

AGREEMENT TO FURNISH
ENGINEERING SERVICES FOR THE CALIFORNIA STREET LANDFILL
VERTICAL EXPANSION AND CONCEPTUAL HORIZONTAL EXPANSION DESIGN

This Agreement is made and entered into this 1st day of September 1, 1998 by and between the City of Redlands, a municipal corporation (hereinafter "City") and Vector Engineering, Inc., (hereinafter "Engineer").

In consideration of the mutual promises, covenants and conditions hereinafter set forth, City and Engineer hereby agree as follows:

ARTICLE 1 - ENGAGEMENT OF ENGINEER

- 1.1 City hereby engages Engineer, and Engineer hereby accepts the engagement, to perform engineering services ("Services") for City's California Street Landfill vertical expansion and conceptual horizontal expansion design ("Project").
- 1.2 The Services shall be performed by Engineer in a professional manner, and Engineer represents that it has the skill and the professional expertise necessary to provide high quality Services for the Project at the level of competency presently maintained by other practicing professional Engineers in the industry providing similar types of services.

ARTICLE 2 - SERVICES OF ENGINEER

- 2.1 The specific Services which Engineer shall perform are more particularly described in Attachment "A," entitled "Scope of Work," which is attached hereto and incorporated herein by this reference.

ARTICLE 3 - RESPONSIBILITIES OF CITY

- 3.1 City shall make available to Engineer information in its possession that is pertinent to the performance of Engineer's Services.
- 3.2 City will provide access to and make provisions for Engineer to enter upon City-owned property as required by Engineer to perform the Services.
- 3.3 City designates Valorie Shatynski, Solid Waste Manager, to act as its representative with respect to the Services to be performed under this Agreement.

Landfill Engineering Services
Vertical Expansion and Conceptual Horizontal Design
Vector Engineering, Inc.
September 1, 1998

ARTICLE 4 - PERIOD OF SERVICE

- 4.1 Engineer shall perform the Services in a diligent manner and in accordance with the schedule set forth in Attachment B - Project Schedule.

ARTICLE 5 - PAYMENTS TO THE ENGINEER

- 5.1 The total compensation for Engineer's performance of the Services shall not exceed \$77,259 in accordance with Attachment C - Project Fee and Rate Schedule. City shall pay Engineer on a time and materials basis at the hourly rates shown in Attachment C.
- 5.2 Engineer shall bill City within ten days following the close of each month by submitting an invoice indicating the Services performed, who performed the Services, indirect costs, and the detailed cost of all Services including backup documentation. Payments by City to Engineer shall be made within 30 days after receipt and approval of Engineer's invoice, by warrant payable to Engineer.
- 5.3 All contractual notices, bills and payments shall be made in writing and may be given by personal delivery or by mail. Notices, bills and payments sent by mail shall be addressed as follows:

City
Valorie Shatynski
Municipal Utilities Department
35 Cajon Street
P. O. Box 3005
Redlands, CA 92373

Engineer
Scott Purdy, President
Vector Engineering, Inc.
12438 Loma Rica Drive, Suite C
Grass Valley, CA 95945

When so addressed, such notices shall be deemed given upon deposit in the United States Mail. In all other instances, notices, bill and payments shall be deemed given at the time of actual delivery. Changes may be made in the names and addresses of the person to whom notices, bills, and payments are to be given by giving notice pursuant to this paragraph.

Landfill Engineering Services
Vertical Expansion and Conceptual Horizontal Design
Vector Engineering, Inc.
September 1, 1998

ARTICLE 6 - INSURANCE AND INDEMNIFICATION

- 6.1 Engineer shall maintain worker's compensation insurance and, in addition, shall maintain insurance to protect City from claims for damage due to bodily injury, personal injury and death, and claims for injury to or destruction of tangible property while performing the Services required by this Agreement. Said public liability and property damage insurance shall be in a minimum combined single limit of \$1,000,000, and in the aggregate. Engineer shall maintain professional liability insurance in the aggregate amount of \$1,000,000 with a minimum of \$500,000 per occurrence. City shall be named as an additional insured under all policies for public liability, property damage and comprehensive automobile liability and professional liability insurance, and such insurance shall be primary with respect to City and non-contributing to any insurance or self-insurance maintained by the City. Engineer shall provide City with certificates of insurance evidencing such insurance coverage prior to commencing the Services.
- 6.2 Engineer shall indemnify, hold harmless and defend City and its elected officials, officers, agents and employees from and against all claims, loss, damage, charges or expense, to which it or any of them may be put or subjected to the extent that they arise out of or result from any willful or negligent act or actions, omission or failure to act on the part of the Engineer, its contractors, its suppliers, anyone directly or indirectly employed by any of them or anyone for whose acts or omissions any of them maybe liable in the performance of the Services required by this Agreement.

ARTICLE 7 - GENERAL CONSIDERATIONS

- 7.1 In the event any action is commenced to enforce or interpret any of the terms or conditions of this Agreement the prevailing party shall, in addition to any costs and other relief, be entitled to the recovery of its reasonable attorneys' fees.
- 7.2 Engineer shall not assign any of the Services required by this Agreement, except with the prior written approval of City and in strict compliance with the terms, provisions and conditions of this Agreement.

Landfill Engineering Services
Vertical Expansion and Conceptual Horizontal Design
Vector Engineering, Inc.
September 1, 1998

7.3 Engineer's key personnel for the Project are:

Principal:	Scott Purdy, C.E.G.
Project Manager:	Thomas Woodward, P.E., R.G.
Field Guidance Specialist	Robert Foster

Engineer agrees that the key personnel shall be made available and assigned to the Project, and that they shall not be replaced without concurrence from City.

- 7.4 All documents, records, drawings, designs, costs estimates, electronic data files and databases and other Project documents developed by the Engineer pursuant to this Agreement shall become the property of City and shall be delivered to City upon completion of the Services or upon the request of City. Any reuse of such documents for other projects and any use of incomplete documents will be at City's sole risk.
- 7.5 Engineer is for all purposes an independent contractor. All personnel employed by Engineer are for its account only, and in no event shall Engineer or any personnel retained by it be deemed to have been employed by City or engaged by City for the account of or on behalf of City.
- 7.6 Unless earlier terminated, as provided for below, this Agreement shall terminate upon completion and acceptance by City of the Services.
- 7.7 This Agreement may be terminated by either party, without cause, by providing thirty (30) days prior written notice to the other (delivered by certified mail, return receipt requested) of intent to terminate.
- 7.8 Upon receipt of a termination notice, Engineer shall (1) promptly discontinue all services affected, and (2) deliver or otherwise make available to City, copies (in both hard copy and electronic form, where applicable), of any data, design calculations, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by Engineer in performing the Services required by this Agreement.
- 7.9 Engineer shall maintain books and accounts of all Project related payroll costs and all expenses. Such books shall be available at all reasonable times for examination by the City

Landfill Engineering Services
Vertical Expansion and Conceptual Horizontal Design
Vector Engineering, Inc.
September 1, 1998

at the office of Engineer.

- 7.10 This Agreement, including the attachments incorporated herein by reference, represents the entire agreement and understanding between the parties and any prior negotiations, proposals or oral agreements are superseded by this Agreement. Any amendment to this Agreement shall be in writing, approved by the City Council of City and signed by City and Engineer.
- 7.11 This Agreement shall be governed by and construed in accordance with the laws of the State of California.

IN WITNESS WHEREOF, duly authorized representatives of the City and Engineer have signed in confirmation of this Agreement.

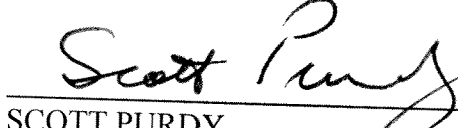
City of Redlands
("City")

By:

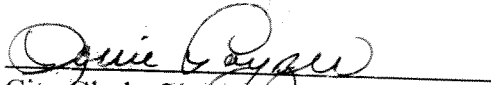

WILLIAM E. CUNNINGHAM
Mayor

Vector Engineering, Inc.
("Engineer")

By:


SCOTT PURDY
President

ATTEST:


City Clerk, City of Redlands

**ENGINEERING SERVICES FOR THE
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ATTACHMENT A – SCOPE OF WORK

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Task 1 – Operations Support

Operational support is necessary to address rapid field changes that may occur as the top deck fill area is reduced to minimize loss of capacity and ensure that testing and record filing is conducted on schedule. Operations support will involve two primary subtasks.

Task 1A. The first subtask will involve compliance issues. Vector will review all current permit documents (WDRs, RDSI, etc.), meet with yourself, operations, and 3D Geoservices, and read published and unpublished reports on the site. Based on this information, we will prepare a compliance schedule with all required reporting, testing, and documenting presented in an easy to follow format. We will also work with John Smith, landfill supervisor to ensure that he has a complete understanding of the compliance schedule. The schedule will enable your landfill supervisor and his staff to conduct testing and file records in accordance with the regulatory requirements. It will also serve as a check that all documentation has been submitted on a timely basis.
Deliverable: Detailed compliance schedule including a list with dates for all reporting, testing, and documenting required by the regulatory agencies.

Task 1B. The second subtask involves direct training and supervision in daily landfill operations to ensure that the landfill operators have the necessary skills to construct the waste cells to the required grades and elevations. In order to keep continuity with the field personnel, we are proposing to use Bobby Foster as our landfill operations expert (Mr. Foster provided assistance to the City with 3D Geoservices on a previous project). Scott Purdy, Vector's president and principal in charge of this project, also worked with Bobby Foster at the Calabasas Landfill while the Sanitation Districts employed him as the site supervisor. Our landfill operations expert will provide training and supervision to John Smith, city landfill supervisor, and other landfill personnel in fill techniques, drainage enhancements, berms, roads, excavation, winter decks, sequencing, compaction, and other items as necessary. Our landfill operations expert will utilize interim fill sequencing plans prepared by Vector and discussed in Task 2. Our landfill operations expert will be at the site on 16 separate occasions, arriving at the site once each week over a four-month working period. Assisting our landfill operations

expert during many of the site visits will be Tom Woodward, Vector senior engineer and the manager of this project. Our project manager will prepare the updated interim fill sequencing plans and meet in the field with our landfill operations expert and the City's site personnel to ensure compliance.

Deliverable: Weekly status reports detailing compliance with the interim fill sequencing plans and ancillary work.

Task 2 – Interim Phase Planning/Conceptual Expansion Design

Interim phase planning and conceptual expansion design will be necessary to keep the field operations running smoothly, avoid loss of volume, and ensure that any transitions to future cells occur with a minimum of disruption and costs. This task will involve three subtasks including landfill master planning under the current final grading plan, the existing waste management unit and expansion area tie-in design, and preparing conceptual design drawings for the expansion design in order to evaluate the feasibility of liner alternatives and grading plans.

Task 2A. The landfill master planning (interim phase planning) will involve the preparation of fill sequencing drawings showing the landfill operator where to place refuse on a weekly basis. We will utilize the existing drawings prepared by 3D Geoservices as a foundation for our drawings. The base drawing will be updated following the October flyover. In addition to showing the fill sequencing, the master plan drawings will locate roads, winter decks, drainage structures, etc. These drawings will be updated and/or modified as necessary and will be used by Vector's landfill operations expert when he meets with the landfill supervisor and operators.

Deliverable: Master plan and fill sequencing drawings for the completion of the existing waste management unit.

Task 2B. The second subtask involves the development of planning and engineering documents which will define how the existing waste management unit will tie into the landfill expansion area located south of existing disposal cell. The document will include a narrative and drawings that will address issues such as drainage, cover, and tying-in the two units. These issues are important with regard to the current filling of the existing unit. In addition, it will be important to the overall landfill volume to

ensure that the wedge between the 3:1 slopes of the existing cell and the 3:1 slopes of the expansion cell can be filled with refuse. Vector has dealt with this issue at other sites. For example, at the Marina Landfill near Monterey the design between an unlined existing cell and a lined expansion cell called for the existing slopes to have a geogrid and liner placed over them prior to filling. Vector presented sound engineering and economic arguments to the regulatory agencies that resulted in the deletion of that liner.

Deliverable: Technical justification for regulatory approval and planning document for the liner system tie-in of the existing cell and the future expansion cells.

Task 2C. The final subtask involves the preparation of a conceptual grading plan and design for the potential expansion cell. These conceptual drawings will be prepared to a level that can be easily modified to construction level drawings, thereby facilitating the final design process. By evaluating the drainage, dirt requirements, and grading for the new design in a conceptual manner, the fill sequencing of the existing cell can be designed such that an easy transition will be achieved and that no conflicts in the overall flow of the filling operation will occur. In addition, the conceptual design of the liner system will be prepared. By designing the liner system early, alternative components can be evaluated such that the most cost effective expansion design is developed. Because of the shortage of on-site, low permeability soils, it is likely that the alternative design will include a geosynthetic clay liner.

Deliverable: Conceptual design drawings and supporting engineering documentation for the future expansion cell.

Task 3- Alternative Daily Cover Feasibility Study

The cover material used at the site will affect both field operations and site life. This task will involve a study to evaluate the feasibility of using green waste as an alternative daily cover (ADC). The feasibility study will include the economics of green waste utilization, placement, and operations. Costs for hauling in the material versus on-site grinding and composting will be investigated. Since the site is dirt poor, green waste ADC may be worthwhile. The study will include full documentation of the

program for LEA review and approval. In addition, a proposed pilot program will be presented to the LEA for approval and implementation.

Deliverable: ADC cost feasibility study assessing a green waste component for the existing ADC program. Full ADC documentation and a pilot program for LEA review and approval.

Task 4 – Meetings

This task involves an initial kickoff meeting with you and City staff, 3D Geoservices, and Vector personnel. In addition to the kickoff meeting, budget has been provided as a contingency for three additional meetings to be held at the request of the City.

Deliverable: 1) Meeting minutes, 2) Assurance that the scope of work is executed and meets the intent of the City.

Task 5 – Geotechnical Testing

Vector will be performing geotechnical testing on five soil samples provided by 3D Geoservices. The specific testing will include Grain Size Distribution and Hydrometer Analysis for all five samples. For two of the samples additional testing will be performed including, Direct Shear, Atterberg Limits, Compaction (Modified Proctor), Moisture Content, and saturated hydraulic conductivity. The results of this testing will be provided to the City and 3D Geoservices for further verification of the stability and closure configuration of the landfill.

Deliverable: Geotechnical testing results

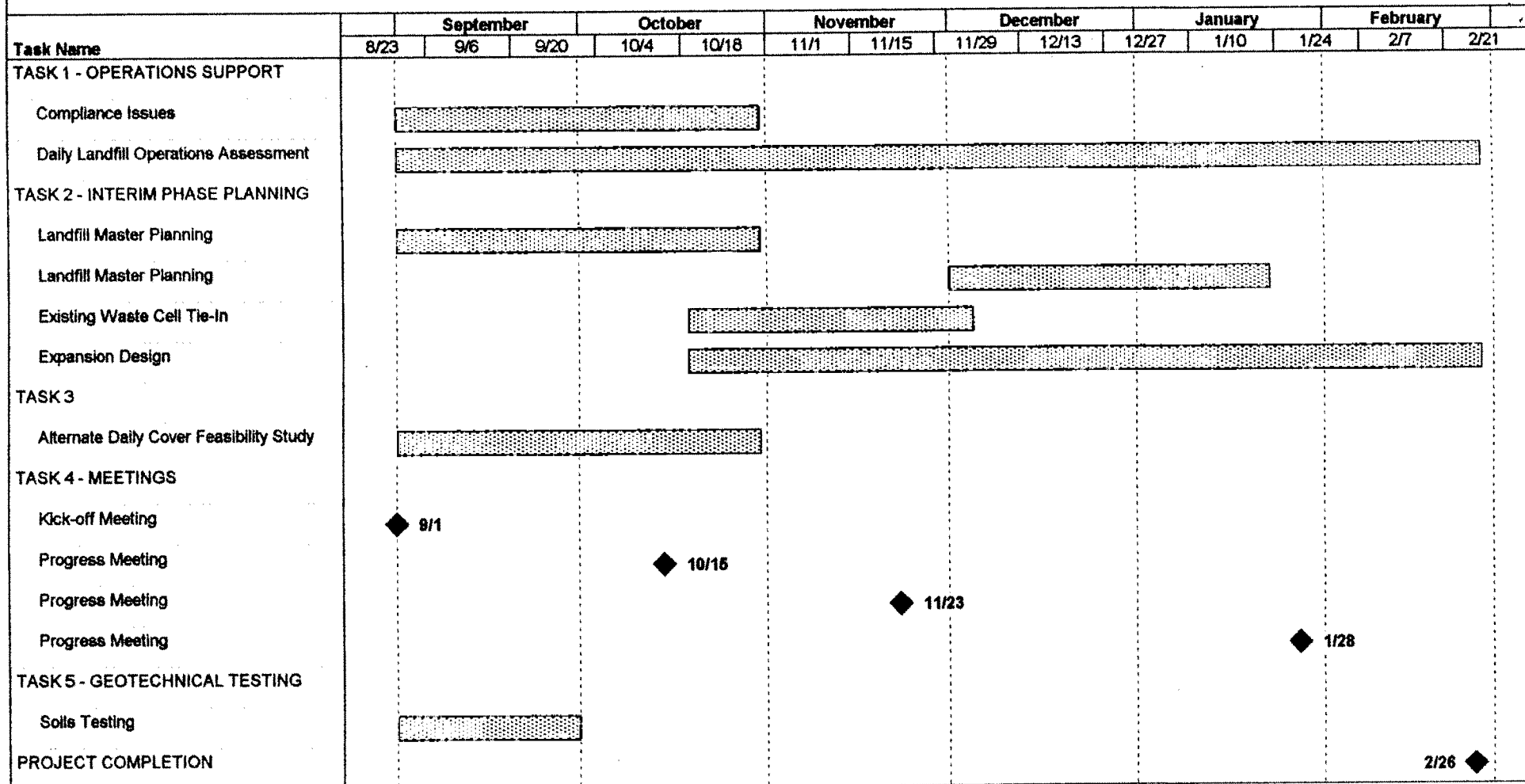
Deliverables

Vector will provide copies of all documents prepared for the City in hard copy and electronic format. Drawings will be provided on mylar with three blue line copies. For Task 1, we will provide a compliance schedule. For Task 2, we will provide the conceptual design drawings for the expansion, a liner alternative demonstration, interim fill drawings, and other drawings as necessary to complete our scope of work. Task 3 will include a report with the findings of the ADC evaluation. Task 5 will include a laboratory test report detailing the results of the geotechnical evaluation.

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HORIZONTAL EXPANSION DESIGN***

ATTACHMENT B – PROJECT SCHEDULE

SCHEDULE for ENGINEERING SERVICES for the CALIFORNIA STREET LANDFILL



Project: City of Redlands Landfill
Date: August 7, 1998

Task



Summary



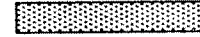
Rolled Up Progress



Progress



Rolled Up Task



Milestone



Rolled Up Milestone



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CALIFORNIA STREET LANDFILL
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ATTACHMENT C – PROJECT FEE AND RATE SCHEDULE

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Task Description	Scott Purdy-CEG (\$100/hour)			Tom Woodward - P.E. (\$200/hour)			Richard Moorehead (\$40/hour)			Cathy Stone (\$35/hour)			Robert Foster (\$60/hour)			Hours Per Task		Costs Per Task		Remaining Budget
	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs	Days	Costs	Hours	Task	Task	Task	Task			
Task 1. Operations Support	28	\$ 2,800	56	\$ 11,200	0	\$ 0	0	\$ 0	16	\$ 560	160	\$ 16,000	160	160	160	160	\$ 17,760	\$ 17,760	\$ 17,760	
Task 2. Initial Phase Planning / Conceptual Expansion Design	80	\$ 8,000	220	\$ 22,000	165	\$ 10,725	24	\$ 840	24	\$ 840	0	\$ 0	480	480	480	480	\$ 38,635	\$ 38,635	\$ 38,635	
Task 3. Alternative Daily Cover Feasibility Study	26	\$ 2,600	72	\$ 7,200	0	\$ 0	8	\$ 280	8	\$ 280	0	\$ 0	96	96	96	96	\$ 8,360	\$ 8,360	\$ 8,360	
Subtotal / Total Costs	134	\$ 13,400	348	\$ 34,800	165	\$ 10,725	48	\$ 1,680	48	\$ 1,680	160	\$ 16,000	160	160	160	160	\$ 55,330	\$ 55,330	\$ 55,330	
Task 4. Meetings	50	\$ 5,000	96	\$ 9,600	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	144	144	144	144	\$ 14,400	\$ 14,400	\$ 14,400	
Task 5. Geotechnical Testing	185	\$ 18,500	444	\$ 44,400	743	\$ 74,300	48	\$ 1,680	48	\$ 1,680	160	\$ 16,000	160	160	160	160	\$ 55,330	\$ 55,330	\$ 55,330	
Total Project Costs																				