

AMENDMENT NO. 1
To
AGREEMENT
For
PROFESSIONAL ENGINEERING SERVICES
Between
THE CITY OF COLUMBIA, MISSOURI
And
AND WEAVER CONSULTANT GROUP, LLC

COLUMBIA SANITARY LANDFILL HORIZONTAL EXPANSION PERMITTING PROJECT – PHASE III – including: Additional Geotechnical Analysis, Vertical Expansion Permit Modification, and Solid Waste Disposal Area Permit Application

THIS AMENDMENT NO. 1 (“Amendment”) by and between the City of Columbia, Missouri (“City”) and **Weaver Consultants Group, LLC**, (“Engineer”) is entered into on the date of the last signatory noted below (the “Effective Date”).

WHEREAS, The City and Engineer entered an agreement for landfill horizontal expansion permitting services on May 18, 2022 (“Agreement”); and

WHEREAS, the City and Engineer agree that certain additional services not contemplated at the time the Agreement was entered are necessary.

NOW, THEREFORE, the City and Engineer agree to amend the Agreement set forth as follows.

1. Paragraph 2.1.1 of the Agreement is amended to add the following sentence at the end of such paragraph:

In addition, Engineer shall perform professional engineering services set forth in the “Vertical Expansion Permit Modification Response to Comments and Re-Submittal City of Columbia Landfill” dated January 30, 2026, attached hereto as Exhibit D and incorporated herein.

2. Paragraph 6.1.1.6 of the Agreement is removed and replaced in full as follows:

6.1.1.6 Total payment for Scope of Basic Services and all other expenses and costs to CITY under this Agreement and described herein **shall not exceed Four Hundred Fifty-Five Thousand Four Hundred Forty-Four Dollars and Twenty Five Cents (\$455,444.25)**.

3. Paragraph 7.18 of the Agreement is removed and replaced in full as follows:

7.18 Agreement Documents

This Agreement includes the following exhibits, which are incorporated herein by reference:

| Exhibit | Description |
|---------|--|
| A | Scope of Work |
| B | Hourly Fee Schedule |
| C | Work Authorization Affidavit |
| D | Vertical Expansion Permit Modification Response to Comments and Re-Submittal City of Columbia Landfill, dated January 30, 2026 |

In the event of a conflict between the terms and conditions of this Agreement and any attachment hereto, the terms contained in this Agreement shall prevail and the terms contained in any attachment shall subsequently prevail in the following order: Exhibit A, D, B, C.

4. The terms and conditions of the Agreement are modified as specifically set forth herein. All other provisions of the Agreement, to the extent not inconsistent with this Amendment, remain in full force and effect.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, City and Engineer have executed this Amendment No. 1 on the date last written below.

CITY OF COLUMBIA, MISSOURI

By: _____
De'Carlton Seewood, City Manager

Date: _____

ATTEST:

By: _____
Sheela Amin, City Clerk

APPROVED AS TO FORM:

By: _____
Nancy Thompson, City Counselor/ek

CERTIFICATION: I hereby certify that the above expenditure is within the purpose of the appropriation to which it is charged, Account No. **55716588-604990RF061**, and that there is an unencumbered balance to the credit of such appropriation sufficient to pay therefor.

By: _____
Matthew Lue, City Director of Finance

WEAVER CONSULTANTS GROUP, LLC

By: Michele Clark

Printed Name: Michele Clark

Title: Principal

Date: 3/3/26

ATTEST:

By: Dustin Thoenen

Printed name: Dustin Thoenen

Exhibit A
Scope of Work

STATEMENT OF WORK - PHASE 3

ADDITIONAL GEOTECHNICAL ANALYSIS VERTICAL EXPANSION PERMIT MODIFICATION SOLID WASTE DISPOSAL AREA PERMIT APPLICATION

CITY OF COLUMBIA LANDFILL

Prepared for



December 2021
Revised March 2022

Prepared by



Weaver Consultants Group, LLC
6301 E Hwy AB
Columbia, MO 65201
888-660-0346

STATEMENT OF WORK

Project Background

The City of Columbia, Missouri (City) currently owns and operates a sanitary landfill in Boone County, Missouri. The existing landfill is divided into two sections: a 51-acre pre-Subtitle D section in the north, and a 56-acre Subtitle D section to the south. The 56-acre Subtitle D disposal area is divided into six cells. Cells 1-6 are constructed, with current disposal operations occurring in Cell 6.

The remaining life of the existing Landfill was estimated by Burns & McDonnell as part of the 2016 Vertical Permit Modification. The Remaining Life was derived by calculating the remaining disposal volume and then applying an assumed waste generation rate and an airspace utilization factor (AUF) to calculate the approximate amount of airspace consumed at the Landfill each year, until no volume remains. From these calculations, the existing Landfill is estimated to reach capacity between 2026 and 2031.

As a part of the City of Columbia Landfill Site Master Plan, dated August 2017 (Master Plan), expansion alternatives were analyzed and identified. Findings from the Master Plan identified an expansion area south of the landfill as the best option to serve the city for future waste disposal and renewable energy source.

A Preliminary Site Investigation (PSI) was performed by the Missouri Geologic Survey (MGS), accompanied by representatives from the City and Weaver Consultants Group (WCG or "Engineer") on November 29, 2018. MGS approved the site in the preliminary phase, citing an insignificant collapse potential rating based on the geological and hydrological characteristics observed. The approval letter was dated December 31, 2018. The proposed area was approved to move to the Detailed Site Investigation (DSI) portion of the permitting process.

A Detailed Site Investigation (DSI) was conducted from May 2019 to September 2021 to characterize in detail the geologic and hydrologic conditions at the proposed expansion area. A DSI Report was prepared by WCG, summarizing the findings and submitted to MGS on October 6, 2021. A meeting was held with MGS on November 19, 2021, to discuss their review. Discussions indicated the site appeared to be "approvable" for landfill use, but more information was needed to enhance the site characterization presented in the DSI. On November 29, 2021, the DSI Report was officially withdrawn. Per MGS feedback, there remains additional analysis and review of the DSI findings to be incorporated into a revised DSI Report. The scope of work includes the anticipated efforts to re-submit the DSI Report. An Application for Solid Waste Disposal Area Construction Permit can be submitted to the MDNR – Waste Management Program (WMP) any time after the DSI is approved.

Conversations with the City in Fall 2021 indicate they would like to pursue a vertical expansion of the existing Landfill. The currently permitted final contours present a 5% crown with an area of approximately 44.4 acres. This leaves a large area to potentially expand vertically the final

contours for an airspace gain. The vertical expansion permit modification can be pursued at any time. The regulatory review timeframe for a vertical expansion application is typically up to twelve (12) months.

Project Understanding

In accordance with the City's request(s), this proposal addresses additional effort for the DIS report submittal, preparation of a solid waste disposal area permit application for the planned expansion area south of the existing Landfill, and preparation of a separate vertical expansion permit modification for the existing Landfill.

Scope of Services

Task 1 – Additional Geotechnical Analysis

Under this task, the Engineer will meet and discuss with MGS to discuss specific details that will need to be addressed related to the geotechnical analysis contained in the initial Detailed Site Investigation (DSI) Report. Ultimately, the concerns from MGS conversations will be addressed in a DSI Report re-submittal. Initial conversations have been had with MGS on the general extent of effort needed to satisfy their requirements. Further evaluation of the collected data, based on MGS comments, will be completed, and incorporated into the DSI report. Revisions are anticipated to include cross sectional drawing edits, text revisions, additional investigation on site faulting, edits to data presentations, and site geologic interpretations. It is not anticipated at this time that additional field work will be needed for the report re-submittal.

Task 2 – Vertical Expansion Permit Modification

Under this task, the Engineer will develop a solid waste permit modification to vertically expand the current Landfill bound by permit number 0101908. The expansion request will vertically modify the currently permitted final contours. Subtasks below outline the general work to be completed for the permit modification:

Subtask 2.1 – Project Management

The Engineer will provide ongoing direction and management of the vertical expansion permit modification as a whole. The Engineer will coordinate consistency in design and plans, review budgets, and review overall quality of work throughout the course of the permit modification. The Engineer will generate invoices and ensure timely payments are made. It is anticipated at least three (3) meetings will be held with MDNR-WMP for the modification, one before the permit application is drafted, one after the initial comment letter and lastly, one after the second comment letter. The Engineer will attend and generate agendas and discussion points for these meetings.

Subtask 2.2 – Vertical Expansion Feasibility Evaluation

The Engineer will examine the feasibility of a vertical expansion to the City's existing Landfill and provide design options for final landfill contours associated with various airspace gains for the vertical expansion. An overview of potential issues, implications, and design options will be drafted and sent to the City for review and discussion prior to beginning the vertical expansion permit modification. Potential issues or concerns regarding geotechnical/stability, pipe crushing, landfill gas collection system, stormwater management system, regulatory obligations etc., will be preliminarily reviewed and analyzed to identify potential flaws for permitting the vertical expansion permit modification. The feasibility evaluation will identify areas of focus for the design and permitting the vertical expansion.

Subtask 2.3 – Design Report

Engineer will prepare a complete design report for the vertical expansion permit modification in accordance with Missouri Code of State Regulations (CSR). The report will include applicable local planning and zoning requirements and summaries of the design and permitting elements for the vertical expansion listed as subtasks below. In general, the design report will contain a narrative describing a brief site history and permit status, relevant details of currently permitted design, proposed modifications to the design and overview of engineering analyses. The engineering analyses will include summaries and attachments to provide detailed calculations in support of the proposed vertical expansion. More specific details and elements of the proposed vertical expansion permit modification are listed in the following subtasks.

Subtask 2.4 – Design/Permit Drawings

Engineer will draft and update applicable permit drawings related to vertically expanding the current Landfill. Anticipated permit drawings to be updated with the vertical expansion include final contours, stormwater design, landfill gas design, design details, cross sections, and bioreactor landfill layout and details. At this time, it is anticipated certain aspects of the bioreactor design will be removed in the permit drawing updates.

Subtask 2.5 – Stability/Geotechnical Analysis

Engineer will prepare a full Geotechnical & Stability Evaluation including the necessary foundation bearing capacity analysis, settlement calculations and analysis, and slope stability evaluation of the proposed vertical expansion. Settlement analysis will be performed along a critical leachate collection pipe alignment to confirm the slope of the pipe and strain on the liner remains within acceptable limits with the additional volume of a vertical expansion.

A slope stability analysis will be performed to check the static stability of the proposed vertical expansion. The slope stability analysis is required since the expansion would likely occur on the existing bioreactor portion of the Landfill. A critical slope stability orientation/geometry will be selected for analysis. A two-dimensional model of the landfill foundation, liner, waste and cover

components will be created. Stability analyses will include searches for surfaces with minimum factor of safety using circular and block failure modes under static and seismic conditions.

Subtask 2.6 – Stormwater Design & Calculations

The currently approved stormwater management plan for the landfill consists of diversion berms/ditches, downslope (letdown) channels, perimeter channels, and sediment basins. The final cover grading from the 2016 vertical expansion includes one to four rows of tack-on stormwater diversion berms/ditches. The proposed vertical expansion may result in one or more additional rows of tack-on type stormwater diversion berms/ditches, depending on the final peak elevation. WCG assumes there will be no change to the design parameters for the tack-on berms (i.e., spacing, cross-sectional geometry, or longitudinal slope).

The addition of one or more rows of stormwater diversion berms/ditches to the final cover stormwater management design may increase peak flow velocity in the down slope channels and perimeter channels. Engineer will perform stormwater runoff and routing modeling for the revised final cover terraces and letdown structures configuration for a design 25-year 24-hour storm for the purpose of either confirming the continued suitability of the existing down slope channel and perimeter channel cross-sections or revising channel geometry. If necessary to handle increased peak runoff values, revised cross-section geometry for the downslope channel and/or perimeter channel will be calculated, and detail drawings will be prepared.

The proposed vertical expansion will not result in any increase to the final cover total drainage area and, consequently, the total volume of runoff under the design storm will be unchanged from the currently permitted final cover configuration. WCG assumes that the sediment basins are adequately sized for the total runoff volume and, therefore, we do not propose any evaluation or re-design of the sediment basin capacity of discharge structures as part of this scope of work.

Subtask 2.7 – Leachate Collection System Evaluation

Engineer will analyze pipe strength under the increased vertical overburden stress associated with the proposed vertical expansion. Calculations will consist of compressive ring thrust (wall crushing), ring deflection, and wall buckling. Relevant geotechnical properties of the foundation bedrock/soil, liner, and landfill waste materials will be derived from consideration of the original permit application and subsequent vertical expansions. As-built information from previous cell constructions will be researched and analyzed to determine the type and size used for the leachate collection system.

Subtask 2.8 – Landfill Gas System Design

Engineer will analyze the currently permitted landfill gas collection and control system (GCCS) and develop an updated design to comply with 40 CFR 60 Subpart XXX New Source Performance Standards (NSPS) for Municipal Solid Waste Landfills and 40 CFR 63 Subpart AAAA National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. Engineer will update existing or analyze technical components of a permit level design such as: landfill gas

generation model (LandGEM), KYGas Model, condensate generation and management and operations of the system. The Engineer will develop an updated GCCS design which will coincide with the vertical expansion request.

WCG understands the current landfill is currently not subject to NSPS Subpart XXX, however it is anticipated that over the life of the landfill the facility may become subject to additional controls under NSPS. As such, the gas system design will allow flexibility to comply with this standard. In addition, the design will be focused to allow flexibility to install temporary gas collectors and flexibility to supplement with additional gas extraction wells without requiring approval from the MDNR.

Task 3 – Solid Waste Disposal Area Construction Permit Application

Engineer will complete the Solid Waste Disposal Area Construction Permit Application (From MO 780-0393) which will include the following elements.

- Permit Application Fees (Application fee of \$2,000 with reviewing costs up to \$8,000), not to exceed \$10,000 in total fees to be paid by the City.
- A complete Application for Solid Waste Disposal Area Construction Permit - MO 780-0393 form.
- Engineering plans and specifications for the design and operation of the facility. The plans and specifications will address each of the applicable sections in the Missouri Solid Waste Management Rules, 10 CSR 80. The regulations require that the plans and specifications be prepared or approved by a professional engineer registered in Missouri.
- Evidence of compliance with all applicable local planning and zoning requirements, as required in 10 CSR 80-2.020(6), to be provided by the City.
- Evidence of financial responsibility to be provided by the City.
- Copy of the approved DSI.
- Closure and Post-Closure Plans.
- Names and addresses of all recorded owners of real property located either next to or within 1,000 feet of the proposed solid waste disposal area.

More specifically, the following subtasks will be completed with the Permit Application:

Subtask 3.1 – Project Management, Administration & Controls

The Engineer will provide ongoing direction and management of the Solid Waste Disposal Area Construction Permit Application (Permit Application) as a whole. The Engineer will coordinate consistency in design and plans, review budgets, and review overall quality of work throughout the course of the permit application draft. The Engineer will generate invoices and ensure timely payments are made. The Engineer will perform site visits/meetings to discuss progress and

potential issues with the City. It is anticipated several meetings will be needed with the MDNR-WMP to discuss the application and design. Engineer will coordinate and attend a pre-application meeting, monthly progress meetings, and post-review meeting with the City and MDNR-WMP to ensure the permit application is complete and ensure MDNR concerns are met. The Engineer will also assist with the Public Hearing on the Draft Permit.

Subtask 3.2 – Design Report

Engineer will prepare a complete design report for the proposed bioreactor landfill expansion in support of the Permit Application in accordance with 10 Missouri Code of State Regulations (CSR) 80-3.010. The report will include applicable permit fees to be provided by the City (not to exceed \$10,000 for application and review fees), site restriction demonstrations, local planning and zoning requirements, evidence of financial responsibility, summary of the findings of the DSI and summaries of the designs and calculations presented in the subsequent sections in support of the proposed bioreactor landfill.

Subtask 3.3 – Design Drawings Set

Engineer will prepare a complete, permit level design drawing set in support of the proposed bioreactor landfill Permit Application in accordance with 10 CSR 80-3.010(4). The design drawing set will be drafted utilizing AutoCAD Civil 3D software. The following drawings will be included at a minimum, but is not limited to; cover sheet, general notes, existing site conditions, subgrade design, liner design, leachate collection system design, closure plan (final contours), stormwater design, landfill gas design, cross sections, phase development plans, and supporting design details. The design drawing set will include components of the engineered design described in the subsequent sections.

Subtask 3.4 – Phase Development Plan

Engineer will prepare a phase development plan for the proposed bioreactor landfill cells, phases, outer grading, access plans, and other necessary infrastructure to support the construction progression of the site in accordance with 10 CSR 80-3.010(4). Each cell development will incorporate the necessary excavation grades inside and outside of the solid waste boundary to properly manage access roads, stormwater, utilities, and leachate. Attainable waste grades will be incorporated into each cell development to project useable life of each construction cell and/or phase. Short-term and long-term stormwater management plans will be incorporated into each construction phase.

Subtask 3.5 – Soil Balance Calculations

Engineer will prepare soil balance calculations for the development of the proposed bioreactor landfill in accordance with 10 CSR 80-3.010(4). Boring logs and soil testing data from the DSI will be analyzed to quantify the types of soils located within the expansion area. The soil quantities for complete development of the site will be calculated for an overall soil balance. If additional areas are needed for investigation and quantification, a separate contract can be prepared.

Subtask 3.6 – Landfill Gas System Design & Calculations

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Engineer will prepare a landfill gas system design with supporting calculations for the proposed bioreactor landfill in accordance with 10 CSR 80-3.010(13). A permit level design includes KYGas modeling, LandGEM modeling, condensation calculations, radius of influence calculations, and management and operations plan for the system. The design will include temporary and permanent infrastructure to collect landfill gas unique to the bioreactor landfill design and operation.

Subtask 3.7 – Liner and Leachate Collection System Design & Calculations

Engineer will prepare permitted grades for the subgrade and liner systems of the proposed bioreactor landfill in accordance with 10 CSR 80-3.010. Calculations and HELP modeling will be performed for the leachate collection system to adequately drain liquids from the proposed bioreactor landfill. Leachate collection pipes, forcemains, collection media, pumps, transmission, and storage structures etc. will be designed and sized.

Subtask 3.8 – Stormwater Management Design & Calculations

Engineer will prepare stormwater runoff and routing modeling on the final developed grades and design various stormwater transmitting infrastructure such as terraces, berms, letdowns, perimeter channels and sedimentation basins in accordance with 10 CSR 80-3.010(7) for the proposed bioreactor landfill.

Subtask 3.9 – Bioreactor Design Calculations

Engineer will perform various calculations needed in support of the proposed bioreactor landfill design in accordance with 10 CSR 80-3.010(21). Calculations include supplemental water demand, unit water demand, and total water demand. Plans, requirements, and operational efforts specific to the bioreactor operation will be incorporated into other plans for the site.

Subtask 3.10 – Leachate Management Plan

Engineer will prepare a Leachate Management Plan for the bioreactor landfill in accordance with 10 CSR 80-3.010. Procedures and routines pertaining to the operation of the leachate collection system will be evaluated and incorporated into the plan. Various leachate tracking logs and tables will be incorporated into the plan. Once constructed, various information such as leachate sump elevations, compliance points, compliance elevations, forcemain locations, etc. can be incorporated.

Subtask 3.11 – Geotechnical & Stability Evaluation

Engineer will prepare a full Geotechnical & Stability Evaluation including the necessary foundation bearing capacity analysis, settlement calculations and analysis, and slope stability evaluation of the proposed bioreactor landfill in accordance with 10 CSR 80-3.010(4). Settlement analysis will be performed along a critical leachate collection pipe alignment to confirm the slope of the pipe and strain on the liner remains within acceptable limits. Relevant geotechnical properties from the DSI field work will be utilized to complete the evaluation. If additional field work is needed, a

separate contract can be prepared.

A slope stability analysis will be performed to check the static stability of the proposed bioreactor landfill. A critical slope stability orientation/geometry will be selected for analysis. A two-dimensional model of the landfill foundation, liner, waste and cover components will be created. Relevant geotechnical properties from the DSI field work will be utilized to complete the evaluation. Stability analyses will include searches for surfaces with minimum factor of safety using circular and block failure modes under static conditions. At this time a seismic stability analysis will not be required.

Subtask 3.12 – Operations Plan

The Engineer will prepare an Operations Plan for the proposed bioreactor landfill in accordance with 10 CSR 80-3.010. The operations plan will include, but is not limited to, hours of operation, equipment and personnel, daily operations, alternate daily covers, erosion control, special wastes, handling wastes, asbestos, hot loads, vector control, white goods, environmental monitoring, random inspections, litter control, safety procedures, compliance requirements, and other necessary requirements and procedures.

Subtask 3.13 – QA/QC Plan

The Engineer will prepare a Quality Assurance/Quality Control (QA/QC) Plan for the construction of various aspects of the proposed bioreactor landfill in accordance with 10 CSR 80-3.010(5) and 10 CSR 80-3.010(2.1). The QA/QC Plan will specify the methods, procedures and frequency of construction observations and testing activities to document construction operations in accordance with the operating permit. The QA/QC Plan will address QA and QC for earthen materials and fabricated materials.

Subtask 3.14 – Closure/Post-Closure Plan

The Engineer will prepare a Closure/Post-Closure (CPC) Plan for the proposed bioreactor landfill in accordance with 10 CSR 80-3.010. The CPC Plan will address the necessary criteria to properly close and maintain the constructed disposal area. The plan will include the methods and schedules anticipated to properly close portions of the proposed bioreactor landfill at any point during its operating life.

Subtask 3.15 – Groundwater Sampling & Analysis Plan

Engineer with prepare a Groundwater Sampling and Analysis Plan (GWSAP) in accordance with 10 CSR 80-3.010(9). The GWSAP will contain procedures for sampling and analysis of groundwater monitoring network and procedures for statistical analysis of analytical laboratory data.

Subtask 3.16 – Gas Monitoring Plan

Engineer with prepare a Gas Monitoring Plan (GMP) in accordance with 10 CSR 80-3.010(12). The GMP will be prepared to outline monitoring guidelines and procedures to avoid negative impact

on the surrounding environment and potential hazards to public health and safety from the production of landfill gas from the proposed bioreactor landfill.

Schedule

Schedule is dependent upon execution of the proposal and when the notice to proceed is received in writing from the City. In general, a typical vertical expansion modification can take 3-6 months to prepare, and a horizontal expansion solid waste permit application can take 6-12 months to prepare. The revised DSI report can be prepared in 1 month.

Budget

The following is the proposed project budget for the scopes previously described.

| Task | Task Name/Description | Man-Hours | Labor Cost | Expenses | Total Cost |
|--------------|--|-----------|------------|----------|-----------------|
| 1 | Additional Geotechnical Analysis | 181 | \$24,475 | \$0 | \$24,475 |
| 2 | Vertical Expansion Permit Modification | | | | |
| 2.1 | Project Management | 40 | \$5,960 | \$0 | \$5,960 |
| 2.2 | Vertical Expansion Feasibility Evaluation | 40 | \$6,680 | \$0 | \$6,680 |
| 2.3 | Design Report | 100 | \$14,445 | \$820 | \$15,265 |
| 2.4 | Design/Permit Drawings | 130 | \$17,955 | \$0 | \$17,955 |
| 2.5 | Stability/Geotechnical Analysis | 90 | \$13,690 | \$0 | \$13,690 |
| 2.6 | Stormwater Design & Calculations | 80 | \$11,110 | \$0 | \$11,110 |
| 2.7 | Leachate Collection System Evaluation | 70 | \$9,760 | \$0 | \$9,760 |
| 2.8 | Landfill Gas System Design & Calculations | 115 | \$15,670 | \$0 | \$15,670 |
| TOTAL | | | | | \$96,090 |
| 3 | Solid Waste Disposal Area Construction Permit Application | | | | |
| 3.1 | Project Management, Administration & Controls | 306 | \$43,550 | \$0 | \$43,550 |
| 3.2 | Design Report | 185 | \$26,605 | \$820 | \$27,425 |
| 3.3 | Design Drawing Set | 161 | \$21,940 | \$0 | \$21,940 |
| 3.4 | Phase Development Plan | 368 | \$47,946 | \$0 | \$47,946 |
| 3.5 | Soil Balance Calculations | 42 | \$6,014 | \$0 | \$6,014 |
| 3.6 | Landfill Gas System Design & Calculations | 93 | \$13,101 | \$0 | \$13,101 |
| 3.7 | Liner & Leachate Collection System Design & Calculations | 72 | \$10,708 | \$0 | \$10,708 |
| 3.8 | Stormwater Management Design & Calculations | 100 | \$14,335 | \$0 | \$14,335 |
| 3.9 | Bioreactor Design Calculations | 83 | \$11,931 | \$0 | \$11,931 |
| 3.10 | Leachate Management Plan | 60 | \$7,978 | \$750 | \$8,728 |
| 3.11 | Geotechnical & Stability Evaluation | 191 | \$30,208 | \$0 | \$30,208 |
| 3.12 | Operations Plan | 72 | \$9,994 | \$750 | \$10,744 |

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| | | | | | |
|--------------|--------------------------------------|----|----------|-------|------------------|
| 3.13 | QA/QC Plan | 72 | \$9,994 | \$750 | \$10,744 |
| 3.14 | Closure/Post-Closure Plan | 72 | \$9,994 | \$750 | \$10,744 |
| 3.15 | Groundwater Sampling & Analysis Plan | 88 | \$12,404 | \$750 | \$13,154 |
| 3.16 | Gas Monitoring Plan | 72 | \$9,994 | \$750 | \$10,744 |
| TOTAL | | | | | \$292,016 |

Total cost to complete scope of work shall not exceed **\$412,551** without prior approval from the City.

Additional Services and Project Assumptions

We have developed the preceding project approach based on our understanding of the project. The following is a list of additional services for the City's current and future consideration.

- Revisions to the final permit modification and permit application. Changes to the applications after submittal to MDNR-WMP may be considered an additional service.
- WCG assumes that all previous permit documents and files developed by other consultants (e.g., AutoCAD, word, excel, HELP etc.) will be immediately available. Reproduction of drawings or other files may be considered an additional service.

**WEAVER CONSULTANTS GROUP
FEE SCHEDULE
(Effective March 1, 2025)**

| | | <u>Unit</u> | <u>U.S. \$</u> |
|------------------------------|--|-------------|----------------|
| I. PROFESSIONAL STAFF | | | |
| a) | Principal/Corporate Consultant | Hr. | 260.00 |
| b) | Senior Project Director..... | Hr. | 245.00 |
| c) | Project Director..... | Hr. | 230.00 |
| d) | Senior Project Manager..... | Hr. | 210.00 |
| e) | Sr Project Engineer/Scientist/Environmental Specialist/Geologist/Architect/Industrial Hygienist .. | Hr. | 195.00 |
| f) | Architect (Landscape Architect) | Hr. | 180.00 |
| g) | Project Manager..... | Hr. | 180.00 |
| h) | Project Engineer/Scientist/Environmental Specialist/Geologist/Architect/Industrial Hygienist | Hr. | 150.00 |
| i) | Staff Engineer/Scientist/Environmental Specialist/Geologist/Architect/Industrial Hygienist..... | Hr. | 135.00 |
| j) | Engineer/Scientist/Environmental Specialist//Geologist/Architect/Industrial Hygienist | Hr. | 116.00 |
| II. TECHNICAL STAFF | | | |
| a) | Union Engineering Technician-Journeyman | Hr. | 152.00 |
| b) | Union Engineering Technician..... | Hr. | 146.00 |
| c) | Construction Superintendent | Hr. | 135.00 |
| d) | Construction Manager..... | Hr. | 120.00 |
| e) | System Specialist III | Hr. | 170.00 |
| f) | System Specialist II..... | Hr. | 130.00 |
| g) | System Specialist I..... | Hr. | 120.00 |
| h) | System Technician | Hr. | 103.00 |
| i) | Field Engineer/Scientist/Environmental Specialist..... | Hr. | 125.00 |
| j) | Certified Technician..... | Hr. | 100.00 |
| k) | Senior Engineering Technician | Hr. | 93.00 |
| l) | Engineering Technician II..... | Hr. | 83.00 |
| m) | Engineering Technician I..... | Hr. | 73.00 |
| III. SUPPORT STAFF | | | |
| a) | Senior CAD Designer | Hr. | 140.00 |
| b) | CAD Designer III..... | Hr. | 130.00 |
| c) | CAD Designer II..... | Hr. | 120.00 |
| d) | CAD Designer I..... | Hr. | 93.00 |
| e) | Technical Assistant | Hr. | 83.00 |
| f) | Clerical/Word Processing..... | Hr. | 83.00 |
| IV. SURVEYING | | | |
| a) | Senior Professional Land Surveyor..... | Hr. | 190.00 |
| b) | Professional Land Surveyor..... | Hr. | 170.00 |
| c) | Survey Field Manager..... | Hr. | 155.00 |
| d) | Survey Party Chief III | Hr. | 145.00 |
| e) | Survey Party Chief II..... | Hr. | 125.00 |
| f) | Survey Party Chief I..... | Hr. | 100.00 |
| g) | Survey Technician V..... | Hr. | 130.00 |
| h) | Survey Technician IV | Hr. | 116.00 |
| i) | Survey Technician III..... | Hr. | 100.00 |
| j) | Survey Technician II..... | Hr. | 83.00 |
| k) | Survey Technician I | Hr. | 66.00 |
| l) | Survey Party - 1 Person/GPS or Robotic..... | Hr. | 190.00 |
| m) | Survey Party - 2 Person/GPS or Robotic | Hr. | 250.00 |
| n) | Geospatial Field Technician (with Drone or Scanner)..... | Hr. | 215.00 |
| o) | Geospatial Technician II..... | Hr. | 130.00 |
| p) | Engineering Technician I..... | Hr. | 110.00 |
| q) | Survey Party - 2 Person Unmanned Aircraft | Day | 2,600.00 |
| V. GENERAL EXPENSES | | | |
| a) | Automobile Transportation | Mi. | 0.89 |
| b) | Subcontract Service or Rental..... | | Cost+15% |
| c) | Report Preparation (outside services) | | Cost+15% |
| d) | Outside Services (e.g., delivery, prints, document scanning, etc.) | | Cost+15% |
| e) | Per Diem (food and lodging)..... | Day | 180.00 |
| f) | Per Diem (no lodging)..... | Day | 50.00 |
| g) | Transportation by Commercial Carrier or Rental Car | | Cost+15% |
| h) | Travel Expense | | Cost+15% |

Any modification to this fee schedule requires the written approval of Weaver Consultants Group

**WEAVER CONSULTANTS GROUP
FEE SCHEDULE
(Effective March 1, 2025)**

| VI. TESTING AND EQUIPMENT RENTAL FEES | Unit | U.S. \$ |
|---|-------------|----------------|
| a) pH, Specific Conductance and Temperature Meter | Day | 146.00 |
| b) Peristaltic Filter Pump..... | Day | 60.00 |
| c) Electric Purge Pump | Day | 56.00 |
| d) Grundfos Pump Control Box | Day | 136.00 |
| e) Water Level Indicator (100ft)..... | Day | 50.00 |
| f) Water Level Indicator (100ft plus) | Day | 76.00 |
| g) Filter and Hose (for pump)..... | Ea. | 30.00 |
| h) Micropurge Flow Cell and Sonde..... | Day | 160.00 |
| i) Modified Level "D" (Tyveks, Boots, Gloves)/per person/per change of clothing | Ea. | 66.00 |
| j) Photoionization Detector Meter..... | Day | 150.00 |
| k) XRF Analyzer (for lead based paint)..... | Day | 163.00 |
| l) Nuclear Density Gauge..... | Day | 86.00 |
| Nuclear Density Gauge..... | Wk. | 370.00 |
| m) Air Sampling Equipment, per pump | Day | 66.00 |
| n) Hand Operated Field Probe Equipment..... | Day | 40.00 |
| o) Explosimeter | Day | 46.00 |
| p) Gas Analyzer..... | Day | 233.00 |
| q) Thermo Image Camera..... | Day | 26.00 |
| r) Elkins Envision Meter..... | Day | 216.00 |
| s) INFICON IRwin Detector | Day | 270.00 |
| t) Flame Ionization Detector..... | Day | 326.00 |
| u) Interface Probe..... | Day | 76.00 |
| v) ATV..... | Day | 66.00 |
| w) Company Truck (does not include fuel or mileage)..... | Day | 120.00 |
| x) Hand-Held Field GPS/G15..... | Day | 196.00 |
| Hand-Held Field GPS (Trimble) | Day | 100.00 |
| y) Laser Level..... | Day | 100.00 |
| z) Spatial Imaging Laser Scanner – Republic Only..... | | |
| aa) Ultrasonic Testing Meter..... | Day | 136.00 |
| bb) Ground Penetrating Radar | Day | 306.00 |
| cc) Geonics EM-61 | Day | 646.00 |
| dd) Survey Grade GPS Unit | Day | 440.00 |
| ee) Electric Generator | Day | 90.00 |
| ff) Slug Test Equipment..... | Day | 256.00 |
| gg) All Weather Key Alike Locks..... | Ea. | 30.00 |
| hh) Equipment Trailer | Day | 100.00 |
| ii) Fluk Meter/Volt Meter/Loop Calibrator..... | Day | 156.00 |
| jj) Four Gas Meter..... | Day | 30.00 |
| kk) Dip Sampler..... | Day | 30.00 |
| ll) Air Compressor/Controller Box..... | Day | 176.00 |
| mm) 12 Volt Marine Battery..... | Day | 33.00 |
| nn) Turbidimeter | Day | 50.00 |
| oo) Manometer | Day | 50.00 |
| pp) Velocicalc Meter | Day | 60.00 |

UNIT PRICE NOTES:

1. All professional, technical, and support staff time and expenses spent in furtherance of the client's work will be billed. This includes, but is not limited to, proposal, field, travel, research, technical review and reporting, project management, client meeting, and project-specific administrative support.
2. An overtime rate of 1.3 times the regular rate is billed for technical and support staff services for work in excess of 40 hours per week, work between 7:00 p.m. to 5:00 a.m., and work on Saturdays. This overtime rate is increased to 2.0 times the regular rate for work on Sundays and holidays.
3. Unless otherwise agreed to in writing, a monthly interest charge of 18% per annum, will be charged accruing from the date of invoice, on all invoices not paid within 30 days.
4. The unit rates are subject to periodic modification (typically annually). These rate modifications will be incorporated into long-term projects, unless otherwise addressed in the project contract.
5. Litigation Support, Expert Witness, Deposition, and testimony services will be charged at 1.5 times the designated billing rate.

Any modification to this fee schedule requires the written approval of Weaver Consultants Group

**WEAVER CONSULTANTS GROUP
FEE SCHEDULE
(Effective March 1, 2025)**

GENERAL EXPENSE NOTES:

1. Rates quoted are for expenses only, equipment purchased on the client's behalf is marked up 25%.
2. Personnel rates are billed separately from general expenses.
3. Standard non-disposable protective outer-wear or equipment damaged or contaminated by site conditions are billed at replacement cost plus 30%.
4. General expense mark-ups may be negotiated based upon contract size and payment terms.
5. The per diem rates set forth above are the standard rates we typically use for our technical staff on projects. We reserve the right to modify these rates in high cost areas.
6. Mileage rate is based on gasoline price of \$4.50 per gallon. A fuel surcharge may be added if a condition beyond Weaver Consultants Group control warrants it.

TESTING AND EQUIPMENT RENTAL NOTES:

1. Rates for testing and equipment not listed above are available on request.
2. Testing and equipment rental costs are negotiable for specific projects and for on-site laboratory programs.
3. Laboratory unit prices cover equipment and labor costs to perform standard test procedures and laboratory reports with normal turn-around times. Non-standard testing requirements, supervisory and project management costs, data evaluation costs, and environmental sample disposal costs are not included in the testing unit prices and are billed separately.
4. Equipment rental rates are for equipment costs only. Transportation, calibration, and personnel costs are billed separately.
5. Daily and weekly rates cover a maximum of 10 and 50 hours, respectively.
6. SAMPLES WILL NOT BE RETAINED beyond classification and testing unless other arrangements are agreed to in writing. Environmental samples remain the property of the client.

**CITY OF COLUMBIA, MISSOURI
WORK AUTHORIZATION AFFIDAVIT
PURSUANT TO 285.530 RSMo
(FOR ALL CONTRACTS IN EXCESS OF \$5,000.00)**

County of _____)
State of _____) ss.

My name is Michele Clark. I am an authorized agent of Weaver Consultants Group, LLC (Bidder). This business is enrolled and participates in a federal work authorization program for all employees working in connection with services provided to the City of Columbia. This business does not knowingly employ any person who is an unauthorized alien in connection with the services being provided.

Documentation of participation in a federal work authorization program is attached to this affidavit.

Furthermore, all subcontractors working on this contract shall affirmatively state in writing in their contracts that they are not in violation of Section 285.530.1 RSMo and shall not thereafter be in violation. Alternatively, a subcontractor may submit a sworn affidavit under penalty of perjury that all employees are lawfully present in the United States.

Michele Clark
Affiant

Michele Clark
Printed Name

Subscribed and sworn to before me this 5 day of April, 2022.

Kelly Smith
Notary Public

KELLY SMITH
Notary Public - Notary Seal
STATE OF MISSOURI
County of Boone
My Commission Expires 6/17/2024
Commission #12345214



January 30, 2026

Mr. Adam White
Landfill Superintendent
City of Columbia Landfill
5700 Peabody Road
Columbia, Missouri 65202

Re: **Proposal to Provide Professional Services
Vertical Expansion Permit Modification Response to Comments and Re-Submittal
City of Columbia Landfill**

Dear Mr. White:

Weaver Consultants Group (WCG) appreciates the opportunity to provide you with a proposal for addressing the comments provided by the Missouri Department of Natural Resources – Waste Management Program (MDNR-WMP) in a letter dated October 8, 2025.

SCOPE OF WORK

The following services and costs are included in this proposal:

TASK 1 – VERTICAL EXPANSION PERMIT MODIFICATION RESPONSE TO COMMENTS AND RE-SUBMITTAL

WCG will prepare a response to comments letter, along with a revised Vertical Expansion Permit Modification stemming from the MDNR-WMP requests. WCG will address and respond to the comments with accompanying revisions incorporated into the revised permit modification. WCG anticipates the following approach to addressing each comment:

- WCG will prepare a series of figures and cross sections to address the airspace gained questions in Comments #2 and #14.
- WCG will prepare additional design details of the proposed final cover boundary to the existing final cover area in the Pre-Subtitle D area, and add a cross-section detail of the access road as requested in Comments #4, #12, and #13.
- WCG will prepare an additional Figure, to be incorporated into the Site Capacity Calculations in Appendix B to delineate the airspace gained by area to address Comment #8.

- Conduct additional Hydraulic Evaluation of Landfill Performance (HELP) models for the Bioreactor cells as requested in Comment #9.
- WCG will respond to the Geotechnical and Stability Evaluation parameter questions as necessary as requested in Comments #18, #19, #20, #21 and #22. At this time, WCG does not believe revisions to the stability models are necessary. If revisions to the stability model are deemed necessary, the cost estimate may require adjustment.
- At the time of vertical expansion permit application preparation, an older version of LandGEM (used to calculate landfill gas emissions) was used for the landfill gas system design. A newer version of LandGEM was released in early 2025 and contains a larger variety of variables to calculate landfill emissions. WCG will use this version of LandGEM to calculate landfill emissions and revise the KYGas model as necessary. It is presumed multiple LandGEM models will be analyzed to most accurately predict landfill gas emissions based on the varying types of waste areas the City of Columbia Landfill possesses. WCG does not anticipate major changes to the proposed landfill gas collection system pipe layout as a result of the updated model. WCG will also provide narrative to justify variables selected for the LandGEM model to address Comment #23.
- WCG will address the remaining comments (Comment #1, #3, #5, #6, #7, #10, #11, #15, #16, #17, #24 and #25) through additional text to the revised vertical expansion application as necessary.

TASK 1 COST ESTIMATE

Table 1 below contains the cost breakdown.

Table 1 – Vertical Expansion Permit Modification Response to Comments and Re-Submittal Cost Breakdown

| Description | Total Units | Unit Cost | Total Cost |
|--------------------------------|--------------------|------------------|--------------------|
| Principal (Hours) | 1.25 | \$260.00 | \$325.00 |
| Senior Project Manager (Hours) | 54 | \$210.00 | \$11,340.00 |
| Project Engineer (Hours) | 61 | \$150.00 | \$9,150.00 |
| Staff Engineer (Hours) | 21.5 | \$135.00 | \$2,902.50 |
| Senior CAD Designer (Hours) | 6.75 | \$140.00 | \$945.00 |
| Office Administrator (Hours) | 0.25 | \$83.00 | \$20.75 |
| | | TOTAL | \$24,683.25 |

TASK 1 DELIVERABLE

This task has been completed to meet the regulatory deadline set by the Missouri Department of Natural Resources – Waste Management Program (MDNR-WMP). The response to comments letter, along with a revised vertical expansion permit modification, was submitted on December 5, 2025, prior to the regulatory deadline of December 7, 2025. MDNR-WMP then approved the revised modification on January 14, 2026. Cost provided in Table 1 represents actual time and expense to complete the task.

TASK 2 – CLOSURE / POST-CLOSURE PLAN UPDATE

WCG will prepare an updated Closure / Post-Closure Plan in accordance with 10 CSR 80-3.010(17)(B)2 as requested by Condition #4 of the Vertical Expansion Design Report approval letter, dated January 14, 2026 issued by the MDNR-WMP specifies updates to the plan will be focused on any changes due to the most recent vertical expansion, and a general update to most current rules and regulations, since last plan was updated in 2002. Plan update will include a revised closure / post-closure cost estimate.

TASK 2 COST ESTIMATE

Table 2 below contains the cost breakdown.

Table 2 – Closure / Post-Closure Plan Update

| Description | Total Units | Unit Cost | Total Cost |
|--------------------------------|--------------------|------------------|-------------------|
| Principal (Hours) | 4 | \$260.00 | \$1,040.00 |
| Senior Project Manager (Hours) | 10 | \$210.00 | \$2,100.00 |
| Project Engineer (Hours) | 10 | \$150.00 | \$1,500.00 |
| Staff Engineer (Hours) | 30 | \$135.00 | \$4,050.00 |
| Office Administrator (Hours) | 5 | \$83.00 | \$415.00 |
| | | TOTAL | \$9,105.00 |

TASK 2 DELIVERABLE

Condition #4 of the Vertical Expansion Design Report approval letter, dated January 14, 2026 from the MDNR-WMP requires the revised Closure / Post-Closure Plan to be submitted within 60 days of the letter, which would require a submission on/before March 15, 2026. WCG is committed to completing the task and submitting the plan update on/before this date, however, it has been discussed with the MDNR-WMP that an extension could be granted to allow for more time to complete the updates. WCG will aim to provide the City a draft of the updated plan by March 1, 2026.

TASK 3 – OPERATIONS PLAN UPDATE

WCG will prepare an updated Operations Plan in accordance with 10 CSR 80-3.010 as requested by Condition #5 of the Vertical Expansion Design Report approval letter, dated January 14, 2026 issued by the MDNR-WMP. Specific updates to the plan will be focused on any changes due to the most recent vertical expansion, and a general update to most current rules and regulations.

TASK 3 COST ESTIMATE

Table 3 below contains the cost breakdown.

Table 3 – Operations Plan Update

| Description | Total Units | Unit Cost | Total Cost |
|--------------------------------|--------------------|------------------|-------------------|
| Principal (Hours) | 4 | \$260.00 | \$1,040.00 |
| Senior Project Manager (Hours) | 10 | \$210.00 | \$2,100.00 |
| Project Engineer (Hours) | 10 | \$150.00 | \$1,500.00 |
| Staff Engineer (Hours) | 30 | \$135.00 | \$4,050.00 |
| Office Administrator (Hours) | 5 | \$83.00 | \$415.00 |
| | | TOTAL | \$9,105.00 |

TASK 3 DELIVERABLE

Condition #5 of the Vertical Expansion Design Report approval letter, dated January 14, 2026 from the MDNR-WMP requires the revised Operations Plan to be submitted within 90 days of the letter, which would require a submission on/before April 14, 2026. WCG is committed to completing the task and submitting the plan update on/before this date, however, it has been discussed with the MDNR-WMP that an extension could be granted to allow for more time to complete the updates. WCG will aim to provide the City a draft of the updated plan by April 1, 2026.

COST ESTIMATE SUMMARY

Table 4 below summarizes the cost estimates for the scopes of work presented.

Table 4 – Cost Estimate Summary

| Task/Description | Cost |
|--|--------------------|
| Vertical Expansion Permit Modification Response to Comments and Re-Submittal | \$24,683.25 |
| Closure / Post-Closure Plan Update | \$9,105.00 |
| Operations Plan Update | \$9,105.00 |
| | \$42,893.25 |

WCG proposes to complete the defined scopes of work for a total of **\$42,893.25**.

WCG is available to start work on this project immediately, and we look forward to discussing any questions or comments you may have concerning this proposal. Please do not hesitate to call us at (573) 301-5105 with any questions or comments. Thank you for your consideration.

Sincerely,

Weaver Consultants Group, LLC



Dustin Thoenen, P.E.
Senior Project Manager



Michele Clark
Principal