

## **Exhibit A**

### **City of Durham**

**Contractor will perform the following tasks for the City of Durham until midnight on June 30, 2019:**

**Task 1: Comprehensive Landfill Audit** – Contractor will complete a comprehensive landfill audit in accordance with the Comprehensive Landfill Audit Guidance (<http://ncdenr.s3.amazonaws.com/s3fs-public/Waste%20Management/DWM/SW/Field%20Operations/Operating%20Guidelines/CLAGD.pdf>) sections 3.2, 3.4, 5, and 6 (as appropriate for closed landfills permitted under 15A NCAC 13B.0500 et seq rules and the site permit requirements). Based on this audit, Contractor will present our findings to the City in a written report. This audit will establish current conditions at the site regarding the items reviewed, and be the basis for determining if additional tasks are needed to address any City concerns regarding the current condition of the closed landfill.

**Task 2: Quarterly Landfill Gas (LFG) Monitoring** - Contractor will utilize the City's calibrated portable landfill gas meter to collect quarterly measurements from the dedicated landfill gas monitoring network. Two of these events will be performed in conjunction with the semi-annual water quality monitoring events for efficiency. The results will be reported to the City on the standard LFG monitoring form included in NCDEQ Landfill Gas Monitoring Guidance Document (November 2010 page 16) within three days of collection. If exceedances are noted, the City will submit the results to NCDEQ.

During quarterly monitoring, the condition of the outer casing, riser pipe, connect fittings, and pad at each passive gas probe will be assessed. If repairs are deemed necessary, Contractor will provide written notice to the City of what work is required, provide an estimate of the costs associated with the work, and will, as the City requests in writing, assist with necessary repairs with Contractor's own personnel or by obtaining other contractors or subcontractors to perform that work.

**Task 3: Monthly LFG Condensate System Inspection** – Contractor will inspect the LFG Condensate Drainage System in accordance with the Closure Requirements in the Transition Plan. The system includes five (5) condensate traps and one (1) holding tank.

**Task 4: Water Quality Monitoring** - Contractor will perform water level gauging in six (6) regulatory network monitoring wells and eight piezometers on a semi-annual basis (May and November of each year unless another schedule is requested approved by the City and NCDEQ). This information will be used to create a potentiometric surface map for the site.

Contractor will collect samples from six (6) monitoring wells at the site using compressed air supplied by Contractor on a semi-annual basis (May and November of each year unless another schedule is requested and approved by the City and NCDEQ). Due to the elevated concentrations of barium, cobalt, and zinc during the Fall 2014 monitoring event, we propose to add turbidity to the field parameter list (to be analyzed with temperature, pH and specific conductance). Turbidity within the samples can bias inorganic metal results high due to added concentrations from silts and clays. Although low-flow sampling should minimize sample turbidity, we are including evaluation for this parameter to rule it out as a possible reason for metal exceedances. Surface water samples will also be collected by Contractor from four locations in Ellerbee Creek and its tributaries.

During monitoring activities, Contractor will inspect the condition of monitoring locations (including the dedicated sampling system, well riser piping, protective outer casing, lock and pad). Information regarding the condition of each monitoring location will be included in the semi-annual monitoring reports. If repairs are needed, Contractor will contact the City regarding what work is required and the associated cost (if work is to be done by S+G or other subcontractors).

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Samples will be analyzed for the Appendix I list of constituents by Prism Laboratories (a City of Durham approved SDBE). Prism laboratories is a North Carolina DEQ certified laboratory.

After receiving analytical results from each monitoring event, one of Contractor's licensed professional geologists will review the site data for consistency with previous events and will evaluate the monitoring network for effectiveness. Statistical analysis will be performed for detected constituents, as necessary. NCDEQ no longer requires statistical analysis for semi-annual monitoring events, however, it can be helpful when evaluating naturally occurring inorganic metals constituents. The City will provide Contractor with historical groundwater results in electronic format (Excel, Access, or Text delimited) for inclusion in a database for potential statistical analysis going forward. Reports will be submitted to the City within 90 days of receipt of laboratory data. The City will be responsible for submitting the report to NCDEQ.

After data analysis is complete, Contractor will prepare a water quality monitoring report. This report will include the items stated in NCDEQ's memo of November 2014 summarizing reporting requirements, and descriptions of procedures and quality assurance protocols, employed analysis and interpretation of data, evaluation of the monitoring network, and a graphical summary of historical and current data.

Contractor will inspect the dedicated sampling system during each monitoring event. Results will be included on field monitoring forms included in the semi-annual monitoring report. Recommendations will be made as needed for system upgrades or repairs. If additional or new equipment is deemed necessary, Contractor will notify the City on the additional cost of purchase, and if necessary, installation, of those items.

**Task 5: Inorganic Groundwater Analysis and Reporting:** Due to the elevated concentrations of barium, cobalt and zinc during the Fall 2014 monitoring event, Contractor proposes additional evaluation of inorganic concentrations, which can be biased high by turbidity and suspended soil particles in the sample. Contractor proposes collecting a set of filtered samples from six monitoring wells during the Fall sampling event in 2016, to be analyzed for inorganic metals. Filtered sample analysis may alleviate concerns about the origin of the metals and eliminate the need for statistical analysis. Additionally, Contractor will review the National Uranium Resource Evaluation (NURE) Program data, which includes inorganic metals analysis from across North Carolina. These data will be used by Contractor to further evaluate the natural concentrations of detected constituents. Contractor will prepare a report for the City summarizing the analytical results and NURE data findings within ninety (90) days of receipt of the analytical data. This data, if favorable, may then be shared by the City with NCDEQ and referenced in future monitoring reports to eliminate the landfill as a source of the evaluated inorganic constituents.

**Task 6: LFG Condensate Management Study** – Contractor has received an evaluation of LFG condensate quality from the City (prepared by others). Based on information contained in this report, there are at least 15 LFG extraction wells (out of a total of 81) that exhibit leachate incursion covering greater than 50% of the screened well casing. Further study is needed to determine what, if any, attempts to remove leachate from these wells should be made. Current and historic landfill gas extraction rates will be reviewed by Contractor from the entire site, as well as individual wells, and compared to modeled gas generation rates to estimate the capture efficiency of the collection system. Additionally, the February 25<sup>th</sup>, 2016 letter report from Golder Associates "Support Services for Landfill Gas Well Dewatering" will also be reviewed. Finally, the needs of the City and third-party gas to energy developers as they pertain to LFG condensate incursion in the wells will also be considered by the Contractor. Based on a review of well performance data, up to six (6) wells may be selected for leachate dewatering to better evaluate flowrates of condensate both into and out of the wells. Contractor assumes condensate can be pumped from the well through the header pipe to the nearest condensate trap. Up to six

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(6) wells may be selected for leachate dewatering tests. Dewatering (exclusive of condensate disposal costs) is included in the contract price. Should the City instead desire to pursue other options, Contractor shall present options and potential change order pricing associated with each option to the City. Total gallons pumped, recharge rate of leachate, and well performance following pumping will be recorded. Recommendations may include frequency of continued well dewatering.

**Task 7: Flare Permit Renewal** – The NCDEQ Division of Air Quality requires periodic renewal of the flare permit. The current permit expires on May 31, 2017. Contractor will prepare a permit renewal and update report for the flare system for submittal to the City for review by December 31<sup>st</sup> 2016. Submittal to NCDEQ is scheduled for on or before February 28<sup>th</sup>, 2017. By December 31<sup>st</sup> 2016, Contractor shall also prepare and submit for review to the City an air emission inventory report, which is also required to be submitted with the flare permit renewal, reporting landfill emissions during calendar year 2015, with submittal to NCDEQ by February 28<sup>th</sup>, 2017.

**Task 8: Landfill Cover and Stormwater Conveyance Inspection** – Contractor will conduct cover system inspections on a semi-annual basis (as coordinated with the City based on the City's mowing schedule). Storm water detention basins, ditches, reverse slope benches, diversion berms, chutes and culverts will also be inspected during these events. Distressed vegetation, cracks, low spots and/or observed leachate seeps will be reported in writing to the City within sixty (60) days. It is assumed routine mowing will be performed by the City, and Contractor will coordinate with the City to perform these inspections after mowing activities. The City will address any reported issues as needed.

**Task 9: Invasive Species Eradication Plan** – Contractor will evaluate the invasive species situation at the three sediment basins on the site and consult with an invasive species expert to prepare a written plan for Duckweed and Primrose eradication. This plan will likely require sedimentation basin cleaning by the City to prevent Duckweed and Primrose regrowth. The plan will be submitted to the City within sixty (60) days of completion of all field work and evaluations.

**Task 10: Quarterly Meetings** – Contractor will have a recurring quarterly meeting with representatives from the City of Durham to discuss groundwater and landfill gas monitoring, analytical findings, gas system needs and updates, potential maintenance issues and any additional tasks related to the landfill.

**Task 11: Miscellaneous Support Services** - Contractor will provide additional miscellaneous services as needed and approved by the City in writing. Additional services may include, but are not limited to: LFG Collection system maintenance and review, updating operations and maintenance practices and manuals, and miscellaneous consulting services on an as-needed basis.