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April 22, 2016

Mr. David Kwiatkowski
North Carolina Department of
Environmental Quality
Pre-Regulatory Landfill Unit
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Subject: Work Plan for Task Orders 610DP-15 and -16
Old Raleigh LDFL #11 - Dorothea Dix
Raleigh, Wake County, North Carolina
Site Identification Number: NONCD0000610

Dear Mr. Kwiatkowski:

CDM Smith Inc. is pleased to submit the Work Plan and schedule for Task Orders 610DP-15 and -16 dated February 8, 2016. Per Task Order 610DP-15, the following will be completed by CDM Smith:

- Potential wetlands and regulated floodways located within the vicinity of the waste disposal area will be identified and delineated; and
- A topographic survey of the waste disposal area will be completed.

A report summarizing the wetland and floodway determination identified above will be completed in accordance with Task Order 610DP-16. We look forward to working with you on this project. If you have any questions or comments, please do not hesitate to contact me by phone at (919) 325-3569 or by email at colonemf@cdmsmith.com.

Sincerely,

Mathew F. Colone, P.G.
CDM Smith Inc.

cc: Daniel Forbes, CDM Smith
Aaron Weispfenning, CDM Smith

Section 1

Task Order 610DP-15 - Background

1.1 General

CDM Smith Inc. (CDM Smith) is pleased to submit this Work Plan for Task Order 610DP-15 dated February 8, 2016. Per Task Order 610DP-15, the following will be completed by CDM Smith for the Old Raleigh LDFL #11 - Dorothea Dix (site) located in Raleigh, Wake County, North Carolina:

- Potential wetlands and regulated floodways located within the vicinity of the waste disposal area will be identified and delineated; and
- A topographic survey of the waste disposal area will be completed.

A report summarizing the tasks identified above will be completed in accordance with Task Order 610DP-16. The Work Plan details and schedule are provided in Section 2 and Section 3 summarizes the reporting.

1.2 Personnel

CDM Smith personnel engaged in intrusive field activities at the Site will comply with Occupational Safety and Health Administration required health and safety training for hazardous waste sites. The topographic survey will be completed by a licensed North Carolina surveyor.

1.3 Daily Recordkeeping

Records will be kept in a dedicated logbook to track the progress of wetland delineation and survey activities. CDM Smith's Project Task Manager and the Unit's Project Manager (PM) will be notified if field conditions or findings require a deviation from the Work Plan. If there are delays due to weather or other unforeseen events, the Unit's PM will be contacted and a written request for extension will be submitted.

CDM Smith will provide a daily email summarizing field activities to the Unit's PM or within 24-hours of completing a field task lasting one day. Conditions or findings that may cause cost overruns will be communicated immediately to the Unit's PM and work will cease until approval is granted. Unit approved cost overruns will be followed by written correspondence from CDM Smith within 24-hours of verbal approval. The daily field notes and updates along with other means may be used by CDM Smith for invoicing, subcontractor invoice verification, cost overrun justification and billing to the Unit. As such, the logbook will include among other things:

- Travel time between the Site and the CDM Smith office located in Raleigh, North Carolina;
- Date and time spent on-site along with a summary of work performed each day;
- General weather conditions;
- Site visitors;
- All field parameters collected; and
- Observations that may affect work scope or schedule.

Section 2

Task Order 610DP-15 - Work Plan

Work performed by CDM Smith during this project will be under the direction of a North Carolina licensed Geologist or Professional Engineer. This Work Plan was prepared under the assumption that the Unit will coordinate access with the property owner prior to initiating survey activities. Survey activities and a schedule are summarized below.

2.1 Wetland and Floodway Determination

A site walkthrough will be conducted to identify potential wetlands in the vicinity of the waste disposal area. The waste disposal area is provided on **Figure 1**. Prior to the wetland evaluation, CDM Smith will conduct a brief review of available background information including National Wetlands Inventory mapping, Natural Resource Conservation Service soil mapping, and aerial photography. Potential wetland areas will be delineated with sequentially numbered flagging and surveyed. The delineation will include an evaluation of hydrology, soils, and vegetation within the potential wetlands. The U.S. Army Corps of Engineer's Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) Data Form will be completed for each delineated wetland area and for one representative upland area.

Northing and easting coordinates for the wetland flags will be collected using a Trimble GeoXH handheld global positioning system (GPS) unit and by the surveyor during the topographic survey. The GPS coordinates will be provided to the surveyor as a reference in case the flags are missing when the delineated wetlands are surveyed.

CDM Smith will research the North Carolina Floodplain Mapping Program Flood Risk Information System and the Federal Emergency Management Agency's National Flood Insurance Program database to determine if a regulatory floodway exists for Rocky Branch. The location of the floodway, if identified, will be provided on a site map.

2.2 Topographic Survey

A topographic survey of the waste disposal area as shown on Figure 1 will be completed. The waste disposal area consists of approximately 56 acres and is located on Parcel Identification Numbers 1703-06-3000 and 0793-85-7349. The topographic survey will extend approximately 50 feet beyond the edge of the waste boundary and will include select site features. CDM Smith will provide the surveyor with a CAD file containing the waste disposal area. The survey will be completed using the North Carolina State Plane Coordinate System's North American Datum of 1983 for horizontal control and the North American Vertical Datum of 1988 for vertical control. Hand clearing to complete survey transects located in wooded or densely vegetated areas will be kept to a minimum.

2.3 Schedule

CDM Smith will schedule the wetland determination and topographic survey within 3-weeks of receiving Notice to Proceed from the Unit. The schedule may be adjusted to allow time for the Unit to negotiate access with the property owner. CDM Smith will confirm the date with the Unit PM prior to mobilizing.

Wetland determination activities will be completed in one day and the topographic survey is estimated to be completed in eight days. Field activities for the wetland determination and topographic survey will begin the same day. A proposed schedule and personnel involved with each task is provided below in **Table 1.**

Table 1 – Proposed Task Schedule

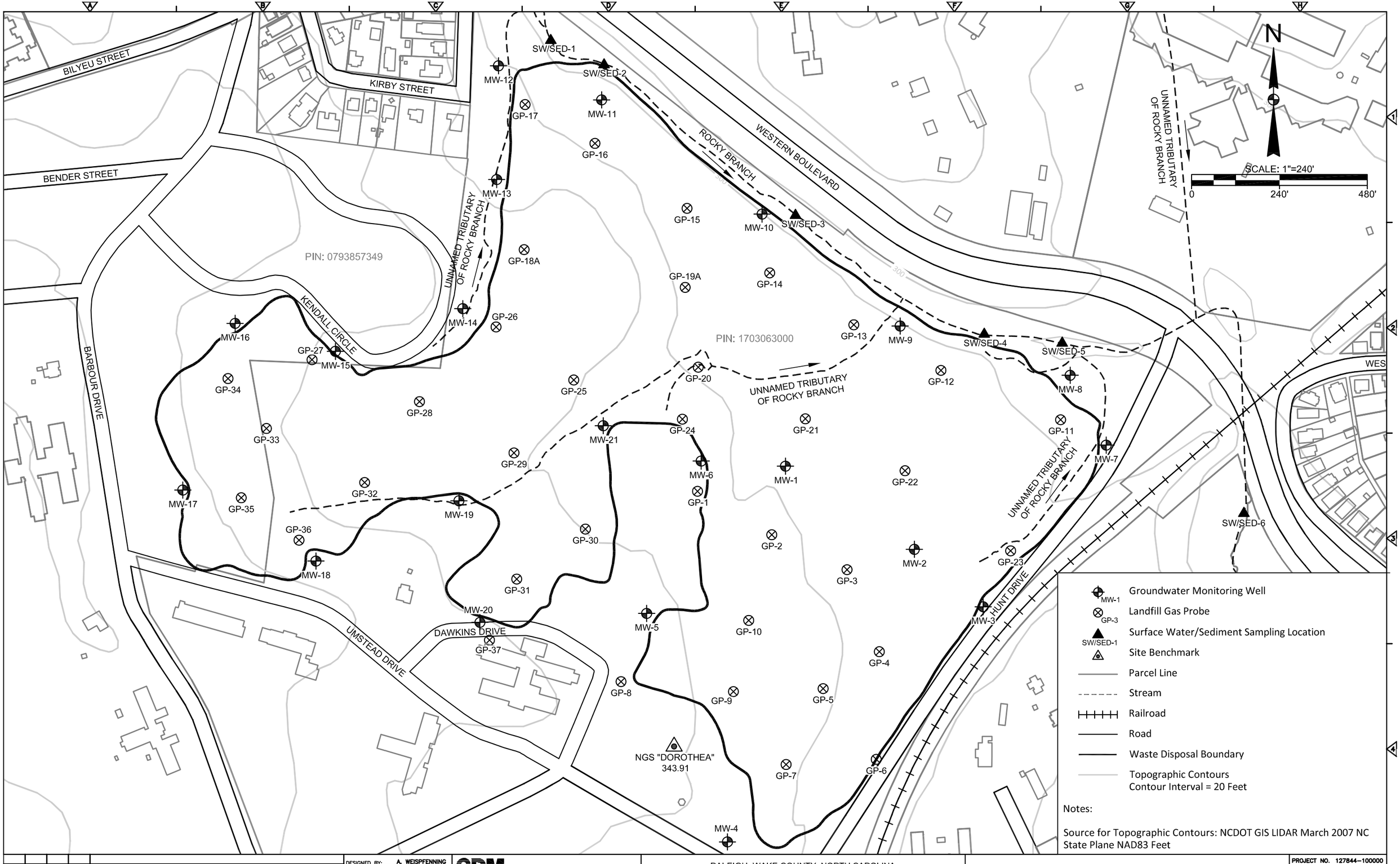
Task	Schedule	Personnel On-site			
		Project	Staff	Technician	Subcontractor(s)
Wetland Determination	Day 1: Evaluate potential wetlands at the site.	1	1	0	Yes
Topographic Survey	Day 1: Begin the topographic survey.	1	1	0	Yes
	Days 2 through -8: Complete the topographic survey.	0	0	1	Yes

Section 3

Task Order 610DP-16 Report Compilation

A copy of the field notes along with preliminary data will be provided to the Unit following delineation and research activities prior to initiating the report task. Following approval of the preliminary data, a draft report titled *Remedial Investigation - Wetland/Floodway Determination* will be prepared. The draft report will include a discussion of the wetland delineation and floodway research results, Work Plan variances, delineation forms, site map showing potential wetland and regulated floodway areas, tabulated wetland GPS coordinates, a copy of the field notes, and certification form. The topographic map will be provided in a separate submittal and will include a brief summary of the survey.

The preliminary data will be provided within two weeks of completing the wetland determination. The draft report will be submitted electronically to the Unit within 10 days of receiving approval of the report task order. A final copy of the report will be submitted electronically once any comments from the Unit on the draft report have been addressed, assumed to be within 3 days of receiving comments.



Notes:

Source for Topographic Contours: NCDOT GIS LIDAR March 2007 NC State Plane NAD83 Feet

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. WEISPFENNING
DRAWN BY: A. WEISPFENNING
SHEET CHK'D BY: D. FORBES
CROSS CHK'D BY:
APPROVED BY: M. COLONE
DATE: APRIL 2016

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RALEIGH, WAKE COUNTY, NORTH CAROLINA

OLD RALEIGH LDFL #11 - DOROTHEA DIX
(NONCD0000610)

SITE MAP

PROJECT NO. 127844-100000
FILE NAME: FIG 1.DWG

FIGURE
1