7</b>	ND	<b>24</b>	ND	ND	ND	ND	ND
	5/16/2007	ND	ND	ND	<b>2.2</b>	ND	ND	ND	ND	ND	ND	ND
	10/22/2007	ND	ND	ND	ND	ND	<b>24</b>	ND	ND	ND	ND	ND
<b>NCAC 2B Standard</b>		<b>550</b>	<b>20000</b>	<b>37</b>	<b>5400</b>	<b>4900</b>	<b>110</b>	<b>3.3</b>	<b>4.4</b>	<b>16</b>	<b>30</b>	<b>2.4</b>

Concentrations Reported in Micrograms per Liter (µg/L)

**Bold** = Concentration Exceeds NCAC 2L Standard

**Piedmont Inc** = 2018 sampling event