



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

June 15, 2015

Mr. Mathew Colone
CDM-Smith
5400 Glenwood Avenue, Suite 300
Raleigh, North Carolina 27612

Re: Request for Proposal for Task Order: DP686_3&4
Old Raleigh LF #3
1408 Brookside Rd.
Wake County, NC
ID #NONCD0000686
State Contract No: N13004S

Dear Mr. Colone:

Submit a task work plan and cost estimate to perform remedial investigation activities at the above referenced site. Conduct these activities in accordance with State Contract No. N13004S.

Investigation Goals: The goals of this phase of work are to investigate landfill gas in the waste disposal area, assess potential impacts to soil within the waste disposal area, assess potential impacts to groundwater in the vicinity of the waste disposal area, and sample adjacent surface water and sediment.

Scope of work for Task Order DP686.3:

- Prepare a work plan in accordance with CDM Smith's approved standard operating procedures dated May 30, 2013, and include a schedule of daily activities.
- Submit an itemized cost estimate that identifies personnel and materials involved.
- Reference the most recent Guidelines for Addressing Pre-Regulatory Landfills and Dumps for details regarding procedures
- Ensure personnel in the field are qualified to identify contaminated material and landfill waste and comply with OSHA-required health and safety training.
- Before task activities begin, photograph areas or objects that may be disturbed. If needed, photograph affected areas and objects, restoration efforts, and noteworthy items encountered during task activities. Submit these photographs upon completion of the activities, and a review will determine if any need to be included in the report.
- Collect GPS coordinates along the waste disposal boundary. Report coordinates in decimal degrees to the seventh order using the North American Datum of 1983 (NAD83) format and latitude and longitude using WGS 84 format. These coordinates will be tabulated and included as an appendix. The tabulated coordinates for the landfill perimeter should start at the

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone: 919-707-8200 \ Internet: <http://portal.ncdenr.org/web/wm>

northernmost point of the perimeter and be listed in a clockwise progression around the perimeter.

- Include background (light grey) topographic contour lines on figures detailing the Site and Site vicinity.
- For any invasive activities, provide a plan to properly manage investigation derived waste (IDW). If sampling results indicate non-hazardous IDW, spread within the waste disposal area. If sampling results indicate hazardous IDW, analyze containerized waste as required by waste hauler and include details of sampling and disposal of drums in the proposal. Remove all drummed waste and associated fencing from site within 90 days after field activities are concluded.
- For any field work, minimize the clearing of vegetative material to enable access to proposed sampling points. Using hand tools for clearing is the preferred method, otherwise an explanation must be provided for use of heavy equipment. Submit samples to a North Carolina-certified laboratory and analyze for the following parameters by the most current U.S. EPA Contract Laboratory Program Target Compound List: volatile organic compounds by SW-846 method 8260, 1,4-dioxane by Method 8260SIM, semi-volatile organic compounds by SW-846 method 8270, 14 metals by SW-846 method 6020, mercury by method 7471, ammonia by SM 4500, and nitrate and sulfate by EPA Method 300. Please note that any alternate method should be the U.S. EPA Method having the lowest detection limit and that at least achieves the detections equivalent to the 15A NCAC 2L standards or where these are not available, then federal maximum contaminant limits (MCLs). Soil analysis methods must meet the IHSB Preliminary Soil Remediation Goals Table. Initial samples also need 10 Tentatively Identified Compounds (TICs).
- Note: once all contaminants are determined, laboratory analysis may be reduced to those positively identified contaminants.
- Upon completion of task activities, submit field notes, photographs, and validated analytical results for review.

Surface Water/Sediment Investigation:

- Collect both a surface water and sediment sample from the three locations designated on the attached map (SW/SED-1, SW/SED-2 & SW/SED-3).

Landfill Gas Probe Installation and Screening

- Install two temporary landfill gas probes (GP-1 and GP-2) located as presented in the attached map to monitor subsurface landfill gas.
- If landfill gas probes cannot be constructed according to minimum requirement in the Guidelines, contact the Unit Project Manager and be prepared to conduct Flux Chamber installation and screening.
- Screen the landfill gas probes for volatile organic compounds (VOCs), methane, oxygen, carbon dioxide, barometric pressure and hydrogen sulfide.
- Screen new landfill gas probes at least 24 hours after installation.
- Compare landfill gas probe screening results with the IHSB Residential Vapor Intrusion Screening levels.
- Abandon the gas probes following screening.

Groundwater Investigation:

- Advance two soil borings (TMW-1 and TMW-2) to assess groundwater at the locations indicated on the attached map. Install a 1-inch diameter temporary groundwater well (may use pre-packs if applicable) in each boring. If groundwater is not encountered or if waste is encountered in borings, contact the Unit immediately. Record details of each wells' construction, development and abandonment. Well installation must comply with the most current 15A NCAC 2C well construction standards.
- Log each boring in the field. Boring log information will include but is not limited to; detailed soil description and lithology at depths, depth of groundwater observed during drilling, notable reaction of drill rig during advancement, depth of competent rock encountered, detailed notes/remarks, and a well construction diagram.
- Collect water level measurements using all available groundwater wells.
- Collect one groundwater sample from each well to submit for laboratory analysis.
- Provide well construction details in a table and include installation date, total well depth, well screen interval, and depth to groundwater.

Soil Investigation:

- Collect soil samples for laboratory analysis during the advancement of the boreholes for temporary monitoring wells TWM-1 and TMW-2. Collect three soil samples for laboratory analysis from each soil boring: one at 1 foot below land surface (bls), the second at an intermediate depth based upon field instrumentation (PID/FID) measurements and observations, and the third at 10 feet bls or refusal which ever happens first. If refusal is encountered prior to 7 feet bls contact the Unit project manager to discuss sampling intervals.

Scope of Work for Task Order DP686.4: Report Compilation

Compilation of the report will be approved as a separate task order. The Report will be titled "Remedial Investigation – Media Sampling".

The report is to contain the following items:

- Text, tables, and figures to adequately summarize task activities.
- A section concerning any variations from the work plan or your SOPs.

Submit a work plan (including schedule) and an itemized cost estimate to perform these remedial investigation – first phase activities by June 23, 2015. A task authorization to begin work will be issued based on the approved proposal. Do not proceed with tasks prior to receiving this authorization. If you have any questions or concerns, contact me at (919)707-8230

Sincerely,



David P. Kwiatkowski, L.G., Hydrogeologist
Division of Waste Management - NCDENR