

THIRD AMENDMENT TO AGREEMENT

THIS THIRD AMENDMENT TO AGREEMENT (Amendment) made and entered into effect the ____ day of _____ 2021 (Effective Date), amends the Consultant Services Agreement entered into between the CITY OF FRESNO, a California municipal corporation (City), and CDM Smith, Inc., a Massachusetts Corporation (Consultant).

RECITALS

WHEREAS, the City and the Consultant entered into a Consultant Services Agreement on March 11, 2016 (Agreement), to provide professional consulting Groundwater Remedial Action Services for the Fresno Sanitary Landfill Superfund Site; and

WHEREAS, the Agreement has the option to exercise three one-year extensions; and

WHEREAS, on February 24, 2020, the City and the Consultant exercised their right to extend the Agreement to December 31, 2020 (first one-year extension), to continue Groundwater Remedial Action Services; and

WHEREAS, on January 1, 2021, the City and the Consultant exercised their right to extend the Agreement to December 31, 2021 (second one-year extension), to continue Groundwater Remedial Action Services; and

WHEREAS, the City and the Consultant now desire to modify the scope of work by requiring additional services during the second one-year extension and providing compensation for those services in the amount of \$328,600 for year 2021; and

WHEREAS, with entry into this Amendment, the Consultant agrees it has no claim, demand, or dispute against the City.

AGREEMENT

NOW, THEREFORE, in consideration of the above recitals, which recitals are contractual in nature, the mutual promises herein conditioned, and for other good and valuable consideration hereby acknowledge, the parties agree that the aforesaid Agreement be amended as follows:

1. The recitals to this Amendment are incorporated and made a part of this Amendment.
2. Consultant shall provide additional services for the Year 2 Extension (2021) as described in Attachment A hereto and incorporated herein by reference.
3. Consultant's sole compensation for satisfactory performance all services required or rendered pursuant to this Amendment shall be a total fee of \$328,600.
4. Except as otherwise provided herein, the Agreement entered into the City and the Consultant on March 11, 2016, remains in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment at Fresno, California, the day, and year first above written.

CITY OF FRESNO,
A municipal corporation

CDM Smith, Inc.,
A Massachusetts Corporation

By: _____
Michael Carbajal,
Director of Public Utilities

By: Hala Z. Titus
Name: Hala Z. Titus

APPROVED AS TO FORM:
DOUGLAS T. SLOAN
City Attorney

Title: Senior Vice President
(If corporation or LLC, Board Chair,
Pres. or Vice Pres.)

By: Jennifer M. Quintanilla 4/6/21
Jennifer M. Quintanilla Date
Senior Deputy City Attorney

By: Servando Molina
Name: Servando Molina

ATTEST:
YVONNE SPENCE, MMC CRM
City Clerk

Title: Vice President
(If corporation or LLC, CFO, Treasurer,
Secretary or Assistant Secretary)

By: _____
Date

Addresses:
CITY:
City of Fresno
Attention: Rosa Lau-Staggs
Wastewater Manager
5607 W Jensen Avenue
Fresno, CA 93706
Phone: (559) 621-5130
FAX: (559) 498-1700

CONSULTANT:
CDM Smith, Inc.
Attention: John (Yash) Nyznyk,
Associate
2300 Clayton Road, Suite 950
Concord, CA 94520
Phone: (925) 296-8065
FAX: (925) 933-4174

Attachment A – Year 2 Extension (2021) Scope of Work



2300 Clayman Road, Suite 800
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tel: 925 296-8300
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February 23, 2021

Ms. Rosa Lau-Staggs
Wastewater Manager
City of Fresno
5607 W. Jensen Avenue
Fresno, CA 93706

Subject: Fresno Sanitary Landfill Superfund Site
Environmental Remediation Services
Year 2 Extension (2021) Scope of Work and Budget

Dear Rosa:

Attached is the scope of work and budget for the Year 2 Extension (2021) to the existing contract between the City of Fresno and CDM Smith for the Environmental Remediation Services project at the Fresno Sanitary Landfill Superfund Site. We are pleased to have the opportunity to continue to work with the City on this project.

If you have questions or would like to discuss the proposed scope or budget, please don't hesitate to contact me.

Sincerely,

John T. Nyznyk, P.E.
Associate
CDM Smith Inc.

A handwritten signature in blue ink, appearing to read "S. Molina".

Servando Molina, P.E.
Vice President
CDM Smith Inc.

Attachment A

SCOPE OF SERVICES

Consultant Services Agreement between City of Fresno (“City”) And CDM Smith Inc. (“Consultant”)

Fresno Sanitary Landfill Groundwater and Landfill Remediation Services

PROJECT TITLE

Scope of Work and Budget for 2021 – Year 2 Extension Fresno Sanitary Landfill

Introduction

Provided below are descriptions of work tasks to be performed by CDM Smith Inc. (Consultant) on behalf of the City of Fresno (City) as part of ongoing operations at the Fresno Sanitary Landfill Superfund Site (“FSL” or “Site”). Ongoing activities are being performed as part of Operable Unit No. 1 (OU-1 – landfill control system operations and maintenance) and OU-2 (groundwater remediation system operations and maintenance). The ultimate objective of the continued work is to achieve formal closure of FSL Superfund Site under the oversight of the U.S. Environmental Protection Agency (USEPA).

This scope of work presented below describes work to be performed during 2021. This scope of work is a continuation of work performed under contract to the City during the four-year period 2016 through 2019 and during the Year 1 Extension in 2020. Work on the project is defined in terms of the five project tasks listed below:

Task 1 – Performance Monitoring Program

Task 2 – Remedial Action Systems Operations Assistance

Task 3 – Superfund Site Delisting Pathway – Planning

Task 4 – Phase 3 Groundwater Remedial Action Performance Evaluation

Task 5 – Project Management/Project Meetings

Task 6 – Landfill Regrading/Landfill Control Systems Repair Designs (Operable Unit 1)

Table A-1 consists of a summary of the estimated costs for this scope of work. The total cost for this work is \$328,600 for the one-year period of performance (2021).

Task 1 – Performance Monitoring Program

Objectives

- Provide oversight during implementation of the annual performance monitoring program as part of the Groundwater Remedial Action at the FSL.
- Monitor and evaluate progress of groundwater remediation.
- Document the performance monitoring activities and laboratory analytical results in an annual report and an interim data transmittal to the USEPA.

Activities

The Groundwater Monitoring Program at the FSL has been ongoing for a number of years. City personnel have assumed primary responsibility for performing the quarterly field sampling activities, including making arrangements with the analytical laboratory (e.g., analyses to be

performed, sampling containers, delivery of sampling containers to the Site) and sample collection from the groundwater monitoring wells and the groundwater treatment plant (GTP) influent and effluent sampling ports. Consultant will coordinate with the City in the ongoing implementation of this program. The activities described below are to be performed during the year 2021.

Quarterly sampling events are scheduled to be performed during January, April, July, and October. As part of this task, Consultant will be responsible for the following activities:

- Coordinate with City field personnel during field sampling events to be performed in January, April, July, and October. This includes making City staff aware of modifications to the performance monitoring program activities. Recommended modifications to the sampling program (e.g., increasing/decreasing frequency of sampling for individual monitoring wells) are proposed as part of the annual performance monitoring report.
- Maintain the environmental database, including upload of analytical data upon receipt from the analytical laboratory following each quarterly sampling round. Database management will include performing queries on the data and preparing data summary tables that will be included in the interim data transmittal (electronic transmittal) and the annual performance monitoring program report (hard copy submittal).
- Address issues that are identified regarding laboratory analytical results (e.g., apparent mislabeling between 2 sample locations, investigating what appear to be anomalous analytical data, etc.).

Assumptions

- Analysis of organic constituents is currently being performed by BSK Associates Engineers & Laboratories (BSK) in Fresno, CA under direct bill contract with the City. The analytical laboratory may be changed at the discretion of the City.
- Analysis of inorganic constituents is currently being performed by the City of Fresno Wastewater Management Division Analytical Laboratory (WMD) in Fresno, CA, under direct bill arrangement with the City.

Deliverables

1. Interim Data Transmittal – The Interim Data Transmittal will consist of data summary tables and figures for the July and October groundwater monitoring events. The Interim Data Transmittal will be submitted directly to USEPA via e-mail in January 2021.
2. Annual Performance Monitoring Program Report (Annual Report) – The Annual Report will cover the July and October 2020 and the January and April 2021 groundwater monitoring events. A draft document will be submitted to City staff for review. Consultant will incorporate revisions from City staff and prepare final report for submittal to the USEPA. The Annual Report, to be submitted to USEPA in July 2021, will include the following elements:
 - Compilation of quarterly monitoring data (field and analytical laboratory data) and GTP operational data.
 - Preparation of data summary tables and graphics. Data summary tables will include groundwater extraction well operational data, groundwater treatment unit performance monitoring data, volatile organic compound (VOC) mass removal, groundwater level

measurements, head differential measurements (well clusters), VOC analytical data, inorganic constituent data, and quality control data. Graphics will include groundwater elevation contours for 2 of the quarterly monitoring events and VOC concentration trend plots.

- Based on the Long Term Monitoring Optimization Plan (Plan) (CDM Smith, 2007), Consultant will perform an evaluation of the groundwater monitoring wells included in the monitoring program and will make recommendations in accordance with the criteria defined in the Plan. This evaluation will be completed following the April performance groundwater monitoring event. The results of this evaluation will be documented in the Annual Report.

Task 2 – Remedial Action Systems Operations Assistance

Objectives

- Support the high-quality performance of the landfill environmental control systems.
- Assist City staff in the ongoing operations and maintenance of the groundwater remediation system and the landfill control systems at the FSL, including the landfill gas (LFG) control, landfill cover, and stormwater management systems.

Activities

Under this task, Consultant will assist the City in ongoing operations and maintenance of the groundwater treatment system and the landfill control systems. This task will consist of on-site and office activities necessary to maintain effective operation of the groundwater collection and treatment system, the LFG control system, and the function of the final landfill cover/stormwater management systems. This task includes the following activities:

- Annual Evaluation of Extraction Well Performance (*Annual Activity*) – Consultant will perform an evaluation of the performance of each extraction well on an annual basis. Performance factors to be considered during the performance evaluation will include specific capacity (pumping rate per foot of drawdown) and changes in pumping rate and drawdown over time, with comparison to historical data.
- Operable Unit 1 Annual Report (*Annual Activity*) – Consultant will prepare a report, which is intended to document operations and maintenance activities associated with the landfill (LFG) control elements, including the landfill cover, stormwater management, and LFG control systems. The OU-1 Annual Report, to be submitted to USEPA in February, will address operations during the prior year. The OU-1 Annual Report will consist of the following elements:
 - Summary of LFG flare operating data. This summary would include a listing of the LFG flare downtimes, resulting in operation of the GTP in LFG flare bypass mode.
 - Compilation of perimeter LFG monitoring probe data.
 - Assessment of the condition of the landfill cover system and the stormwater management system. The assessment would rely on information generated during inspections of the landfill cover and stormwater management system performed by Consultant and/or City staff. Of particular importance is the inspection scheduled early fall, prior to onset of rainy weather.
 - Overview of maintenance activities performed on the landfill control systems and description of repairs or equipment replacements.

- Landfill Inspection and Maintenance Assistance – Activities to be performed under this subtask will be focused on assisting the City in planning and performing landfill inspection and maintenance activities.
 - Annual Landfill Inspection (Annual Activity) – The annual landfill inspection will be performed during the Fall of 2021. At the request of the City, additional inspections may be performed following heavy precipitation events that could impact landfill control systems function. A description of landfill inspection activities/procedures is provided below:
 - Focus of the inspections will be on the landfill control system elements, including landfill cover system, surface water management system, and LFG control system.
 - Highlight the need for performing routine maintenance activities related to the landfill control systems.
 - Highlight the need for performing corrective action activities to address damage, inoperable conditions, or failure of the landfill control systems. The descriptions will be specific to each of the landfill control system elements.
 - Prepare report to document inspection and to describe maintenance, repair, and corrective actions.
 - Identify landfill regrading needs identified as part of the landfill inspections.
 - Implementation of High Priority Landfill Maintenance Items – During 2020, several activities were identified requiring maintenance and repair, including manhole repair (located at the south end of the landfill along the treated water discharge line), irrigation system repair (main line isolation valve located near the southeast corner of the landfill), air relief valve replacement, and management of nuisance vegetation. City staff will perform these activities; however, CDM Smith will assist the City in moving these activities forward.
 - Access Restrictions and Signage – The objectives of the signage and access restrictions are to fully inform park visitors about background information and past site use, clearly identify use restrictions at the Site, and contribute to limiting vandalism. In accordance with requirements from the USEPA, signage and access restriction will need to be completed by the City by second quarter 2021.
- New Well Evaluations (*Periodic Activity*) – Consultant will perform groundwater modeling evaluations of proposed new water supply wells (agricultural and residential) in the vicinity of the FSL. The purpose of the new well evaluations is to assess the potential for impact to the existing groundwater remediation system at the FSL from operation of proposed new wells. Under the current arrangement, the County of Fresno, Department of Public Health, Environmental Health Division (Fresno County) notifies the City when a permit application for a new or replacement water supply well is submitted in a location within the well assessment zone. Based on groundwater modeling results, Consultant will either recommend that the well not be installed or recommend design modifications for the proposed well (e.g., depth of well, depth of annular seal, and length of screen zone). It is assumed that CDM Smith will perform two evaluations per year for the duration of the period of performance.
- As-Needed Services (*Annual Activities*) – The budget includes funding for tasks that cannot specifically be identified at this time. The City will request in writing that Consultant perform

these tasks prior to initiating work. Activities under this task will be performed on an as-needed basis. These currently undefined tasks may include, but are not limited to, the following:

- GTP Operations Assistance – Consultant staff will be available to address questions raised by City staff in optimizing operations of the groundwater collection and treatment system (including extraction pump operations, GTP operations, and monitoring of instrumentation and controls). Consultant staff will also be available to respond to requests for assistance from the City to address GTP operational problems or to respond to questions regarding technical or regulatory issues.
- Develop an estimate of future costs associated with GTP operations under various operational scenarios.
- Develop capital cost expenditure projections for the FSL as part of rate studies prepared by City staff.
- Review and evaluate analytical data from supplemental samples collected from the groundwater monitoring wells or the GTP.
- Respond to requests for information from the USEPA, or other regulatory agencies involved in oversight at the FSL.

Assumptions

- For preparation of the OU-1 Annual Report, City staff will provide operations data for the LFG flare system. Consultant staff will compile these data and make necessary assumptions and calculations for filling data gaps.
- Consultant will initiate efforts on as-needed tasks upon request from the City. The cost associated with the individual subtasks will include expenses for travel to the Site.

Deliverables

- Annual Extraction Well Performance Evaluation Technical Memorandum (*Annual Deliverable*). The technical memorandum, which will document the performance evaluation on each of the groundwater extraction wells, will be submitted to the City. This technical memorandum is not intended as a formal submittal to USEPA.
- OU-1 Annual Report (*Annual Deliverable*). A draft report will be submitted to the City for review. The report will be revised based on review comments from the City and finalized for submittal to USEPA.
- New Well Evaluations (*Periodic Deliverables*). At the conclusion of each new well evaluation that is performed, a letter to the City will be prepared for submittal to the City which documents groundwater modeling results and provides well construction recommendations.

Task 3 – Superfund Site Delisting Pathway – Planning

No new scope of work or budget is requested for Task 3 activities. The scope of work had previously been defined in the Year 2 scope and budget (2017). The scope of work, as defined in the Year 2 scope applies and is presented below for information purposes.

Objective

- Define and implement the process for achieving removal of the FSL Site from the National Priorities List (NPL).

Activities

Completion of the Phase 3 Remedial Action construction activities and completion of the Phase 3 Evaluation Report had been postponed to 2020. As a result, implementation of the Task 3 activities described below were postponed until 2021. The budget for this task was originally established in the project budget for services during 2020. Because this work was not performed during 2020, funding still remains in the project budget and will be utilized if Task 3 services are performed during 2021 (i.e., additional funding for this Task 3 is not included in the budget request for services during 2021).

Work to be performed during 2021 will constitute the initial steps in the process of delisting the FSL from the NPL. Task 3 activities are described below and include a single project deliverable and a meeting with USEPA. Delisting process activities are expected to continue into 2022. Based on input from USEPA, the process will be refined as progress is made in moving toward NPL Site delisting.

Task 3 activities, planned for implementation during 2021, are described below.

- **Develop Annotated Outline/Decision Tree.** This document will serve to guide initial discussions with USEPA regarding delisting of the FSL site from the NPL. This document will propose minimum criteria related to trends in groundwater quality and plume characteristics that will influence the decision to initiate the delisting process. A strategy for deletion of the site, or portions of the site will be developed in conjunction with input from the City. Currently, the ROD at the site required restoration of groundwater to MCLs. Successful deletion of the site, or portions of the site will likely require a ROD amendment to change the remedy from restoration to a combination of containment of the source and monitored natural attenuation in downgradient areas. Because the landfill source cannot be removed, ongoing releases may continue for an extended period. Therefore, a partial deletion strategy may be appropriate, where downgradient areas are deleted, once approval of a ROD amendment is obtained. If EPA and the State approve modification to a containment of source and monitored natural attenuation (MNA), a full deletion of the site is feasible, once the amended ROD remedy is in place and in operations, maintenance and monitoring status.
- **USEPA Meeting.** A meeting with USEPA will be proposed following submittal of the Annotated Outline/Decision Tree. The purpose of the meeting will be to obtain input from USEPA regarding deletion or partial deletion of the FSL site from the NPL. It is important to obtain input and, ultimately, concurrence from USEPA regarding the developing strategy for moving forward with Site delisting. The State will also need to be involved in this process, since any deletion or partial deletion will require their concurrence. Meeting minutes will be prepared and distributed to all meeting participants.

Assumptions

- The Task 3 activities will involve early collaboration with USEPA.
- The initial activities will involve efforts to define the steps that will be required for achieving Site delisting from the NPL.

Deliverables

For each deliverable listed below, Consultant will provide an internal draft version of the document to City staff for review and input. Consultant will revise the document based on review comments from the City and finalize for submittal to USEPA.

1. Annotated Outline/Decision Tree.
2. Meeting minutes will be prepared following the meeting with USEPA.

Task 4 – Phase 3 Groundwater Remedial Action Performance Evaluation

Objective

- Respond to USEPA and State regulatory agency review comments addressing the *Phase 3 Groundwater Remedial Action Evaluation Report* (Phase 3 Evaluation Report), submitted during 2020.
- Revise the *Phase 3 Groundwater Remedial Action Evaluation Report* for submittal to USEPA, which incorporates revisions reflected in the responses to regulatory agency comments.

Activities

During 2020, CDM Smith prepared a detailed performance evaluation of the Phase 3 Groundwater Remedial Action. USEPA developed review comments regarding the information presented in the Phase Evaluation Report. The task activities include preparing formal responses to review comments from USEPA (RTCs) and, following USEPA review of the RTCs, to revise the Phase 3 Evaluation Report for submittal to USEPA.

Assumptions

- No additional review comments will be developed by USEPA or the State regulatory agencies following submittal of the Final Phase 3 Evaluation Report.

Deliverables

1. Prepare responses to comments (RTCs) document which addresses all USEPA and State regulatory agency comments. A draft document will be submitted for review by City staff. Consultant will incorporate revisions from City staff and prepare a final report for submittal to USEPA.
2. Revise the *Phase 3 Groundwater Remedial Action Evaluation Report*. The revised report will be submitted for review by City staff. Consultant will incorporate revisions from City staff and prepare a final report for submittal to USEPA.

Task 5 –Project Management/Project Meetings

Objectives

- Meet project scope, schedule, and budget requirements.
- Maintain effective communication with the City, USEPA, and other regulatory agency staff on key project issues.

Activities

The activities described below are to be performed during 2021.

- Perform routine project management activities, which will include staff oversight, budget management, invoicing and coordination with the City on budget and scope of work development.

- Prepare schedule updates, as needed.
- Participate in project meetings and project conference calls, including preparing meeting agendas and other handouts.
- Prepare quarterly reports providing status updates regarding remedial actions implemented at the FSL. The City will submit the quarterly reports directly to USEPA.

Assumptions

- The City will finalize the quarterly reports with transmittal to USEPA.
- Cost estimate reflects participation in up to two project conference calls and up to two project status meetings during 2021. The budget assumes that up to one Consultant staff from outside the Concord office will participate in the project status meeting and includes travel and per diem expenses.

Deliverables

1. Project Quarterly Reports prepared during January, April, July, and October during 2021.
2. Monthly invoices to the City documenting Consultant work performed.
3. Agenda and handouts for periodic project meetings or teleconferences.

Task 6 – Landfill Regrading/Landfill Control Systems Repair Designs (Operable Unit 1)

Two subtasks included as part of this Task 6 are briefly described below.

- Subtask 6.1 – Landfill Slope Regrading and LFG Collection System Repair Design – This subtask will consist of developing guidance for the City to utilize in planning and implementing a regrading operation of landfill side slopes on the east side of the landfill and repair of LFG facilities during the fall of 2021. The eastern side slopes of the FSL have historically experienced differential settlement creating conditions which result in ponding of rainwater in on the landfill cover. The regrading operation will address impacts to the final cover system and will improve stormwater management. Impacts to the LFG collection system on the east side of the landfill have included settlement of the header pipe leading to Condensate Sump #6 (CS-6). Repair activities have previously been performed at the header pipe and at CS-6. Efforts to realign the header pipe in this area will be facilitated by elevating the pipeline above grade using an adjustable pipe support system.
- Subtask 6.2 – Landfill Perimeter Drainage Ditch Regrading and Repair Design – This subtask will consist of developing detailed plans and specifications that will guide regrading and reconstruction of select portions of the perimeter stormwater drainage ditch along the eastern side of the landfill. Repair of the perimeter drainage ditch will involve replacement of the existing EPDM synthetic liner.

Subtask 6.1 - Landfill Slope Regrading and LFG Control System Repair Design

Objectives

The objective of this subtask is to develop guidance documents for the City to utilize in planning and implementing a regrading operation of landfill side slopes and repair of LFG facilities.

Activities

Consultant will develop guidance drawings for the City to utilize in planning and implementing a regrading operation of landfill side slopes and repair of LFG facilities during the fall of 2021. Task assumptions and activity descriptions are provided below.

Landfill Side Slope Regrading Operation

Design-related activities for this element of work are described below.

- Delineate the area on the eastern side slopes to be regraded.
- Define the elevation along the upslope boundary of the regrading area and the toe of slope elevation (upslope edge of the perimeter drainage ditch).
- Estimate soil volume requirements for backfilling during the regrading operation.
- Prepare concept-level design drawings to serve as a guide for City staff to implement the regrading operations.

LFG Collection Piping Repair

Design-related activities for this element of work are described below.

- Detail the activities required to move the LFG collection piping leading to Condensate Sump #6 (CS-6) from a below grade to an above grade alignment.
- Prepare concept-level design drawings to serve as a guide for City staff to implement the LFG collection pipe repair activities.
- Prepare specifications for HDPE replacement piping and other appurtenances (including HDPE couplings, fittings, valves) required during implementation of the LFG collection pipe repair activities.

Assumptions

- City survey crew will perform a targeted survey of the eastern side slopes. The City will provide to Consultant electronic files with topographic contour information (suitable for use in AutoCAD) by March 2021.
- The City will have the opportunity to review the concept-level design drawings for the regrading operation and for the LFG collection piping repair. Consultant will respond to the comments/questions and prepare revised concept-design sheets.
- City crews will perform the regrading operations along the eastern side slopes.
- City staff will be responsible for identifying a source of soil to be used for backfilling during the regrading operations.
- City crews will perform the work required to move the LFG collection piping connecting to CS-6 from a below grade to an above grade location. Disconnect and reconnect existing gas headers and power and condensate piping.
- Drawings will not be stamped/sealed.
- No need for CS equipment replacement.

Deliverables

1. Up to two 2 design sheets will be prepared to guide the slope regrading operations.
2. Up to two 2 design sheets and technical specifications will be prepared to guide the LFG collection pipe repair activities.
3. A technical memorandum will be prepared to document the Task 6.1 (regarding and LFG control system repair activities) and Task 6.2 (landfill perimeter drainage ditch regrading and repair activities). A description of the Task 6 Tech Memo is provided under Subtask 6.2.

Subtask 6.2 - Landfill Perimeter Drainage Ditch Regrading and Repair Design

Objectives

The objectives of this subtask are to prepare design documents to be used by the City to solicit bids from contractors for regrading and repair of the perimeter drainage ditch on the east side of the landfill. Repair of the perimeter drainage ditch will involve installation of a synthetic membrane.

Activities

Consultant will design drawings and specifications for use by the City to request Contractor bids to utilize in planning and implementing a regrading operation of landfill side slopes and repair of LFG facilities during the fall of 2021. Task activities will include preparation of design documents (design plans and specifications), bid period services, and construction period services. Task activity descriptions, assumptions, and deliverables are provided below.

Design Services

Consultant will prepare three design packages, including the 30% design drawings, 60% design package (design drawings, specifications, and associated Engineer's Opinion of Probable Construction Cost (OPCC)) and the 100% design package (specifications, design drawings, and associated OPCC). Activities to be performed during the design for the perimeter drainage ditch regrading and repair are described below.

- Up to two visits to the FSL by key members of the design team to confirm conditions relative to as-built drawings for the landfill closure.
- Develop approximately 10 design drawings, including the following:
 - Five general/civil sheets – title page, general notes, general site layout, and settlement-specific sheets.
 - Five civil detail sheets – sections/details showing typical settlement repair, ditch reconstruction and ditch lining, anchor trench, sand tube layout, and perimeter access road repair.
- Develop technical specifications based on the specifications prepared for the *Landfill Regrading & Landfill Control System Maintenance* project (dated April 2010).

- Prepare Engineer's Opinion of Probable Construction Cost (OPCC) for the Perimeter Drainage Ditch and Repair project. The Engineer's OPCC will be developed based on the 60% design submittal and then updated for the 100% design submittal.

Bid Period Services

This subtask will include participation in the City's pre-bid conference and preparation of responses to Bid Period requests-for-information (RFIs). It is assumed that this task will be limited to 50 labor hours.

Construction Period Services

This subtask will consist of Contractor submittal review, preparing responses to construction RFIs, and periodic construction oversight. Construction oversight can include specialty inspection, targeted participation in construction meetings, assistance in change order preparation, assistance in claims support, and assistance in preparation of a project punch list. It is assumed that this task is limited to 100 labor hours.

Reporting

This subtask will consist of preparing a Tech Memo to document the Task 6 construction efforts.

The Tech Memo is intended for submittal to the U.S. Environmental Protection Agency (USEPA). Given that this construction project is a maintenance project, the report will be less detailed than the Interim Remedial Action Report that had been prepared to document past remedial action construction activities performed at the FSL.

Assumptions

- City survey crew will perform a survey of the entire length of the perimeter drainage ditch on the eastern side of the landfill. The survey data will include the points along the perimeter access road adjacent to the perimeter drainage ditch. The City will provide to Consultant electronic files with topographic contour information by March 2021.
- Design documents will be based on design documents prepared for the *Landfill Regrading & Landfill Control System Maintenance* project (dated April 2010).
- It is intended that the 100% design documents are final, and not a review set for purposes of generating additional review comments.
- City will be responsible for compiling the front end (Division 0) specifications. Consultant will be responsible for developing the technical specifications. Consultant will provide to City staff the technical specifications (from the 100% design package) for incorporating into a full specification package to be included in the formal request-for-bid.
- Consultant will prepare draft Bid Sheet for use by the city for information into the bid package. The City will work process front-end (Division 0) specifications.
- City will be responsible for transmitting information to bidders, as necessary.

- At the request of the City, Consultant will prepare up to two addenda during the bid process.
- Consultant will prepare responses for up to ten questions or RFIs during the bidding process.
- During Construction Period Services, City will coordinate and transmit RFIs and submittals/responses.

Deliverables

1. 60% Perimeter Drainage Ditch Regrading and Repair Design. Design documents will consist of drawings and technical specifications. Consultant will prepare the 60% design documents for review by City staff. The Engineer's OPCC based on the 60% design documents will be developed and submitted for City review.
2. 100% Perimeter Drainage Ditch Regrading and Repair Design. Comments from City staff on the 60% design package will be incorporated into the design drawings and specifications and the 100% design documents will be prepared. The stage of the design is considered final. The Engineer's OPCC based on the 100% design documents will be developed and submitted for City review.
3. The 100% design submittals will be stamped and sealed for distribution by the City to potential bidders. An electronic copy of the 100% drawings in AutoCAD version 2015 will be provided on CD-ROM. Electronic copy will be identical to bid set except Consultant will remove its logo, professional engineering stamps and signatures. Electronic copies of 100% technical specifications will be provided in MS Word on CD-ROM.
4. Electronic files of the design documents (plans and specifications) will be provided to the City.
5. Following completion of the landfill regrading and LFG collection system repair activities (Subtask 6.1) and the landfill perimeter drainage ditch regrading and repair activities (Subtask 6.2), a Tech Memo will be prepared to document activities performed. The Tech Memo will be submitted to the USEPA.

Schedule

The scope of work and budget presented above reflects project duration from January through December 2020. The schedule for project deliverables is provided below:

Annual and or Periodic Deliverables

1. Quarterly Reports – **January, April, July, and October** during 2021.
2. Interim Data Transmittal – **January 31, 2021.**
3. OU-1 Annual Report – **February 31, 2021.**

4. Technical Memorandum to document the annual well performance evaluation – **June 2021.**
5. Spring Annual Performance Monitoring Program Report – **July 31, 2021.**
6. New Well Evaluations – The results of groundwater modeling to evaluate proposed new agricultural or domestic water supply wells will be documented in a brief letter report to the City. This work will be performed on an as-needed basis throughout 2021.

One-time Deliverables

1. RTC document in response to review comments from USEPA and the State regulatory agencies addressing the *Phase 3 Groundwater Remedial Action Evaluation Report* (dated December 2020). Assuming receipt of the review comments from the regulatory agencies early during the first quarter of 2020, it is expected that the RTCs will be completed early in the **second quarter 2021.**
2. Annotated Outline/Decision Tree – Timing for submittal of this deliverable will be dependent on the conclusions/recommendations in the Phase 3 Evaluation Report. This document is expected to be completed during the **second quarter 2021.**
3. Task 6.2 Design Deliverables – **third quarter 2021**
4. Task 6.2 Design Deliverables – **third quarter 2021**

Budget

The cost for the work described above is \$328,600. A cost breakdown is provided on Table 1, Budget for Year 2 Extension (2021), Groundwater and Landfill Remediation Services, Fresno Sanitary Landfill (OU-1 and OU-2). This cost estimate constitutes the budget for Year 2 Extension (2021) of the agreement between the City and Consultant.

Table 1
Budget for Year 2 Extension (2021)
Groundwater and Landfill Remediation Services
Fresno Sanitary Landfill (Operable Unit-1 and Operable Unit-2)

Task Description		Labor \$	ODCs \$	OPs \$	Total \$
Task 1	Performance Monitoring Program	\$74,800	\$1,000	\$0	\$75,800
	Monitoring Assistance	\$28,500	\$600	\$0	\$29,100
	Environmental Database Management	\$5,400	\$0	\$0	\$5,400
	OU-2 Annual Report (submittal date: July)	\$26,600	\$200	\$0	\$26,800
	OU-2 Regulatory Data Transfer (submittal date: January)	\$7,600	\$0	\$0	\$7,600
	Responses to Comments	\$6,700	\$200	\$0	\$6,900
Task 2	Remedial Action Systems Operations Assistance	\$49,400	\$1,400	\$0	\$50,800
	Annual Evaluation of Extraction Well Performance	\$6,000	\$0	\$0	\$6,000
	OU-1 Annual Report	\$8,300	\$200	\$0	\$8,500
	New Water Supply Well Evaluations	\$7,500	\$0	\$0	\$7,500
	As-Needed Activities	\$19,300	\$800	\$0	\$20,100
	Landfill Inspection and Maintenance Assistance	\$8,300	\$400	\$0	\$8,700
Task 3	Superfund Site Delisting Pathway -- Planning	\$0	\$0	\$0	\$0
Task 4	Phase 3 Groundwater Remedial Action Performance Evaluation	\$28,800	\$300	\$0	\$29,100
	Final Phase 3 RA Evaluation Report - Revise/Reissue	\$13,300	\$300	\$0	\$13,600
	Groundwater Modeling	\$9,300	\$0	\$0	\$9,300
	Response to Comments	\$6,200	\$0	\$0	\$6,200
Task 5	Project Management/Project Meetings	\$38,600	\$1,700	\$0	\$40,300
	Project Management	\$29,900	\$1,000	\$0	\$30,900
	Project Meetings	\$8,700	\$700	\$0	\$9,400
Task 6	Landfill Regrading/Landfill Control Systems Repair Designs (OU-1)	\$130,900	\$1,700	\$0	\$132,600
Subtask 6.1	Landfill Slope Regrading and LFG Collection System Repair Design				
	Preliminary Drawings	\$8,900	\$0	\$0	\$8,900
	Final Drawings	\$6,200	\$300	\$0	\$6,500
	Field Visits	\$5,000	\$250	\$0	\$5,250
Subtask 6.2	Landfill Perimeter Drainage Ditch Regrading and Repair Design				
	Design Planning	\$2,100	\$0	\$0	\$2,100
	60% Design	\$18,500	\$0	\$0	\$18,500
	90% Design	\$17,900	\$0	\$0	\$17,900
	100% Design	\$13,300	\$0	\$0	\$13,300
	Specifications	\$11,100	\$0	\$0	\$11,100
	OPCC (for 60% and 90% designs)	\$8,200	\$0	\$0	\$8,200
	Bid Period Services	\$9,700	\$250	\$0	\$9,950
	Construction Period Services	\$15,200	\$450	\$0	\$15,650
	Field Visits	\$5,600	\$450	\$0	\$6,050
	Reporting	\$9,200	\$0	\$0	\$9,200
TOTALS		\$322,500	\$6,100	\$0	\$328,600

Notes:

1. CDM Smith will complete the tasks listed in the table on a time and materials basis, not to exceed a total of \$328,600.
2. Labor costs will be billed at actual salary rates times a 3.05 multiplier.
3. 'Other Direct Costs' and 'Outside Professional' charges will be billed with a 5% mark-up.