SUBJECT: Award of a Design and Construction Support Services Contract for the Landfill Gas Flare and Blowers Replacement Project (F0905-104)

BACKGROUND
Approval is requested to award a contract in an amount not-to-exceed $145,697 in design costs and construction support services to Golder and Associates, Inc. of Sunnyvale for the design of a replacement landfill gas flare and blower system for use by the Public Works Solid Waste Division. Approval is also requested for a 10% design contingency in the amount of $14,570.

DISCUSSION
State and Federal regulations require the City to continuously collect and destroy landfill gas (LFG) produced by the decomposition of garbage at the closed Sunnyvale Landfill. The gas is normally burned by generators at the Water Pollution Control Plant (WPCP) to make electricity and is burned in the LFG flare when the generators are off-line. Two blowers alternately provide vacuum to the gas collection system and deliver gas to the flare. The flare, blowers and related equipment were installed in 1987 and were expected to have a useful life of 30 years.

When the LFG collection system was originally constructed, the landfill gas flow rate was 1,200 standard cubic feet per minute (scfm). Over the years, the gas quantities have declined, and will continue to drop. In 2011 the anticipated flow rate is 317 scfm. The current flare system and check valves are too large for this flow and are having difficulty maintaining the 1400 degree Fahrenheit exhaust temperature required by the Bay Area Air Quality Management District (BAAQMD). Replacement of the flare is necessary for regulatory compliance. This project will design replacement of the existing system with a smaller one sized for the lower anticipated gas flows.

Request for Proposals No. F0905-104 for engineering design of the replacement flare system was developed by Solid Waste and Purchasing staff and issued on June 2, 2010. The Request for Proposal (RFP) process was selected because, unlike an Invitation for Bids, it allows for consideration of factors in addition to cost during evaluation. In this instance, staff determined that proposals would be evaluated based on the following criteria:

1. Knowledge of LFG-to-energy facilities and operations and depth of project team’s experience.
2. Background and experience of assigned Project Manager and key staff.
3. Understanding of the project and cost effectiveness.
4. References from similar projects in size and scope.

The RFP was direct mailed to three northern California landfill engineering firms and posted on the Onvia DemandStar public procurement network. Twelve firms requested proposal documents. Proposals were publicly opened on June 30, 2010. Three responsive proposals were received as follows:

<table>
<thead>
<tr>
<th>Proposer</th>
<th>Design Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golder Associates, Inc., of Sunnyvale</td>
<td>$145,697</td>
</tr>
<tr>
<td>Carollo Engineers/SCS Engineers of Sacramento</td>
<td>$238,410</td>
</tr>
<tr>
<td>Bryan A. Stirrat &amp; Associates (BAS), of Diamond Bar</td>
<td>$364,312</td>
</tr>
</tbody>
</table>

The evaluation committee was comprised of staff from the Public Works Engineering/Solid Waste Divisions and Purchasing, who reviewed written proposals as well as conducted onsite interviews with all three proposers. BAS received the most evaluation points and was the number one ranked proposer. Unfortunately, the design costs proposed by BAS greatly exceed the budget available for these services. Subsequent negotiations with BAS were unsuccessful in reducing their design costs without substantial reductions in work scope. Staff recommends awarding the contract to the second ranked proposer, Golder Associates of Sunnyvale.

**FISCAL IMPACT**

Budgeted funds are available in Capital Project 825911 (Landfill Gas Flare and Blowers Replacement). Project costs include:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering design services</td>
<td>$145,697</td>
</tr>
<tr>
<td>Design contingency (10%)</td>
<td>$14,570</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td><strong>$160,267</strong></td>
</tr>
</tbody>
</table>

**PUBLIC CONTACT**

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Senior Center, Community Center and Department of Public Safety; and by making the agenda and report available at the Sunnyvale Public Library, the Office of the City Clerk and on the City’s Web site.
**RECOMMENDATION**

It is recommended that Council:

1. Award a contract to Golder and Associates, Inc., in substantially the same form as the attached draft Consultant Services Agreement and in an amount not-to-exceed $145,697 for design and construction support services for the Landfill Gas Flare, Blowers and Associated Equipment Replacement Project; and

2. Approve a 10% design contingency in the amount of $14,570.

Reviewed by:

Grace K. Leung, Director of Finance  
Prepared by: Pete Gonda, Purchasing Officer

Reviewed by:

Marvin Rose, Director of Public Works

Approved by:

Gary M. Luebbers  
City Manager

**Attachments**

A. Draft Consultant Services Agreement
CONSULTANT SERVICES AGREEMENT BETWEEN CITY OF SUNNYVALE AND GOLDER ASSOCIATES, INC. FOR DESIGN AND CONSTRUCTION SUPPORT SERVICES FOR REPLACEMENT OF THE LANDFILL GAS FLARE, BLOWERS AND ASSOCIATED EQUIPMENT

THIS AGREEMENT dated ________________ is by and between the CITY OF SUNNYVALE, a municipal corporation ("CITY"), and GOLDER ASSOCIATES, INC. ("CONSULTANT").

WHEREAS, CITY desires to secure professional services necessary for investigation, analysis, design, preparation of construction drawings and contract specifications, consultation, services during construction and other services for a project known as Replacement of the Landfill Gas Flare, Blowers and Associated Equipment; and

WHEREAS, CONSULTANT represents that it, and its sub-consultants, if any, possess the professional qualifications and expertise to provide the required services and are licensed by the State of California to practice engineering in the required disciplines;

NOW, THEREFORE, THE PARTIES ENTER INTO THIS AGREEMENT.

1. **Services by CONSULTANT**

CONSULTANT shall provide services in accordance with Exhibit "A" entitled “Scope of Work” and includes CONSULTANT Proposal Number P03-97198. All exhibits referenced in this Agreement are attached hereto and are incorporated herein by reference. To accomplish that end, CONSULTANT agrees to assign Andrew Wang to this project, to act in the capacity of Project Manager and personally direct the professional services to be provided by CONSULTANT.

Except as specified in this Agreement, CONSULTANT shall furnish all technical and professional services, including labor, material, equipment, transportation, supervision and expertise to perform all operations necessary and required to satisfactorily complete the services required in this Agreement.

2. **Notice to Proceed/Completion of Services**

(a) CONSULTANT shall commence services upon receipt of a Notice to Proceed from CITY. Notice shall be deemed to have occurred three (3) calendar days after deposit in the regular course of the United States mail.

(b) When CITY determines that CONSULTANT has satisfactorily completed the services defined in Exhibit “A,” CITY shall give CONSULTANT written Notice of Final Acceptance, and CONSULTANT shall not incur any further costs hereunder. CONSULTANT may request this determination of completion when, in its opinion, it has satisfactorily completed the Scope of Work (Exhibit “A”), and if so requested, CITY shall make this determination within fourteen (14) days of such request.
3. Project Schedule

The Project Schedule is set forth in the attached Exhibit “A-1.” Any delays caused by CITY and its subcontractors, consultants, agents, officers, directors, and employees or by acts of God or other events beyond the reasonable control of CONSULTANT shall extend the contract completion date.

4. Payment of Fees and Expenses

Payments shall be made to CONSULTANT on a monthly basis as set forth in the attached Exhibit “B” entitled “Compensation Schedule.” All compensation will be based on monthly billings as provided in Exhibit “B.” Payment on undisputed invoice amounts is due upon receipt of invoice by CITY and is past due thirty (30) days from the date of the invoice. Compensation will not be due until said detailed billing is submitted to CITY within a reasonable time before payment is expected to allow for normal CITY processing. An estimate of the percent of total completion associated with the various categories of the services shall be furnished by CONSULTANT with said billing. When applicable, copies of pertinent financial records will be included with the submission of billing(s) for all direct reimbursables. Compensation shall not exceed the amounts set forth in Exhibit “B” for the project. In no event shall the total amount of compensation payable under this agreement exceed the sum of One Hundred Forty Five Thousand Six Hundred Ninety Seven and No/100 Dollars ($145,697.00) unless upon written modification of this Agreement. All invoices, including detailed backup, shall be sent to City of Sunnyvale, attention Accounts Payable, P.O. Box 3707, Sunnyvale, CA 94088-3707.

5. No Assignment of Agreement

CONSULTANT bind themselves, their partners, successors, assigns, executors, and administrators to all covenants of this Agreement. Except as otherwise set forth in this Agreement, no interest in this Agreement or any of the work provided for under this Agreement shall be assigned or transferred, either voluntarily or by operation of law, without the prior written approval of CITY. However, claims for money due to or to become due to CONSULTANT from CITY under this Agreement may be assigned to a bank, trust company or other financial institutions, or to a trustee in bankruptcy, provided that written notice of any such assignment or transfer shall be first furnished to CITY. In case of the death of one or more members of CONSULTANT’s firm, the surviving member or members shall complete the services covered by this Agreement. Any such assignment shall not relieve CONSULTANT from any liability under the terms of this Agreement.

6. Consultant is an Independent Contractor

CONSULTANT is not an agent or employee of CITY but is an independent contractor with full rights to manage its employees subject to the requirements of the law. All persons employed by CONSULTANT in connection with this Agreement will be employees of CONSULTANT and not employees of CITY in any respect. CONSULTANT is responsible for obtaining statutory Workers’ Compensation coverage for its employees.
7. **Consultant's Services to be Approved by a Registered Professional**

All reports, costs estimates, plans and other documents which may be submitted or furnished by CONSULTANT shall be approved and signed by a qualified registered professional in the State of California. The title sheet for calculations, specifications and reports, and each sheet of plans, shall bear the professional seal, certificate number, registration classification, expiration date of certificate and signature of the professional responsible for their preparation.

8. **Standard of Workmanship**

CONSULTANT represents and maintains that it is skilled in the professional calling necessary to perform the services and its duties and obligations, expressed and implied, contained herein, and CITY expressly relies upon CONSULTANT's representations regarding its skills and knowledge. CONSULTANT shall perform such services and duties in conformance to and consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California.

The plans, designs, specifications, estimates, calculations reports and other documents furnished under the Scope of Work (Exhibit "A") shall be of a quality acceptable to CITY. The criteria for acceptance of the work provided under this Agreement shall be a product of neat appearance, well-organized, technically and grammatically correct, checked and having the maker and checker identified. The minimum standard of appearance, organization and content of the drawings shall be that used by CITY for similar projects.

9. **Responsibility of CONSULTANT**

CONSULTANT shall be responsible for the professional quality, technical accuracy and the coordination of the services furnished by it under this Agreement. Neither CITY's review, acceptance nor payment for any of the services required under this Agreement shall be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement and CONSULTANT shall be and remain liable to CITY in accordance with applicable law for all damages to CITY caused by CONSULTANT's negligent performance of any of the services furnished under this Agreement.

Any acceptance by CITY of plans, specifications, calculations, construction contract documents, reports, diagrams, maps and other material prepared by CONSULTANT shall not, in any respect, absolve CONSULTANT for the responsibility CONSULTANT has in accordance with customary standards of good engineering practice in compliance with applicable Federal, State, County and/or municipal laws, ordinances, regulations, rules and orders.

10. **Right of CITY to Inspect Records of CONSULTANT**

CITY, through its authorized employees, representatives, or agents, shall have the right, at any and all reasonable times, to audit the books and records including, but not limited to, invoices, vouchers, canceled checks, time cards of CONSULTANT for the purpose of verifying any and all charges made by CONSULTANT in connection with this Agreement. CONSULTANT shall maintain for a minimum period of three (3) years from the date of final payment to CONSULTANT or for any longer period required by law,
sufficient books and records in accordance with generally accepted accounting practices to establish the correctness of all charges submitted to CITY by CONSULTANT. Any expenses not so recorded shall be disallowed by CITY.

11. **Confidentiality of Material**

All ideas, memoranda, specifications, plans, calculations, manufacturing procedures, data, drawings, descriptions, documents, discussions or other information developed or received by or for CONSULTANT and all other written information submitted to CONSULTANT in connection with the performance of this Agreement shall be held confidential by CONSULTANT and shall not, without the prior written consent of CITY be used for any purposes other than the performance of the Project services, nor be disclosed to an entity not connected with the performance of the Project services. Nothing furnished to CONSULTANT which is otherwise known to CONSULTANT or is or becomes generally known to the related industry shall be deemed confidential. CONSULTANT shall not use CITY's name, insignia or distribute exploitative publicity pertaining to the services rendered under this Agreement in any magazine, trade paper, newspaper or other medium without the express written consent of CITY.

12. **No Pledging of CITY's Credit**

Under no circumstances shall CONSULTANT have the authority or power to pledge the credit of CITY or incur any obligation in the name of CITY.

13. **Ownership of Material**

All material, including information developed on computer(s), which shall include, but not be limited to, data, sketches, tracings, drawings, plans, diagrams, quantities, estimates, specifications, proposals, tests, maps, calculations, photographs, reports and other material developed, collected, prepared or caused to be prepared, under this Agreement shall be the property of CITY, but CONSULTANT may retain and use copies thereof.

CITY shall not be limited, in any way, in its use of said material, at any time, for work associated with Project. However, CONSULTANT shall not be responsible for damages resulting from the use of said material for work other than Project, including, but not limited to the release of this material to third parties for work other than on Project.

14. **Hold Harmless/Indemnification**

To the extent permitted by law, CONSULTANT agrees to indemnify, defend and hold harmless CITY, its officers and employees from any and all claims, demands, actions, causes of action, losses, damages, liabilities, known or unknown, and all costs and expenses, including reasonable attorneys’ fees in connection with any injury or damage to persons or property to the extent arising out of any negligent act, error, omission or negligence of CONSULTANT, its officers, employees, agents, contractor, subcontractors or any officer, agent or employee thereof in relation to CONSULTANT’s performance under this Agreement. Such defense and indemnification shall not apply in any instance of and to the extent caused by the sole negligence or willful misconduct of CITY, its officers, employees, agents or representatives.
15. **Insurance Requirements**

CONSULTANT shall take out and maintain during the life of this Agreement policies of insurance as specified in Exhibit "C" attached and incorporated by reference, and shall provide all certificates and/or endorsements as specified in Exhibit "C."

16. **No Third Party Beneficiary**

This Agreement shall not be construed or deemed to be an agreement for the benefit of any third party or parties and no third party or parties shall have any claim or right of action hereunder for any cause whatsoever.

17. **Notices**

All notices required by this Agreement, other than invoices for payment which shall be sent directly to Accounts Payable, shall be in writing, and shall be personally delivered, sent by first class with postage prepaid, or by sent by commercial courier, addressed as follows:

To CITY: Bill Theyskens,  
Department of Public Works  
CITY OF SUNNYVALE  
P. O. Box 3707  
Sunnyvale, CA 94088-3707

To CONSULTANT: Golder Associates, Inc.  
Attn: Andrew Wang  
425 Lakeside Drive  
Sunnyvale, CA 94085

Nothing in this provision shall be construed to prohibit communication by more expedient means, such as by telephone or facsimile transmission, to accomplish timely communication. However, to constitute effective notice, written confirmation of a telephone conversation or an original of a facsimile transmission must be sent by first class mail, by commercial carrier, or hand-delivered. Each party may change the address by written notice in accordance with this paragraph. Notices delivered personally shall be deemed communicated as of actual receipt; mailed notices shall be deemed communicated as of three days after mailing, unless such date is a date on which there is no mail service. In that event communication is deemed to occur on the next mail service day.

18. **Waiver**

CONSULTANT agrees that waiver by CITY of any one or more of the conditions of performance under this Agreement shall not be construed as waiver(s) of any other condition of performance under this Agreement.

19. **Amendments**

No alterations or changes to the terms of this Agreement shall be valid unless made in writing and signed by both parties.
20. **Integrated Agreement**

This Agreement embodies the agreement between CITY and CONSULTANT and its terms and conditions. No verbal agreements or conversation with any officer, agent or employee of CITY prior to execution of this Agreement shall affect or modify any of the terms or obligations contained in any documents comprising this Agreement. Any such verbal agreement shall be considered as unofficial information and in no way binding upon CITY.

21. **Conflict of Interest**

CONSULTANT certifies that to the best of its knowledge, no CITY employee or officer of any public agency interested in this Agreement has any pecuniary interest in the business of CONSULTANT and that no person associated with CONSULTANT has any interest that would conflict in any manner or degree with the performance of this Agreement.

22. **California Agreement**

This Agreement has been entered into in the State of California and this Agreement shall be governed by California law.

23. **Records, Reports and Documentation**

CONSULTANT shall maintain complete and accurate records of its operation, including any and all additional records required by CITY in writing. CONSULTANT shall submit to CITY any and all reports concerning its performance under this Agreement that may be requested by CITY in writing. CONSULTANT agrees to assist CITY in meeting CITY’s reporting requirements to the state and other agencies with respect to CONSULTANT’s work hereunder. All records, reports and documentation relating to the work performed under this Agreement shall be made available to City during the term of this Agreement.

24. **Termination of Agreement**

If CONSULTANT defaults in the performance of this Agreement, or materially breaches any of its provisions, CITY at its option may terminate this Agreement by giving written notice to CONSULTANT. If CITY fails to pay CONSULTANT, CONSULTANT at its option may terminate this Agreement if the failure is not remedied by CITY within thirty (30) days after written notification of failure to pay.

Without limitation to such rights or remedies as CITY shall otherwise have by law, CITY also shall have the right to terminate this Agreement for any reason upon ten (10) days' written notice to CONSULTANT. In the event of such termination, CONSULTANT shall be compensated in proportion to the percentage of services performed or materials furnished (in relation to the total which would have been performed or furnished) through the date of receipt of notification from CITY to terminate. CONSULTANT shall present CITY with any work product completed at that point in time.
25. **Subcontracting**

WHK Engineering of Benicia, CA will be participating in the electrical design of the proposed system as a subcontractor to CONSULTANT. No other services covered by this Agreement shall be subcontracted without the prior written consent of CITY. Such consent may be issued with notice to proceed if subcontract consultants are listed in the project work plan.

26. **Fair Employment**

CONSULTANT shall not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, condition of physical handicap, religion, ethnic background or marital status, in violation of state or federal law.

27. **Changes**

CITY or CONSULTANT may, from time to time, request changes in the terms and conditions of this Agreement. Such changes, which are mutually agreed upon by CITY and CONSULTANT, shall be incorporated in amendments to this Agreement and may include changes to the scope of services, schedule, and/or cost as may be equitable under the circumstances.

28. **Other Agreements**

This Agreement shall not prevent either Party from entering into similar agreements with others.

29. **Severability Clause**

In case any one or more of the provisions contained herein shall, for any reason, be held invalid, illegal or unenforceable in any respect, it shall not affect the validity of the other provisions which shall remain in full force and effect.

30. **Captions**

The captions of the various sections, paragraphs and subparagraphs, of the contract are for convenience only and shall not be considered nor referred to for resolving questions of interpretation.

31. **Entire Agreement; Amendment**

This writing constitutes the entire agreement between the parties relating to the services to be performed or materials to be furnished hereunder. No modification of this Agreement shall be effective unless and until such modification is evidenced by writing signed by all parties.

32. **Miscellaneous**

Time shall be of the essence in this Agreement. Failure on the part of either party to enforce any provision of this Agreement shall not be construed as a waiver of the right to compel enforcement of such provision or any other provision. This Agreement shall be governed and construed in accordance with the laws of the State of California.
IN WITNESS WHEREOF, the parties have executed this Agreement.

ATTEST: CITY OF SUNNYVALE ("CITY")

By ________________________________  By ________________________________
    City Clerk                          City Manager

GOLDER ASSOCIATES, INC.
(CONSULTANT)

By ________________________________

APPROVED AS TO FORM:

_______________________________
    City Attorney

By ________________________________

_______________________________
    Name/Title

_______________________________
    By ________________________________

_______________________________
    Name/Title
CONSULTING SERVICES FOR
ENGINEERING DESIGN FOR
REPLACEMENT OF THE LANDFILL
GAS FLARE, BLOWERS AND
ASSOCIATED EQUIPMENT

Request for Proposals No. F0905-104

Submitted To:  David Oakle
Department of Purchasing
City of Sunnyvale
650 West Olive Avenue
PO Box 3707
Sunnyvale, CA  94088-3707

Submitted By:  Golder Associates Inc.
425 Lakeside Drive
Sunnyvale, CA  94085

July 7, 2010
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1. INTRODUCTION

Golder Associates Inc. (Golder) has prepared this response to the City of Sunnyvale's (City) Request for Proposal (RFP) #F0905-104 issued by the City of Sunnyvale (City) Purchasing and Contract Administration for engineering design for replacement of the landfill gas flare, blowers and associated equipment at the Sunnyvale Landfill (Landfill).

The Golder office that will be responsible for responding to City requests is located in Sunnyvale and houses all of the technical staff and equipment necessary to perform the entire scope of services specified in the RFP. The address of the office and contact information is presented in the left column. The proposal and designated project manager is also shown along with his contact information. Mr. Wang will be the primary contact for all issues during the proposal review and project execution.

This proposal is presented in eight sections beginning with this introduction. Section 2 presents a description of Golder including our worldwide, national, and local presence. Section 3 presents our key personnel, their position in the project team, and their experience in the technical areas of concern to the City. Section 4 presents our references and descriptions of the scopes of work that are equivalent or exceed the requirements of the City. Section 5 presents our understanding of the project including a description of the activities that might require Golder expertise and assistance and examples of similar situations at other landfills where we have similar responsibilities. Section 6 discusses the proposed work schedule for the entire project. Section 7 presents design options for the flare system. Sections 8 and 9 present contract and financial information pertinent to the evaluation process and Section 10 certifies the content of the proposal.

Golder appreciates the opportunity to propose on this interesting project. We currently have a contract with the City and look forward to continuing our working relationship.
2. GOLDER ASSOCIATES INC.

Key Numbers:
- 50 years of experience
- More than 160 offices worldwide
- Nearly 7,000 professionals
- Projects completed in more than 150 countries

Our Global Presence

Golder Associates (Golder) is a global company specializing in ground engineering and environmental services. By meeting client needs and building strong client relationships, our people have made Golder one of the most trusted sources of professional services in the world. We have worked hard to earn our reputation, building on the quality of our professionals and the success of our clients.

Operating as an employee-owned group since its formation in 1960, Golder has created a unique culture with pride in ownership and a commitment to providing technically-sound and cost-effective consulting and contracting services. Golder has experienced steady growth for more than four decades and has nearly 7,000 dedicated professionals operating in local companies, with offices across Africa, Asia, Australia, Europe, North America, and South America.

Our Management Team:

Mark Swallow
President
Jacksonville, FL
904-363-3430

Terry McClean
Executive Vice Pres.
Atlanta, GA
707-492-8243

Bob Anderson
Western Regional Leader
Redmond, WA
425-883-0777

Jennifer Panders
Northern CA Leader
Sunnyvale, CA
408-220-9235

Our Presence in the United States

In the United States, Golder has nearly 1,200 professionals staffed throughout more than 45 offices across the country. Given our expansive range of office locations throughout the U.S., we are able to understand your local concerns because we live where you live, we work in your community, and have the local experience to address the issues that matter to you.

The key management hierarchy, as it might affect this project, includes the individuals presented in the left column.

Our technical staff has expertise in the disciplines of hydrogeology; environmental sciences; geotechnical and civil engineering; indoor environmental quality; earth, water, and air services; process and instrumentation design; regulatory compliance; and construction services. We have registered professional engineers and geologists in 47 states and the District of Columbia. Golder’s dedicated professionals have helped our company achieve a #3 ranking in CE News magazine’s “2009 Best CE Firms to Work For” large company category and a #44 ranking in 2009 by Engineering News Record for “Top 200 Environmental Firms.”

Those employees who have invested significantly in the ownership of Golder have a vested interest in assuring that projects are completed on time and within budget and that the client needs have been completely satisfied. Called ‘Principals’ and ‘Associates’, these individuals play important roles in proposal and project peer review and technical oversight. In Northern California, the following individuals are likely to play a role in the execution of this project:

Ken Haskell – Principal – Roseville Office
Bill Fowler – Associate – Sunnyvale Office

A broad, in-depth base of expertise and knowledge allows Golder to develop innovative solutions to complex technical problems. The result is an exemplary record of permit approvals, reduced costs, and timely completion of projects.
3. KEY PERSONNEL

Our project team is experienced in designing, permitting, constructing, and operating LFG blower and flare stations in northern California and the BAAQMD. Brief biographies of the key team members are provided below. Appendix B includes resumes for all key team members. An organization chart is presented at the end of this section.

Kenneth (Ken) Haskell, P.E. – Principal-in-charge

Mr. Haskell is a California Registered Civil Engineer with 20 years of geotechnical and civil design experience related to liner systems, construction projects and waste management closure projects for mining and landfill facilities. For this project, he will provide Peer Review. Mr. Haskell will also act as the Principal-in-Charge of the project. In this role he will intervene if any issues arise that cannot be resolved by the Project Manager.

Andrew (Andy) Wang, P.E. – Project Manager/Senior Engineer

Mr. Wang has over 20 years of experience related to collection and control of landfill gas. He has managed numerous design projects related to the collection and control of landfill gas. He keeps up to date with ever changing regulations and provides clients with solutions to their landfill gas and air quality related issues. Mr. Wang has previously provided landfill gas engineering services to the City including preparing the GCCS design plan for the landfill. Mr. Wang recently prepared the consulting services for design and permitting of new LFG flare stack for City of Mountain View Landfill.

Richard (Rich) Haughey, P.E., BCCE – Peer Review

Mr. Haughey has over 35 years of experience in solid waste management. This experience includes public and private consulting work. He has managed numerous solid waste-related projects such as base liner and final cover design and construction, facility design, permitting, and end-use development. Mr. Haughey will also provide peer review services as well and provide design suggestions.

Richard (Rich) Merrill - Senior Consultant/Project Manager

Rich provides project management services related to air quality permitting and compliance, primarily in support of the company’s solid waste and industrial business practices. Richard has 38 years of experience providing air quality consulting with 15 years of experience in the solid waste industry. He has expertise and practical experience with LFG regulations and air compliance requirements, including federal New Source Performance Standards, Title V permitting process, California Air Resources Board, and Bay Area Air Quality Management District rules. He is currently the project manager on all of the Northern California OM&M and Compliance projects being performed by Golder.

Nagesh Koragappa, P.E., G.E. - Senior Engineer

Mr. Koragappa, a Senior Engineer with over 19 years of experience, will support Mr. Wang in preparing the construction plans and specifications. Mr. Koragappa will provide technical support for foundation design and other geotechnical issues.
Jason Nettleton, PE – Senior Project Engineer

Jason is a registered professional environmental engineer in the State of Missouri. He has more than 12 years of experience on air quality permitting and compliance projects from the public and private sector. His most recent five years of experience have been focused on the air quality-related regulatory needs of solid waste disposal facilities. He has currently providing air quality compliance and permitting services for all of Golder’s Northern California solid waste clients.

Steve Nguyen – Project Engineer

Steve has more than 10 years of experience managing design, engineering, operating and construction quality activities for landfill gas (LFG) projects. Mr. Nguyen has experience designing, specifying, permitting and constructing LFG flares and gas handling equipment in the BAAQMD. Mr. Nguyen recently prepared the construction plans and specifications for the new LFG flare stack for City of Mountain View Landfill.

The following organization chart presents the project team.

```
<table>
<thead>
<tr>
<th>City of Sunnyvale</th>
<th>Technical Director Ken Haskell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project Manager Andy Wang</td>
</tr>
<tr>
<td></td>
<td>Technical Review Rich Haughey</td>
</tr>
<tr>
<td>Construction Plans &amp; Specifications Steve Nguyen</td>
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<tr>
<td>Geotechnical Engineer Nagesh Koragappa</td>
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<tr>
<td>Permitting &amp; Environmental Documentation Rich Merrill</td>
<td></td>
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<tr>
<td>Permitting Support Jason Nettleton</td>
<td></td>
</tr>
<tr>
<td>LFG Flare Station Design Andy Wang</td>
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</tr>
<tr>
<td>Control Integration Water Treatment Group (Denver, CO)</td>
<td></td>
</tr>
</tbody>
</table>
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4. GOLDER’S QUALIFICATIONS

Golder is a leading provider of environmental services to the solid waste industry and has provided permitting, engineering design, hydrogeology, and engineering geology related services at over 400 landfills in the United States, with over 80 percent of our work performed for repeat clients. Golder has very recently submitted to the City a comprehensive Statement of Qualifications (SOQ) describing our local personnel and landfill gas and solid waste capabilities. To reduce waste generation, Golder would be happy to provide the City copies of this SOQ or any additional references or information, on request.

In California, we have provided operations, permitting, engineering and environmental support at more than 100 landfills. These projects have involved the development of fill sequences and base liners; design of closure cover systems; groundwater monitoring; storm water monitoring; landfill gas (LFG) operations and monitoring; design of landfill gas collection and control systems (GCCS); compliance; clean closure; design of remedial measures; and the preparation of supporting permit documents, such as Joint Technical Documents (JTD), engineering reports, and compliance reports.

The LFG flare station design will be run from our Sunnyvale office where we specialize in engineering, operations, and compliance for the landfill industry. The office is managed by senior professionals who are directly involved in performing technical work. Our staff includes highly trained and licensed professionals with degrees in the fields of geology, hydrogeology, and civil, chemical, and environmental engineering. Each project is assigned to senior Golder professional who works on the project, along with the appropriate technical staff, from start to finish, including field work, report writing, negotiating with regulators, and communicating with the client. This approach allows us to maintain high-quality and efficient services, and full accessibility to all of our clients at all times. Golder is committed to quality, professionalism, and providing our clients with practical, cost-effective solutions to their environmental problems.

In addition to designing LFG systems and flares, we are experts in LFG system operations, monitoring and maintenance in compliance with Bay Area Air Quality Management District Rule 8-34, Subpart WWWW of the New Source Performance Standards (NSPS), and Subpart AAAA of the Maximum Achievable Control Technology (MACT) standards. We currently perform all routine and non-routine flare and GCCS operations and maintenance activities for the American Canyon Landfill, Santa Clara Landfill, and Recology’s Hay Road and Pacheco Pass Landfills. Golder’s design professionals continually assist our operating technicians with troubleshooting and repairs, which provides hands-on experience with equipment and process limitations and opportunities for implementing design innovations.

Golder also provides design and construction services in the wastewater treatment field to numerous industries, including solid waste, mining, manufacturing and power generation. The Water Treatment Group can serve as an additional in-house resource for design integration of facilities controls and instrumentation at the Water Pollution Control Plant (WPWP) and Power Generation Facility (PGF). Golder’s water treatment services also extend beyond design and construction to include support, operations, and maintenance throughout the life of the facility.
5. PROPOSED WORK PLAN

Golder’s proposed work plan includes all the tasks requested in the comprehensive Scope of Services provided as Attachment C in the RFP. In summary, our work plan includes the following approach:

- Golder will facilitate a preliminary design process with the City departments and other interested stakeholders. This includes holding a pre-design meeting to define and prioritize design criteria and preferred control sequences for the new LFG flare station.
- Based on stakeholder input and our review of the resource and site opportunities and constraints, Golder will prepare a design basis memorandum (DBM), conceptual process flow diagram, and 30 percent design plan layout for a recommended LFG flare station.
- Golder will prepare the 60 percent design/ construction drawings for the City-approved LFG flare station concept, including major equipment specifications and a detailed plan layout showing integration with existing facilities, and a preliminary construction cost estimate.
- Golder will prepare the 90 percent construction drawings, specifications, and bid package technical content for the selected LFG flare station concept, including a detailed materials take-off and construction cost estimate in bid sheet format.
- Golder will prepare the final construction drawings, specifications, cost estimate, and bid package technical content for the selected LFG flare station concept.
- Golder will prepare the required air quality permit applications (Title V operating permit modifications and Authority to Construct), as well as addressing all other permit and approval requirements preparatory to bidding the construction project.
- Golder will assist the City staff with contractors’ requests for information and preparation of bid addenda during the procurement process.
- Golder will assist the City staff with contractors’ requests for information and preparation of contract amendments during the project construction.

Consistent with City objectives, Golder proposes to provide a complete, efficient and permittable LFG flare station design, well-integrated with the WPCP and the PGF facilities. The goals of Golder’s design approach will include:

- Maximizing the durability and design life of the project through careful selection of the proposed LFG equipment;
- Meeting all local, state, and federal regulations and permit requirements with respect to system design, and operational monitoring and reporting;
- Adhering to City-adopted safety codes and WPCP, PGF safety procedures;
- Minimizing system operational downtime by recommending a construction phasing plan.

Task 1 - Design

Design 30 Percent – Develop Criteria

After initial notice to proceed, we will immediately schedule the project kick-off meeting to clearly establish the lines of communication, scope of work,
deliverables, schedules, and appropriate levels of management control and reporting.

Golder will then request and review existing available design and operational information regarding all related WPCP and landfill facilities, including development plans, Strategic Infrastructure Plan (SIP), utility maps, and existing flare and PGF drawings.

We propose that the Golder design team and the City project staff will then meet to prioritize the design criteria for the flare. The meeting discussions would include, but not be limited to, equipment capacities and limitations, physical locations, control sequences, user inlet requirements, regulatory requirements, operating and maintenance requirements, communication protocols and access, material selection, and costs. Golder will provide photographs, sample layouts and diagrams of similar-sized flare stacks and flare stations for internal review discussions.

Based on the information provided in the initial design priorities meeting, Golder will prepare and issue a comprehensive design basis memorandum (DBM) summarizing the project priorities and initial conceptual design approach, regulatory requirements (Federal, State, and local agency laws, rules, and regulations) and quantitative criteria, along with potentially beneficial alternatives as appropriate. After review and concurrence by the stakeholders, this summary will be the starting point for evaluation of alternatives and selection equipment.

Golder will review the current LFG generation model. We will compare the model estimates with any new/historic site LFG production measurements. If needed, Golder will revise the model to re-estimate the LFG generation rate based on significant changes in the actual landfill output, as authorized by the City. Golder will compare the available LFG projections with the proposed flare capacity and PGF usage rates to identify the most likely operating scenarios for minimum and maximum flow for the new flare, and likely variations with decrease in the LFG supply over time. These scenarios will be used to define the required operating ranges and tolerances for the diversion flow process controls.

The design assumptions will include an outline of the relevant site specific conditions and requirements and a description of the selected conceptual process design based on significant variations in the LFG generation timing and/or usage. The DBM will also include a preliminary site recommendation and schematic layout. Presenting the design and process criteria within the DBM will provide assurance that the project approach will be consistent with the City's objectives prior to significant effort and costs being expended on constructions level plans and specifications. Golder will submit a draft table of contents of the anticipated technical specifications sections at the 30-percent completion level. Golder will also submit a preliminary engineer's estimate and schedule for construction of the LFG flare station for review at the 30-percent completion level. The preliminary costs will be provided as lump sum subtotals and totals in the anticipated construction bid format.

The 30 percent design and DBM deliverables will be submitted to the City for review and comment. Upon receiving and discussing comments, Golder will revise the DBM to include the comments and submit the final DBM. The following summarizes the work products prepared under this task:
- Five (5) copies of the project kick-off and initial design priorities meeting minutes.
- Five (5) copies of the draft DBM.
- Five (5) copies of the final DBM.
- Five (5) copies of the draft conceptual flare station site/layout plan.
Five (5) copies of preliminary construction cost estimate and schedule.

Five (5) copies of 30 percent submittal review meeting minutes.

Design 60 Percent

Based on the City-approved DBM and preliminary layout, Golder will prepare an overall LFG flare station layout plan. The approved LFG extraction flow estimates and the actual pressure requirements of the completed LFG system collection wellfield will be used to define the new equipment and piping design capacities. Golder will recommend appropriate sizes for the LFG flare station blowers, energy-efficient motors, manifolds, inlet headers, manual controls for routing the LFG and DiGas to fuel either the LGF or the PGF, and to allow the addition of air blended natural gas (ABNG) to the gas delivered to the PGF. The flare control system will include digital recorder to record flare flow rates, totaling flare gas flow at 24 hour intervals, with the capacity to totalize flow rates to the PGF at user-selected intervals.

Golder will project a potential equipment replacement schedule, based on the anticipated decreasing LFG throughput and reasonable equipment turndowns and lifecycles.

Golder will prepare preliminary draft construction drawings, outline technical specifications, and provide a preliminary construction cost estimate for the LFG flare station. Golder anticipates preparing the following drawings in preliminary form as part of the 60 percent design:

- Cover Sheet (with notes and legends);
- Existing Site Preparation Plan (current topography and existing facilities);
- Site Plan (showing LFGF relative to existing landfill wellfield and PGF);
- Site Grading, Utilities, and LFG Distribution Piping Construction Plan;
- LFGF Station Plan (portable skid for relocation in the future in accordance with the upcoming SIP Project);
- LFG Flare Station Elevation(s);
- Process Flow Diagram;
- Piping and Instrumentation Diagram;
- LFG Handling Skid Mechanical Details
- LFG Flare System Mechanical Details;
- Condensate System Details;
- Foundation and Anchorage Details;
- Electrical Single Line Diagram;
- Electrical Details (comply with provisions of the latest California Electric Code [CEC]);
- Electrical Controls Logic Diagram (showing all instruments communicate with the WPCP’s SCADA system, compatible with existing “Opto 22” software);
- Communication Plan (remote access operating parameters via phone, local area network, or internet)

Concurrent with preparation of the 60 percent construction drawings, Golder will also prepare the detailed technical specifications for the LFG flare station. The technical specifications will include a description of construction materials, equipment performance, and execution requirements. The technical specifications will be prepared in Construction
Specification Institute (CSI) format. Golder will provide Division One specifications and a project bid form, and will coordinate all sections with the City’s General Provisions. We assume the City will incorporate the technical specifications into its standard bid package front-end documents, including general conditions, supplementary conditions, and other necessary bid documents used for the contract bid package. Golder will submit a detailed engineer’s estimate for construction of the LFG flare station to the City at the 60 percent completion level. The detailed quantity-take-off and unit costs will be presented in construction bid format.

Golder will receive the City comments on all deliverables at the 60 percent design level. The 60 percent review comments will be discussed during a teleconference and incorporated into the 90 percent design. Golder will submit the following deliverables under this task:

- Five (5) copies of 60 percent detailed construction drawings, specifications, and construction cost estimate.
- Minutes and comments summary from discussion meeting for 60 percent submittal.

Design 90 Percent

Golder will receive the City comments on all deliverables at the 90 percent design level. Golder will schedule a meeting with the City to discuss comments regarding the 90 percent design submittal. This meeting will be attended by Golder’s project manager and can occur at the City offices.

- Five (5) copies of the 90 percent detailed construction, specifications, and cost estimate (enable permitting and soliciting construction bids).
- Site meeting to discuss the 90 percent submittal.

Task 2 - Permits and Environmental Documents

Criteria Air Pollution Analysis

Golder will calculate potential emissions of criteria air pollutants from the new flare using design specifications and compare the results with applicable trigger thresholds for ambient air quality impact and best available control technology (BACT) requirement. The flare will be designed to meet BACT emission limits. A screening level ambient air quality analysis using the SCREEN3 dispersion model will be used if emissions exceed the trigger threshold. The screening level analysis is expected to demonstrate compliance with all applicable ambient air quality standards.

Toxic Air Pollutant Analysis

Golder will calculate potential emissions to toxic air pollutants from the new flare based on analysis of the landfill gas (LFG) and the expected destruction efficiency of the flare and emission factors for toxic air contaminants generated through the combustion of LFG. Potential emissions of each toxic air pollutant will be compared to the acute and chronic health risk assessment trigger levels in BAAQMD Regulation 2 Rule 5 - New Source Review of Toxic Air Contaminants. If trigger thresholds are exceeded, Golder will prepare a screening level health risk assessment using the SCREEN3 dispersions model to estimate potential acute, chronic, and cancer risks associated with toxic air contaminant emissions from the proposed flare on nearby sensitive receptors. It is anticipated that the screening level risk assessment will demonstrate that health risks from the proposed equipment will be less
than the allowable thresholds and that a refined risk assessment using a more complex dispersion model will not be required. However, if the screening level risk assessment shows an unacceptable level of health risk, a more refined analysis using AERMOD would be required. The more refined analysis is not included in the base scope of work.

Authority to Construct Application

Golder will complete an application for Authority to Construct (ATC) and for a variance and contingency plan, if deemed necessary, with respect to the anticipated duration of GCCS down time for submittal to the BAAQMD without negative impacts to the project schedule. To complete the ATC application, Golder will need to include a number of site and equipment drawings, and other information. Golder will respond to BAAQMD’s comments and assist in securing the ATC and any necessary variance(s), and submit any required contingency plans. As part of this task, a description of the source to be permitted will be prepared, the emissions inventory documented, the regulatory compliance analysis documented, and all necessary forms completed. All supporting information will be included in the package, as appropriate, including the required forms and additional information necessary to suggest permit conditions.

Other Planning and Building Permits

Golder will assist the City in obtaining plan approval and a Building Permit from the Community Development Department’s (CCD) Building Division. Golder’s interim design and construction plans and specifications will be of appropriate quality for submittal as supporting documentation for other environmental agency planning reviews and local building permits. Golder’s engineering staff will assist the City with preparing applications to obtain any additional agency approvals for the proposed construction, including structural review for an assumed maximum flare loading. Protracted permitting negotiations are not anticipated for this relatively simple facility modification, but can be addressed as Additional Services under Task 6, should such efforts be required. Golder will submit the following deliverables under this task:

- Two (2) copies of all draft permit applications
- Five (5) copies of all final permit applications (including three [3] copies for the CCD)

Task 3 - Decommissioning Existing Flare System

The City RFP requests preparation of plans and specifications for dismantling and disposal of the existing LFG flare and ancillary facilities from the flare station. The existing facility includes the flare stack, LFG blower(s) and electrical panels, piping, cable and conduit, and fencing. Golder will develop and write specifications to safely decommission and remove the existing flare and ancillary facilities that will not be needed for the new flare. The decommissioning plan will meet the requirements of all applicable regulatory agencies, including the City’s Department of Public Safety and the BAAQMD, and will include adequate details to enable the City to solicit bids from Contractors. While these components are generally straightforward and should contain limited hazardous materials, Golder can perform a reconnaissance-level inspection and if appropriate, discuss the value of completing a pre-demolition survey to identify potential hazardous materials. An optional contingency cost for a pre-demolition survey is included in Task 6, Additional Services. Potential hazardous materials and components include, but are not limited to, asbestos, lead-based paints, hydraulic oils, PCB’s in light ballasts, friable ceramic fiber refractory, and accumulated
residuals in the LFG and condensate conveyance components. Completion of a survey prior to bidding the decommissioning contract can minimize the potential for change orders.

Structure demolition can be incorporated into the plans and specifications for Task 3. Golder's project team has prepared structure removal/demolition plans and specifications for five facilities in northern California. Drawings likely to be required for this work include:

- Cover Sheet (with notes and legends);
- Existing Site Conditions and Demolition Plan (showing current topography and existing facilities to be decommissioned);
- Remaining Facilities and Final Site Grading Plan.

Typically, Golder's specifications give the contractor salvage rights to all demolition structures (i.e. re-sale, recycle of scrap metal, etc.) and instructs the contractor to complete various sampling and testing procedures (if appropriate), to comply with various regulatory requirements, and to comply with disposal and resale restrictions to ensure regulatory compliance and to transfer ownership of any liabilities associated with the resale. The following summarizes the work products to be prepared under this task:

- Five (5) copies of the 60 percent decommissioning drawings and specifications.
- Five (5) copies of the 90 percent decommissioning drawings and specifications.
- Five (5) copies of the final decommissioning drawings and specifications.

Task 4 - Services During Bidding

The key to quality technical support services during the procurement and construction phases of a project is having qualified staff available that are familiar with the project and have the City's best interest in mind. Golder's extensive site experience should provide the City assurance of continued effective and cost efficient support in all procurement and construction matters. As an integrated team of professionals, the senior managers of the existing sampling and monitoring contracts will remain involved in the engineering and construction service phases to assure a consistent level of quality service for the long haul.

Golder's approach is to keep our technical project manager and Engineer-of-Record assigned to the project from the start of design through completion of construction. The project manager's duty will be to assist the City's staff with responding to the contractors' Requests for Information (RFIs) and preparing the contract and procurement addenda during the project.

During the bid phase, the Golder team will assist the City as needed in administering the bidding process through contract award. Golder has anticipated these activities to include the following:

- Participate in the pre-bid meeting;
- Respond to requests for information regarding the bid documents;
- Prepare addenda as needed; and
- Assist with contractor qualifications and bid reviews.

Task 4 includes approximately 40 labor hours to provide technical assistance during bidding and contractor selection.
Task 5 - Services During Construction

Golder will continue its involvement in the project through the construction phase. Our involvement will be limited to an engineering role—reviewing contractor submittals, reviewing contractor requests for clarifications or information, and providing interpretations of drawings and specifications, where requested by the construction team. We will not provide full-time contract administration services or construction quality assurance. Golder's anticipated level of involvement is expected to include:

- Review contractor submittals for compliance with contract documents within seven days;
- Respond in writing to written RFI's;
- Attend pre-construction and monthly project progress meetings, as requested assuming four month project duration;
- Provide the City an Interim Operations and Maintenance Plan (O&M) prior to, and technical support during start up and commissioning of the new flare system;
- Review contract change orders as requested by the City;
- Work with Contractor and Flare and component equipment manufacturer's representatives, as requested by the City, and
- Review “as-built” or “red-line” drawings and documents maintained by the construction contractor, and prepare final record drawings based on these field documents upon construction completion.

Golder will submit the following deliverables under this task:

- One (1) full set and one (1) electronic copy (AutoCAD and pdf format) of the record drawings and final O&M Plan.

Task 5 includes approximately 180 labor hours to provide technical assistance during pre-construction and construction.
6. SCHEDULE

As the project is roughly defined, the specific construction time frames are not yet determined. Therefore, Golder has prepared a schedule based on a four-month on-site construction project duration. We have also assumed attending five project meetings before and during construction. Golder's estimate of a typical completion schedule for a LFG flare station design and construction project is summarized in the following table.

<table>
<thead>
<tr>
<th>Schedule Work Item</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 1 – Design</td>
<td>Week 1</td>
<td>Week 13</td>
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<tr>
<td>DBM and 30 Percent Plan</td>
<td>Week 1</td>
<td>Week 4</td>
</tr>
<tr>
<td>60 Percent Design</td>
<td>Week 4</td>
<td>Week 8</td>
</tr>
<tr>
<td>90 Percent Design</td>
<td>Week 8</td>
<td>Week 11</td>
</tr>
<tr>
<td>Final Design</td>
<td>Week 11</td>
<td>Week 13</td>
</tr>
<tr>
<td>Task 2 - Permits and Environmental Documents</td>
<td>Week 8</td>
<td>Week 20</td>
</tr>
<tr>
<td>Task 4 - Services During Bidding</td>
<td>Week 13</td>
<td>Week 20</td>
</tr>
<tr>
<td>Task 5 – Services During Construction</td>
<td>Week 24</td>
<td>Week 48</td>
</tr>
<tr>
<td>Procure Blower/Flare Skid</td>
<td>Week 24</td>
<td>Week 40</td>
</tr>
<tr>
<td>Contractor Mobilization</td>
<td>Week 30</td>
<td>Week 34</td>
</tr>
<tr>
<td>Sitework / Foundations / Utilities</td>
<td>Week 34</td>
<td>Week 38</td>
</tr>
<tr>
<td>Install Equipment and Connections</td>
<td>Week 38</td>
<td>Week 43</td>
</tr>
<tr>
<td>Cleanup and Demobilization</td>
<td>Week 44</td>
<td>Week 45</td>
</tr>
<tr>
<td>Construction Record Drawings</td>
<td>Week 45</td>
<td>Week 48</td>
</tr>
<tr>
<td>Task 3 - Decommissioning Existing Flare System</td>
<td>Week 45</td>
<td>Week 50</td>
</tr>
</tbody>
</table>
7. PROPOSED INNOVATIONS

Low Profile / Low Emission Flare

Golder is aware of the possibility of siting concerns for pollution control equipment adjacent to public areas. Golder has previously investigated the use of a very low profile flare which might be specified if necessary to reduce visibility and/or noise impacts. This combustion unit has a diffused and silent flame front that is less than four inches above the burner surface. A 400 standard cubic feet per minute (scfm) unit can be 13.5 feet tall (without 5-foot source test extension), compared to a conventional flare stack which might be 25 or 30 feet tall. Although this low NOx technology is relatively new in the United States, it has a proven track record in Europe.

High Turndown Ratio Flare

Turndown ratio is defined as the ratio of a control device’s maximum throughput rate divided by its minimum throughput rate. The low profile flare noted above is also capable of very high turndown ratios, relative to other LFG thermal oxidation units. Most conventional enclosed LFG burner and stack designs provide turndown ratios ranging from 4:1 to 6:1. The low profile flare design provides a standard turndown ratio of 10:1, and can provide a ratio of 20:1 with custom modifications. A high turndown ratio can provide the following advantages to the City’s project:

- Flexibility to accommodate much smaller secondary flow diversions from the primary flow stream to the PGF, allowing more consistent wellfield operation to meet regulatory compliance standards;
- Extending design operating life to accommodate LFG extraction flows that continue to decrease, without redesign or permanent modification efforts.

In addition to a high thermal turndown ratio, the equipment under consideration can readily combust low-Blu waste gas with as low as 25 percent methane concentration. This unit is provided with a standard configuration for auxiliary fueling and premix if waste gas treatment is required at below this methane concentration. Thus this proprietary burner technology is growing in popularity in the WWTP digester off-gas treatment market.

Variable Frequency Motor Drives

A relatively common-place innovation for situations requiring consistent application of system parameters (i.e. landfill wellfield vacuums and extraction flows), is the use of variable frequency (or variable speed) drives (VFDs) to adjust blower speeds to maintain equilibrium target conditions. Gas blower speed can be automatically or manually regulated based on feedback from upstream or downstream pressure or flow sensors. This ability is very useful when constancy of applied operation is desired at one process point, while conditions may be changing (intentionally or otherwise) at other process points. Golder intends to use VFD blower motor drives (along with automated flow and pressure control valves) to maintain constant LFG methane extraction from the Landfill under a potentially wide range of LFG diversions between PGF and flare.

In addition to specifying VFDs, Golder will incorporate high energy efficiency rating requirements into our specifications for all components of the flare station design.
8. PROJECT EXECUTION

Upon completion of the master services agreement (MSA), Golder will initiate project setup. It is recommended that the City sponsor a tour of the facility and identify areas of historical significance that have lead to the need for the types of services being requested. This would provide an opportunity for Golder staff to meet key City staff, to familiarize Golder staff with City notification requirements, site entry procedures, health and safety requirements, and the location of key components.

Golder staff is available for initiating work under this MSA and we look forward to working with the City.
9. FINANCIAL CONSIDERATIONS

The detailed cost proposal is provided under separate cover. The following financial considerations are presented for City Review:

Proposal Duration

This proposal will remain in effect for a period 60 days.

Contract and Other Required Documents

Golder currently is under contract to the City of Sunnyvale (Revised Blanket Purchase Order Number BL002157). We propose to use the same negotiated Order Agreement language on this MSA. Evidence of insurance coverage, our Sunnyvale business license, and our completed IRS Form W-9 are on file with the City with updated information provided upon request.

Cost Reimbursement

A summary of Golder project costs by task is presented in the table below. In accordance with the RFP, a detailed labor and expenses cost estimate by task and subtask and Golder's 2010 standard rate schedule is provided in Appendix C. Permit application, review or inspection fees are not included in these costs.
10. CERTIFICATION

The information presented in this proposal is an accurate representation of the capabilities of the Golder staff, their availability, and willingness to perform the design services for replacement of the landfill gas flare, blowers and associated equipment as certified by our signatures below.

Golder has an extensive history of excellent project performance and has not defaulted in its performance on a contract during the past five (5) years which has led the other party to terminate the contract.

Golder is anxious to expand our support to the City of Sunnyvale and would be pleased to answer any additional questions that you may have and/or to participate in an interview to introduce our key team members.

GOLDER ASSOCIATES INC.

Andrew P. Wang, P.E.
Project Manager

William L. Fowler, P.G., R.E.G.
Associate
6. SCHEDULE

As the project is roughly defined, the specific construction time frames are not yet determined. Therefore, Golder has prepared a schedule based on a four-month on-site construction project duration. We have also assumed attending five project meetings before and during construction. Golder's estimate of a typical completion schedule for a LFG flare station design and construction project is summarized in the following table.

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9. FINANCIAL CONSIDERATIONS

The detailed cost proposal is provided herein.

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<th>Task Description</th>
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# APPENDIX A

## COST PROPOSAL DETAIL, REV. 1

### CITY OF SUNNYVALE - REPLACEMENT LFG FLARE EQUIPMENT DESIGN & PERMIT

<table>
<thead>
<tr>
<th>Categories</th>
<th>Tasks</th>
<th>Rates</th>
<th>Design 30%-Develop Design Criteria</th>
<th>Design 60%</th>
<th>Design 90%</th>
<th>Design Final</th>
<th>Construction Specifications</th>
<th>Engineer’s Estimate and Bid Schedule</th>
<th>Project Management</th>
<th>Permits &amp; Environmental Documents</th>
<th>Decommissioning Plans</th>
<th>Services During Bidding</th>
<th>Services During Construction</th>
<th>(Optional) Engineering for Temporary Flare Installation</th>
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</tbody>
</table>

### Notes:
1. Communication fee will be billed at 5% of the labor costs and includes phone, facsimile, mail, overnight deliveries, and photocopies.

Cost Estimate Final rev: 1; Costing Table

Golder Associates

10/27/2010
Invoices from Golder Associates Inc. include all labor charges, other direct costs, and costs associated with in-house services. Charges include only those services directly attributable to the execution of the work. Time spent when traveling in the interest of work will be charged in accordance with the hourly rates. An additional 50% will be added to the applicable labor rate for expert testimony, including time spent in depositions and the preparation and presentations of testimony.

Labor charges are based upon standard hourly billing rates for each category of staff. The billing rates include costs for salary, payroll taxes, insurance associated with employment, benefits (including holiday, sick leave, and vacation), administrative overheads, and profit. Rates by labor category are as follows:

<table>
<thead>
<tr>
<th>Personnel Level</th>
<th>Personnel Category</th>
<th>Hourly Rate (U.S. $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA1</td>
<td>Admin Support</td>
<td>$67</td>
</tr>
<tr>
<td>LA2</td>
<td>Staff Admin Support</td>
<td>$73</td>
</tr>
<tr>
<td>LA3</td>
<td>Senior Admin Support</td>
<td>$77</td>
</tr>
<tr>
<td>LT1</td>
<td>Technician</td>
<td>$73</td>
</tr>
<tr>
<td>LT2</td>
<td>Staff Technician</td>
<td>$83</td>
</tr>
<tr>
<td>LT3</td>
<td>Senior Technician</td>
<td>$93</td>
</tr>
<tr>
<td>LD1</td>
<td>Draftsperson</td>
<td>$73</td>
</tr>
<tr>
<td>LD2</td>
<td>Staff Draftsperson</td>
<td>$83</td>
</tr>
<tr>
<td>LD3</td>
<td>Senior Draftsperson</td>
<td>$93</td>
</tr>
<tr>
<td>LV1</td>
<td>Engineer/Scientist</td>
<td>$93</td>
</tr>
<tr>
<td>LV2</td>
<td>Staff Engineer/Scientist</td>
<td>$103</td>
</tr>
<tr>
<td>LV3</td>
<td>Project Engineer/Scientist</td>
<td>$125</td>
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<tr>
<td>LV4</td>
<td>Senior Project Engineer/Scientist</td>
<td>$145</td>
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<tr>
<td>LV5</td>
<td>Senior Engineer/Scientist</td>
<td>$170</td>
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<tr>
<td>LV6</td>
<td>Senior Consultant</td>
<td>$195</td>
</tr>
<tr>
<td>LV7</td>
<td>Practice/Program Leader</td>
<td>$227</td>
</tr>
</tbody>
</table>

Other direct costs, including materials, travel, subsistence, and subcontractor costs, will be invoiced at cost plus a minimum general and administrative fee of 15%.

Office Service Fee: Project non-labor office costs including telephone, fax transmissions, personal computers, and in-house photocopying will be billed at 6% of the total labor fees (this does not include large-volume copying by an external printing facility). This Office Service Fee does not include CAD computers, color photocopies, or drawing reproduction. These services will be billed at the following rates:

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIS/CAD Computers</td>
<td>$20/hour</td>
</tr>
<tr>
<td>Color Photocopies</td>
<td>$0.20/copy</td>
</tr>
<tr>
<td>Plotter (D &amp; E sizes)</td>
<td>$5 per sf^</td>
</tr>
</tbody>
</table>

1. In-house plots (color on paper), $1/sf (B&W on paper)

Rates for laboratory services and use of equipment owned by Golder Associates Inc. will be provided upon request.
EXHIBIT C

INSURANCE REQUIREMENTS FOR CONSULTANTS

Consultant shall procure and maintain for the duration of the contract insurance against claims for
injuries to persons or damages to property which may arise from or in connection with the
performance of the work by the Consultant, his agents, representatives, or employees.

**Minimum Scope and Limits of Insurance:** Consultant shall maintain limits no less than:

1. **Commercial General Liability:** $1,000,000 per occurrence and $2,000,000 aggregate for
   bodily injury, personal injury and property damage. ISO Occurrence Form CG 0001 is
   required.

2. **Automobile Liability:** $1,000,000 per accident for bodily injury and property damage. ISO
   Form CA 0001 is required.

3. **Workers' Compensation and Employer's Liability:** $1,000,000 per accident for bodily injury
   or disease.

4. **Errors and Omissions** Liability Insurance appropriate to the Consultants Profession:
   $1,000,000 per occurrence and $2,000,000 aggregate.

**Deductibles and Self-Insured Retentions**

Any deductibles or self-insured retentions must be declared and approved by the City of
Sunnyvale. The consultant shall guarantee payment of any losses and related investigations, claim
administration and defense expenses within the deductible or self-insured retention.

**Other Insurance Provisions**

The **general liability** and **automobile liability** policies are to contain, or be endorsed to contain,
the following provisions:

1. The City of Sunnyvale, its officials, employees, agents and volunteers are to be covered as
   additional insured(s) with respects to liability directly attributable to the negligent acts, errors or
   omissions of consultant with respects to liability; products and completed operations of the
   Consultant; premises owned, occupied or used by the Consultant; or automobiles owned,
   leased, hired or borrowed by the Consultant. The coverage shall contain no special limitations
   on the scope of protection afforded to the City of Sunnyvale, its officers, employees, agents or
   volunteers.

2. For any claims related to this project, the Consultant's insurance shall be primary. Any
   insurance or self-insurance maintained by the City of Sunnyvale, its officers, officials,
   employees, agents and volunteers shall be excess of the Consultant's insurance and shall not
   contribute with it.

3. Any failure to comply with reporting or other provisions of the policies including breaches of
   warranties shall not affect coverage provided to the City of Sunnyvale, its officers, officials,
   employees, agents or volunteers.
4. The Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, cancelled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City of Sunnyvale.

**Claims Made Coverage**

If the General Liability and/or Errors & Omissions coverages are written on a claims-made form:

1. The retroactive date must be shown, and must be before the date of the contract or the beginning of contract work.

2. Insurance must be maintained and evidence of insurance must be provided for at least five years after completion of the contract work.

3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date, the Consultant must purchase an extended period coverage for a minimum of five years after completion of contract work.

4. A copy of the claims reporting requirements must be submitted to the City of Sunnyvale for review.

**Acceptability of Insurers**

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to the City of Sunnyvale.

**Verification of Coverage**

Consultant shall furnish the City of Sunnyvale with original a Certificate of Insurance effecting the coverage required. The certificates are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates are to be received and approved by the City of Sunnyvale prior to commencement of work.