

SCS ENGINEERS, PC

February 28, 2018

Richard P. Lovett
Environmental Compliance Support Manager
City of Greensboro
Field Operations Department
401 Patton Ave.
Greensboro, NC 27406

Subject: Proposal for Professional Services
 White Street Landfill Air Quality
 White Street Landfill – Greensboro, North Carolina

Dear Mr. Lovett:

SCS Engineers, PC (SCS) is pleased to submit this proposal to provide air quality and landfill gas (LFG) support services to the City of Greensboro, for its White Street Landfill in Greensboro, North Carolina from July 1, 2018 through June 30, 2023. The White Street Landfill (Landfill) is subject to the New Source Performance Standards (NSPS) and thus is required to meet specific monitoring, record keeping, and reporting requirements. Furthermore, the Landfill holds a Title V Air Quality Permit issued by the North Carolina Department of Environmental Quality (NCDEQ).

Our proposed scope of services and fee estimate are presented below.

SCOPE OF SERVICES

Task 1 - Annual Compliance Certification

Under Condition 3.P of the Landfill's Title V Permit and the NC Regulation 15A NCAC 2Q.0508(n), the Landfill is required to submit a compliance certification for the previously calendar year . In accordance with Permit Condition 3.P, SCS will prepare a Title V Compliance Certification for the Landfill. The annual certification will meet the requirements of the NCDEQ and will include:

- The identification of each term or condition of the permit that is the basis of the certification;
- The compliance status;
- Whether compliance was based on continuous or intermittent data; and,
- The method(s) used for determining the compliance status of the source, currently and over the reporting period.



SCS will prepare a draft report for review. Upon review and comment, SCS will prepare three (3) originals for appropriate signature and subsequent submission to the NCDEQ (2 copies) and the USEPA (1 copy) before March 1, 2019. Additional copies will be made for the Landfill.

SCS proposes to complete Task 1 for a lump sum fee of \$3,500 for years 1 through 3. For years 4 and 5 our fee is \$3,700.

Task 2 - Combined NSPS, Title V and SSM Semi-Annual Reports

Preparation of the combined NSPS, Title V, and SSM Semi-Annual Reports for the Landfill is required by the permit condition 2.1(A)(1)(j), 40 CFR 60.757(f) and the National Emission Standards for Hazardous Air Pollutants (NESHAP) for municipal solid waste landfills. The NSPS, Title V, and SSM Semi-Annual Reports will cover the 6-month periods from January 1 through June 30 and July 1 through December 31 each year, and will include the submittal requirements of the SSM Plan for the Landfill as required by the NESHAP. This involves reviewing monthly wellfield data, other Title V related data, and SSM events. The reports will also summarize deviations (if any) from the Landfill's Title V Permit.

SCS will prepare a draft of each report for review. Upon review and comment, SCS will prepare two (2) originals of each report for your signature and subsequent submission to NCDEQ (2 copies) on or before July 30 for the January through June period, and January 30 for the July through December time period each year. Additional copies of the reports will be made for the Landfill's records.

SCS proposes to complete Task 1 for a lump sum fee of \$3,600 per report or \$7,200 total each year.

Task 3 - General Air Consulting Services

From time to time, compliance issues related to monitoring, field-testing, and system operations arise that require the input of SCS. Typical efforts may involve meeting with NCDEQ, preparing letters to NCDEQ, assessing potentially non-compliant LFG wells, reviewing LFG collection data and making recommendations, or other general air-related consulting. As such, a time-and-materials (T&M) task to address these issues is appropriate to provide timely response and to avoid administrative paperwork after the fact to cover professional fees incurred. Services under this task would be conducted only via written authorization from the City.

SCS recommends a budget of \$5,000 for Task 3 each year.

Task 4 - Annual Emissions Inventory

Under Condition 3.X of the Landfill's Title V Permit and the NC Regulation 15A NCAC 2Q .0207, the Landfill is required to report the amount of actual emissions of each regulated air pollutant from Title V listed emission sources within the facility during the previous calendar year. This annual emissions report (AER) must be submitted to NCDEQ by June 30 of each year. Based upon the results of the AER, the Division of Air Quality (DAQ) will issue, at a later time, an invoice for emissions.

SCS will provide the City with a draft AER and prepare and populate, but not submit, the AER into the NCDEQ online emission reporting system (AERO) for your review and comment. Following your review of the AER, we will submit the electronic copy and prepare the paper copy of the report. On behalf of the Landfill, SCS will submit two (2) copies of the final AER to the Winston Salem Regional NCDEQ office and provide you two (2) copies of the final AER. SCS will complete the AER prior to the June 30 submittal date each year.

SCS proposes to complete Task 4 for a lump sum fee of \$4,200 for years 1 through 3. Our fee for years 4 and 5 is \$4,400.

Task 5 – LFG System Performance and Compliance Evaluation

This task involves the ongoing monthly evaluation of the performance of the LFG system at the Landfill. Items included in this task are:

- Review and analysis of wellfield monitoring data for both NSPS compliance and LFG system performance purposes.
- Preparation of correspondence to the NCDEQ notifying the agency of the need for alternative NSPS timelines for specific LFG extraction wells.
- Review of wellfield flow, flare and LFG end user data in evaluating LFG system performance.
- Verify and evaluate collected data for quarterly methane monitoring probes.
- Preparation of a monthly memorandum regarding the Landfill's LFG system performance and compliance status.
- Participation in monthly status phone calls with Landfill personnel and O&M personnel regarding LFG system performance.

Based on our experience with the LFG system, this assignment averages about 15 to 20 hours per month.

SCS proposes to complete Task 5 for a lump sum fee of \$2,200 per month or \$26,400 total each year.

Task 6 - GHG Mandatory Reporting Rule Data Compilation and Reporting

SCS will compile and process the data required to complete the calendar year Green House Gas (GHG) emissions calculations and reporting for the Landfill. Following the data gathering phase, SCS will complete the emissions calculations and reporting of the final data to EPA e.

When the data compilation has been completed, SCS will provide a memorandum for your files including pertinent assumptions as well as the completed spreadsheets required for the GHG calculations. SCS will rely on Landfill-provided data to compile flow and methane data for the site, including any flows provided to third-party energy facilities. SCS will electronically process the data into a format suitable for emissions calculations and reporting.

SCS will prepare a draft report for review. Upon review and comment, SCS will submit to USEPA via the agency's e-ggrt online reporting system before March 31 each year.

SCS proposes to complete Task 6 for a lump sum fee of \$3,500 years 1 through 3. For years 4 and 5, the lump sum fee will 3,700.

Task 7 - US DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) Reporting

SCS Engineers will provide professional consulting services for the completion and submittal of the annual US DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) for gas transmission pipelines submittal. This task includes obtaining and entering the required annual data into the online database. Once entered and reviewed by the City, the data will be submitted on the City's behalf.

SCS proposes to complete Task 6 for a lump sum fee of \$1,800 each year.

Task 8 – Title V Operating Permit Renewal

The Landfill is currently subject to a Title V Operating Permit (Number TV-08830T08), issued by the North Carolina Department of Environmental Quality (NCDEQ), Bureau of Air Quality (Bureau) on January 5, 2015, and which expires December 31, 2019. As stated in the permit, the renewal application must be submitted no later than 9 months prior to the expiration date, or March 31, 2019. However, the application may be submitted prior to this date, and SCS typically recommends an early submittal to allow NCDEQ time to review the application for completeness and to avoid potential delays in issuance. SCS will prepare the application forms, emissions estimates, and necessary supporting documentation for submission to NCDEQ to renew the Landfill's Permit.

A summary of anticipated activities is as follows:

- Review of information provided by Landfill personnel regarding the various air pollution sources at the site, including information regarding anticipated operational changes over the next 5-year period.
- Estimate potential emissions from the sources at the site (e.g., landfill fugitives, leachate pretreatment process, flares, etc.). The emissions will be estimated for the next 5-year period (the permit term).
- Air dispersion modeling of emission sources as required to determine compliance with the National Ambient Air Quality Standards (NAAQS), if applicable and air toxics ambient acceptable limits (AALs).
- Complete the appropriate NCDEQ application forms and assemble supporting documentation.
- Submit a complete application to the Landfill for review and comment.

- Review of draft permit when issued by the Bureau. SCS anticipates that questions and comments from NCDEQ will be received during the regulatory review period. SCS will respond in a prompt manner to questions raised by the Bureau. The level of effort envisioned for this task involves response to typical high-level questions related to the application or air dispersion modeling.

SCS proposes to complete Task 7 for a lump sum fee of \$11,500.

Task 9 – Phase I NSPS Exclusion Request

In its specifications for collection systems, the NSPS contains a provision that allows portions of a NSPS-subject landfill to be excluded from the control requirements of the rule, potentially reducing the monitoring and reporting burden for the Landfill. Section 60.759(a)(3)(ii) states that “Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill.” Given the age and previous section-specific Non-Methane Organic Compounds (NMOC) analysis, Phase I is a candidate for exclusion.

This Task is broken into three parts:

Eligibility Determination

Prior to the preparation of a request, SCS will evaluate the eligibility status of Phase I using site-supplied existing NMOC analysis and waste disposal history. SCS will use this data to calculate emissions from Phase I using the NMOC estimation formula specified by the rule in 60.759(a)(3)(ii).

Should these calculations show that the total NMOC emissions from Phase I contribute less than 1 percent of the Landfill’s total NMOC emissions, satisfying the NSPS requirements for exclusion, SCS will prepare a letter report as detailed below to the North Carolina Department of Environmental Quality (NC DEQ) requesting that Phase I be excluded from the affected NSPS monitoring and reporting requirements.

Eligibility Determination - NMOC Sampling Protocol and Analysis

In the event that the calculations show that NMOC emissions from Phase I exceed the 1 percent threshold for NSPS exclusion, SCS will collect gas samples along the header system at the Landfill. A total of four (4) landfill gas (LFG) samples will be collected: two (2) from the 10-inch header pipe in Phase I, in the vicinity of the 10-inch isolation valve, and two (2) from the 16-inch header pipe at the blower/flare station. The purpose of these samples is to show that NMOC concentrations in gas coming solely from Phase I contribute less than 1 percent of total NMOC emissions for the entire Landfill.

As part of this task, SCS will prepare a sampling protocol for submittal to NC DEQ, outlining both the purpose of the sampling and a detailed breakdown of field activities. Upon approval of the sampling protocol, SCS will travel to the Landfill to collect the four (4) LFG samples and ship them to a North Carolina certified laboratory for standard Tier II NMOC analysis.

Should the calculation, following the laboratory analysis of these samples, show that the NMOC emissions for Phase I are less than 1 percent of the Landfill's total NMOC emissions, satisfying the NSPS requirement for exclusion, SCS will prepare a letter report to NC DEQ requesting that Phase I be excluded from the affected NSPS monitoring and reporting requirements.

Summary Report Preparation

Upon completion of the eligibility determination and NMOC sampling protocol and analysis (if necessary), SCS will prepare a report summarizing the findings. This report will include calculations and, if sampling is necessary, a summary of field activities and the laboratory analysis. All correspondence associated with this project, including any letters submitted to NC DEQ and the full laboratory report.

SCS recommends a budget of \$15,200 for this Task.

Task 20 - Quarterly Surface Emissions Monitoring

Once each quarter, SCS-FS will perform surface emissions monitoring (SEM) per §60.755(c) and §60.756(f) of the NSPS.

Surface emissions monitoring will include:

- Testing surface emissions at 30 meter intervals along the monitoring path using an organic vapor analyzer per EPA Method 21 as modified for methane;
- Marking and recording points which exceed 500 ppm emissions;
- Recording and reporting of all data collected;
- Recommending corrective actions to remediate exceedances.

Actions to remediate exceedance areas could involve such activities as gas well vacuum adjustments, header line flow/vacuum adjustments, cover maintenance, or the installation of additional collection devices.

Additional corrective actions will be performed under the non-routine provisions of this contract. This is suggested to account for the variability with regard to number of corrective actions that may be required.

SCS proposes to complete Task 20 for a lump sum fee of \$2,500 per event or \$10,000 total for years 1 through 3. For years 4 and 5, the fee will 2,650 per event or \$10,600.

Task 21 - Non-Routine Services

SCS will provide the City on-call services on an as-needed basis to support the operation and maintenance of the landfill gas collection and control system. Typical assignments covered under this task are as follows:

- Recalibrate equipment
- Replace or repair gas extraction wells

- Replace damaged GCCS piping
- Pump wells or install/replace permanent pumps
- Evaluate/troubleshoot operation of the GCCS
- Provide cost estimates for repair work and engineer's recommendations
- Surface Emissions Monitoring Rechecks

At this time, it is difficult to determine a specific scope for the above items. It is recommended an annual budget of \$25,000 be allotted for Task 21 for years 1 through 3 and \$30,000 per year for years 4 and 5.

Task 22 – SCS eTools

To facilitate landfill GCCS operational assessment, regulatory compliance, and rapid access to monitoring results, SCS has developed SCS eTools®, a proprietary Internet-based data application. Hosted on a secure “cloud” service, SCS eTools provides SCS and its clients with readily accessible, up-to-date information on GCCS monitoring results. The application stores electronic data uploaded via computer from field monitoring instrumentation (i.e., the Landtec GEM 2000 and 5000, or Earthworks Envision Meter). SCS eTools is a user role based application giving authorized users the ability to upload and access monitoring data and documents, validate edits to uploaded records, track remaining active ID's to be monitored in the month, create and perform searches of site data, highlight and track general exceedance resolution, and create customized data reports for use in spreadsheet programs. In addition, among other things, geo-spatial mapping of monitoring data and monitoring points can be viewed from within the application.

SCS believes that SCS eTools provides the most comprehensive landfill gas data management solution on the market today. SCS continues to invest in application development to bring customers feature upgrades. SCS is also pleased to offer support and training to City personnel. SCS provides live telephone support, which includes a direct call number and email to serve designated City employees during nationwide business hours (8 a.m. Eastern to 5p.m. Pacific Time, Monday through Friday, excluding holidays). Calls and emails are automatically routed to the first available service manager. Help requests are tracked to provide a record of issue resolution, and guidance on the development of new features.

SCS proposes to provide services in Task 23 for a lump sum fee of \$700 per month or \$8,400 total each year.

FEE ESTIMATE AND CLOSING

SCS Engineers will perform the scope of work in accordance with our Master Services Agreement between SCS Engineers and City of Greensboro. Our scope of work, fee, and schedule are summarized below in **Table 1**. For most tasks we held our fee constant for all five years, however for some an adjustment for select tasks in years 4 and 5 are proposed.

The total five year fee estimate is \$514,100.

Table 1 – Five Year Fee Summary

Task	Name	Year 1 Fee	Year 2 Fee	Year 3 Fee	Year 4 Fee	Year 5 Fee
1	Annual Compliance Certification	\$3,500	\$3,500	\$3,500	\$3,700	\$3,700
2	Combined NSPS, Title V and SSM Semi-annual Reports	\$3,600/report \$7,200 total	\$3,600/report \$7,200 total	\$3,600/report \$7,200 total	\$3,600/report \$7,200 total	\$3,600/report \$7,200 total
3	General Air Consulting Services	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
4	Annual Emissions Inventory	\$4,200	\$4,200	\$4,200	\$4,400	\$4,400
5	LFG System Performance and Compliance Evaluation	\$2,200/month \$26,400 total	\$2,200/month \$26,400 total	\$2,200/month \$26,400 total	\$2,200/month \$26,400 total	\$2,200/month \$26,400 total
6	GHG Reporting Rule Data Compilation and Reporting	\$3,500	\$3,500	\$3,500	\$3,700	\$3,700
7	PHMSA Reporting	\$1,800	\$1,800	\$1,800	\$1,800	\$1,800
8	Title V Operating Permit Renewal	\$11,500				
9	Phase I NSPS Exclusion Request	\$15,200				
20	Quarterly Surface Emissions Monitoring	\$2,500/Qt \$10,000 total	\$2,500/ Qt \$10,000 total	\$2,500/ Qt \$10,000 total	\$2,650/ Qt \$10,600 total	\$2,650/ Qt \$10,600 total
21	Non-Routine Services	\$25,000	\$25,000	\$25,000	\$30,000	\$30,000
22	SCS eTools	\$700/month \$8,400 total	\$700/month \$8,400 total	\$700/month \$8,400 total	\$700/month \$8,400 total	\$700/month \$8,400 total
Yearly Totals		\$121,700	\$95,000	\$95,000	\$101,200	\$101,200

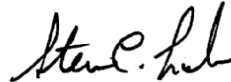
CLOSING

Thank you for the opportunity to prepare this proposal; we welcome the chance to continue to provide our services to the City of Greensboro. Please call J Morgan at (704) 504-3107 if you have questions about this proposal or need additional information.

Sincerely,



J Morgan, PE
Project Manager
SCS ENGINEERS, PC



Steven C. Lamb, PE
Vice President
SCS ENGINEERS, PC

