

PROFESSIONAL CONSULTANT SERVICES AGREEMENT

CAROLLO ENGINEERS, INC

[Bio-Methane Utilization Project RFP No. 1803]

THIS PROFESSIONAL CONSULTANT SERVICES AGREEMENT ("Agreement") is made and entered into this _____ day of _____, 20____ ("Effective Date"), by and between the CITY OF RIVERSIDE ("City"), a California charter city and municipal corporation and CAROLLO ENGINEERS, INC, a Delaware corporation authorized to do business in California ("Consultant").

1. **Scope of Services.** City agrees to retain and does hereby retain Consultant and Consultant agrees to provide the services more particularly described in Exhibit "A," "Scope of Services" ("Services"), attached hereto and incorporated herein by reference, in conjunction with Bio Methane Utilization Project, RFP No. 1803 ("Project").

2. **Term.** This Agreement shall be effective on the date first written above and shall remain in effect until Ninety (90) days from the issuance of the notice to proceed, unless otherwise terminated pursuant to the provisions herein.

3. **Compensation/Payment.** Consultant shall perform the Services under this Agreement for the total sum not to exceed One Hundred Nineteen Thousand, Six Hundred Forty-Five Dollars (\$119,645.) payable in accordance with the terms set forth in Exhibit "B." Said payment shall be made in accordance with City's usual accounting procedures upon receipt and approval of an itemized invoice setting forth the services performed. The invoices shall be delivered to City at the address set forth in Section 4 hereof.

4. **Notices.** Any notices required to be given, hereunder shall be in writing and shall be personally served or given by mail. Any notice given by mail shall be deemed given when deposited in the United States Mail, certified and postage prepaid, addressed to the party to be served as follows:

To City

City of Riverside
Public Works - RWQCP
Attn: Bobby Gustafson / Robert Eland
5950 Acorn Street
Riverside, CA 92504

To Consultant

Carollo Engineers
Attn: Graham J.G. Juby
3400 Central Avenue Suite 205
Riverside, CA 92506

5. **Prevailing Wage.** If applicable, Consultant and all subcontractors are required to pay the general prevailing wage rates of per diem wages and overtime and holiday wages determined by the Director of the Department of Industrial Relations under Section 1720 et seq. of the California Labor Code and implemented by Resolution No. 13346 of the City Council of the City of Riverside. The Director's determination is available on-line at www.dir.ca.gov/dlsr/DPreWageDetermination.htm and is referred to and made a part hereof; the wage rates therein ascertained, determined, and specified are referred to and made a part hereof as though fully set forth herein.

6. **Contract Administration.** A designee of the City will be appointed in writing by the City Manager or Department Director to administer this Agreement on behalf of City and shall be referred to herein as Contract Administrator.

7. **Standard of Performance.** While performing the Services, Consultant shall exercise the reasonable professional care and skill customarily exercised by reputable members of Consultant's profession practicing in the Metropolitan Southern California Area, and shall use reasonable diligence and best judgment while exercising its professional skill and expertise.

8. **Personnel.** Consultant shall furnish all personnel necessary to perform the Services and shall be responsible for their performance and compensation. Consultant recognizes that the qualifications and experience of the personnel to be used are vital to professional and timely completion of the Services. The key personnel listed in Exhibit "C" attached hereto and incorporated herein by this reference and assigned to perform portions of the Services shall remain assigned through completion of the Services, unless otherwise mutually agreed by the parties in writing, or caused by hardship or resignation in which case substitutes shall be subject to City approval.

9. **Assignment and Subcontracting.** Neither party shall assign any right, interest, or obligation in or under this Agreement to any other entity without prior written consent of the other party. In any event, no assignment shall be made unless the assignee expressly assumes the obligations of assignor under this Agreement, in a writing satisfactory to the parties. Consultant acknowledges that any assignment may, at the City's sole discretion, require City Manager and/or City Council approval. Consultant shall not subcontract any portion of the work required by this Agreement without prior written approval by the responsible City Contract Administrator. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement, including without limitation, the insurance obligations set forth in Section 12. The Consultant acknowledges and agrees that the City is an intended beneficiary of any work performed by any subcontractor for purposes of establishing a duty of care between any subcontractor and the City.

10. **Independent Contractor.** In the performance of this Agreement, Consultant, and Consultant's employees, subcontractors and agents, shall act in an independent capacity as independent contractors, and not as officers or employees of the City of Riverside. Consultant acknowledges and agrees that the City has no obligation to pay or withhold state or federal taxes or to provide workers' compensation or unemployment insurance to Consultant, or to Consultant's employees, subcontractors and agents. Consultant, as an independent contractor, shall be responsible for any and all taxes that apply to Consultant as an employer.

11. Indemnification.

11.1 Design Professional Defined. For purposes of this Agreement, “Design Professional” includes the following:

- A. An individual licensed as an architect pursuant to Chapter 3 (commencing with Section 5500) of Division 3 of the Business and Professions Code, and a business entity offering architectural services in accordance with that chapter.
- B. An individual licensed as a landscape architect pursuant to Chapter 3.5 (commencing with Section 5615) of Division 3 of the Business and Professions Code, and a business entity offering landscape architectural services in accordance with that chapter.
- C. An individual registered as a professional engineer pursuant to Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code, and a business entity offering professional engineering services in accordance with that chapter.
- D. An individual licensed as a professional land surveyor pursuant to Chapter 15 (commencing with Section 8700) of Division 3 of the Business and Professions Code, and a business entity offering professional land surveying services in accordance with that chapter.

11.2 Defense Obligation For Design Professional Liability. Consultant agrees, at its cost and expense, to promptly defend the City, and the City’s employees, officers, managers, agents and council members (collectively the “Parties to be Defended”) from and against any and all claims, allegations, lawsuits, arbitration proceedings, administrative proceedings, regulatory proceedings, or other legal proceedings to the extent the same arise out of, pertain to, or relate to the negligence, recklessness or willful misconduct of Consultant, or anyone employed by or working under the Consultant or for services rendered to the Consultant in the performance of the Agreement, notwithstanding that the City may have benefited from its work or services and whether or not caused in part by the negligence of an Indemnified Party. Consultant agrees to provide this defense immediately upon written notice from the City, and with well qualified, adequately insured and experienced legal counsel acceptable to City. Consultant will reimburse City for reasonable defense costs for claims arising out of Consultant’s professional negligence based on the percentage of Consultant’s liability. This obligation to defend as set forth herein is binding on the successors, assigns and heirs of Consultant and shall survive the termination of Consultant’s Services under this Agreement.

11.3 Indemnity For Design Professional Liability. When the law establishes a professional standard of care for Consultant’s services, to the fullest extent permitted by law, Consultant shall indemnify, protect and hold harmless the City and the City’s employees, officers, managers, agents, and Council Members (“Indemnified Parties”) from and against any and all claim for damage, charge, lawsuit, action, judicial, administrative, regulatory or arbitration proceeding,

damage, cost, expense (including counsel and expert fees), judgment, civil fines and penalties, liabilities or losses of any kind or nature whatsoever to the extent the same arise out of, pertain to, or relate to the negligence, recklessness or willful misconduct of Consultant, or anyone employed by or working under the Consultant or for services rendered to the Consultant in the performance of the Agreement, notwithstanding that the City may have benefited from its work or services and whether or not caused in part by the negligence of an Indemnified Party.

11.4 Defense Obligation For Other Than Design Professional Liability.

Consultant agrees, at its cost and expense, to promptly defend the City, and the City's employees, officers, managers, agents and council members (collectively the "Parties to be Defended") from and against any and all claims, allegations, lawsuits, arbitration proceedings, administrative proceedings, regulatory proceedings, or other legal proceedings which arise out of, or relate to, or are in any way connected with: 1) the Services, work, activities, operations, or duties of the Consultant, or of anyone employed by or working under the Consultant, or 2) any breach of the Agreement by the Consultant.

This duty to defend shall apply whether or not such claims, allegations, lawsuits or proceedings have merit or are meritless, or which involve claims or allegations that any or all of the Parties to be Defended were actively, passively, or concurrently negligent, or which otherwise assert that the Parties to be Defended are responsible, in whole or in part, for any loss, damage or injury. Consultant agrees to provide this defense immediately upon written notice from the City, and with well qualified, adequately insured and experienced legal counsel acceptable to City. This obligation to defend as set forth herein is binding on the successors, assigns and heirs of Consultant and shall survive the termination of Consultant's Services under this Agreement.

11.5 Indemnity For Other Than Design Professional Liability. Except as to the sole negligence or willful misconduct of the City, Consultant agrees to indemnify, protect and hold harmless the Indemnified Parties from and against any claim for damage, charge, lawsuit, action, judicial, administrative, regulatory or arbitration proceeding, damage, cost, expense (including counsel and expert fees), judgment, civil fine and penalties, liabilities or losses of any kind or nature whatsoever whether actual, threatened or alleged, which arise out of, pertain to, or relate to, or are a consequence of, or are attributable to, or are in any manner connected with the performance of the Services, work, activities, operations or duties of the Consultant, or anyone employed by or working under the Consultant or for services rendered to Consultant in the performance of this Agreement, notwithstanding that the City may have benefited from its work or services. This indemnification provision shall apply to any acts, omissions, negligence, recklessness, or willful misconduct, whether active or passive, on the part of the Consultant or anyone employed or working under the Consultant.

12. Insurance.

12.1 General Provisions. Prior to the City's execution of this Agreement, Consultant shall provide satisfactory evidence of, and shall thereafter maintain during the term of this Agreement, such insurance policies and coverages in the types, limits, forms and ratings required herein. The rating and required insurance policies and coverages may be modified in writing by the City's Risk Manager or City Attorney, or a designee, unless such modification is prohibited by law.

12.1.1 Limitations. These minimum amounts of coverage shall not constitute any limitation or cap on Consultant's indemnification obligations under Section 11 hereof.

12.1.2 Ratings. Any insurance policy or coverage provided by Consultant or subcontractors as required by this Agreement shall be deemed inadequate and a material breach of this Agreement, unless such policy or coverage is issued by insurance companies authorized to transact insurance business in the State of California with a policy holder's rating of A or higher and a Financial Class of VII or higher.

12.1.3 Cancellation. The policies shall not be canceled unless thirty (30) days' prior written notification of intended cancellation has been given to City by certified or registered mail, postage prepaid.

12.1.4 Adequacy. The City, its officers, employees and agents make no representation that the types or limits of insurance specified to be carried by Consultant pursuant to this Agreement are adequate to protect Consultant. If Consultant believes that any required insurance coverage is inadequate, Consultant will obtain such additional insurance coverage as Consultant deems adequate, at Consultant's sole expense.

12.2 Workers' Compensation Insurance. By executing this Agreement, Consultant certifies that Consultant is aware of and will comply with Section 3700 of the Labor Code of the State of California requiring every employer to be insured against liability for workers' compensation, or to undertake self-insurance before commencing any of the work. Consultant shall carry the insurance or provide for self-insurance required by California law to protect said Consultant from claims under the Workers' Compensation Act. Prior to City's execution of this Agreement, Consultant shall file with City either 1) a certificate of insurance showing that such insurance is in effect, or that Consultant is self-insured for such coverage, or 2) a certified statement that Consultant has no employees, and acknowledging that if Consultant does employ any person, the necessary certificate of insurance will immediately be filed with City. Any certificate filed with City shall provide that City will be given ten (10) days' prior written notice before modification or cancellation thereof.

12.3 Commercial General Liability and Automobile Insurance. Prior to City's execution of this Agreement, Consultant shall obtain, and shall thereafter maintain during the term of this Agreement, commercial general liability insurance and automobile liability insurance as required to insure Consultant against damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from or which may concern operations by anyone directly or indirectly employed by, connected with, or acting for or on behalf of Consultant. The City, and its officers, employees and agents, shall be named as additional insureds under the Consultant's insurance policies.

12.3.1 Consultant's commercial general liability insurance policy shall cover both bodily injury (including death) and property damage (including, but not limited to, premises operations liability, products-completed operations liability, independent contractor's liability, personal injury liability, and contractual liability) in an amount not less than \$1,000,000 per occurrence and a general aggregate limit in the amount of not less than \$2,000,000.

12.3.2 Consultant's automobile liability policy shall cover both bodily injury and property damage in an amount not less than \$1,000,000 per occurrence and an aggregate limit of not less than \$1,000,000. All of Consultant's automobile and/or commercial general liability insurance policies shall cover all vehicles used in connection with Consultant's performance of this Agreement, which vehicles shall include, but are not limited to, Consultant owned vehicles, Consultant leased vehicles, Consultant's employee vehicles, non-Consultant owned vehicles and hired vehicles.

12.3.3 Prior to City's execution of this Agreement, copies of insurance policies or original certificates along with additional insured endorsements acceptable to the City evidencing the coverage required by this Agreement, for both commercial general and automobile liability insurance, shall be filed with City and shall include the City and its officers, employees and agents, as additional insureds. Said policies shall be in the usual form of commercial general and automobile liability insurance policies, but shall include the following provisions:

It is agreed that the City of Riverside, and its officers, employees and agents, are added as additional insureds under this policy, solely for work done by and on behalf of the named insured for the City of Riverside.

12.3.4 The insurance policy or policies shall also comply with the following provisions:

- a. The policy shall be endorsed to waive any right of subrogation against the City and its sub-consultants, employees, officers and agents for services performed under this Agreement.
- b. If the policy is written on a claims made basis, the certificate should so specify and the policy must continue in force for one year after completion of the services. The retroactive date of coverage must also be listed.
- c. The policy shall specify that the insurance provided by Consultant will be considered primary and not contributory to any other insurance available to the City and Endorsement No. CG 20010413 shall be provided to the City.

12.4 **Errors and Omissions Insurance.** Prior to City's execution of this Agreement, Consultant shall obtain, and shall thereafter maintain during the term of this Agreement, errors and omissions professional liability insurance in the minimum amount of \$1,000,000 to protect the City from claims resulting from the Consultant's activities.

12.5 **Subcontractors' Insurance.** Consultant shall require all of its subcontractors to carry insurance, in an amount sufficient to cover the risk of injury, damage or loss that may be caused by the subcontractors' scope of work and activities provided in furtherance of this Agreement, including, but without limitation, the following coverages: Workers Compensation, Commercial General Liability, Errors and Omissions, and Automobile liability. Upon City's request,

Consultant shall provide City with satisfactory evidence that Subcontractors have obtained insurance policies and coverages required by this section.

13. **Business Tax.** Consultant understands that the Services performed under this Agreement constitutes doing business in the City of Riverside, and Consultant agrees that Consultant will register for and pay a business tax pursuant to Chapter 5.04 of the Riverside Municipal Code and keep such tax certificate current during the term of this Agreement.

14. **Time of Essence.** Time is of the essence for each and every provision of this Agreement.

15. **City's Right to Employ Other Consultants.** City reserves the right to employ other Consultants in connection with the Project. If the City is required to employ another consultant to complete Consultant's work, due to the failure of the Consultant to perform, or due to the breach of any of the provisions of this Agreement, the City reserves the right to seek reimbursement from Consultant.

16. **Accounting Records.** Consultant shall maintain complete and accurate records with respect to costs incurred under this Agreement. All such records shall be clearly identifiable. Consultant shall allow a representative of City during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

17. **Confidentiality.** All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other materials either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant, except as otherwise directed by City's Contract Administrator. Nothing furnished to Consultant which is otherwise known to the Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use City's name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production, website, or other similar medium without the prior written consent of the City.

18. **Ownership of Documents.** All reports, maps, drawings and other contract deliverables prepared under this Agreement by Consultant shall be and remain the property of City. Consultant shall not release to others information furnished by City without prior express written approval of City.

19. **Copyrights.** Consultant agrees that any work prepared for City which is eligible for copyright protection in the United States or elsewhere shall be a work made for hire. If any such work is deemed for any reason not to be a work made for hire, Consultant assigns all right, title and interest in the copyright in such work, and all extensions and renewals thereof, to City, and agrees to provide all assistance reasonably requested by City in the establishment, preservation and enforcement of its copyright in such work, such assistance to be provided at City's expense but

without any additional compensation to Consultant. Consultant agrees to waive all moral rights relating to the work developed or produced, including without limitation any and all rights of identification of authorship and any and all rights of approval, restriction or limitation on use or subsequent modifications.

20. **Conflict of Interest.** Consultant, for itself and on behalf of the individuals listed in Exhibit "C," represents and warrants that by the execution of this Agreement, they have no interest, present or contemplated, in the Project affected by the above-described Services. Consultant further warrants that neither Consultant, nor the individuals listed in Exhibit "C" have any real property, business interests or income interests that will be affected by this project or, alternatively, that Consultant will file with the City an affidavit disclosing any such interest.

21. **Solicitation.** Consultant warrants that Consultant has not employed or retained any person or agency to solicit or secure this Agreement, nor has it entered into any agreement or understanding for a commission, percentage, brokerage, or contingent fee to be paid to secure this Agreement. For breach of this warranty, City shall have the right to terminate this Agreement without liability and pay Consultant only for the value of work Consultant has actually performed, or, in its sole discretion, to deduct from the Agreement price or otherwise recover from Consultant the full amount of such commission, percentage, brokerage or commission fee. The remedies specified in this section shall be in addition to and not in lieu of those remedies otherwise specified in this Agreement.

22. **General Compliance With Laws.** Consultant shall keep fully informed of federal, state and local laws and ordinances and regulations which in any manner affect those employed by Consultant, or in any way affect the performance of services by Consultant pursuant to this Agreement. Consultant shall at all times observe and comply with all such laws, ordinances and regulations, and shall be solely responsible for any failure to comply with all applicable laws, ordinances and regulations. Consultant represents and warrants that Consultant has obtained all necessary licenses to perform the Scope of Services and that such licenses are in good standing. Consultant further represents and warrants that the services provided herein shall conform to all ordinances, policies and practices of the City of Riverside.

23. **Waiver.** No action or failure to act by the City shall constitute a waiver of any right or duty afforded City under this Agreement, nor shall any such action or failure to act constitute approval of or acquiescence in any breach thereunder, except as may be specifically, provided in this Agreement or as may be otherwise agreed in writing.

24. **Amendments.** This Agreement may be modified or amended only by a written agreement and/or change order executed by the Consultant and City.

25. **Termination.** City, by notifying Consultant in writing, shall have the right to terminate any or all of Consultant's services and work covered by this Agreement at any time. In the event of such termination, Consultant may submit Consultant's final written statement of the amount of Consultant's services as of the date of such termination based upon the ratio that the work completed bears to the total work required to make the report complete, subject to the City's rights under Sections 15 and 26 hereof. In ascertaining the work actually rendered through the termination

date, City shall consider completed work, work in progress and complete and incomplete reports and other documents only after delivered to City.

25.1 Other than as stated below, City shall give Consultant thirty (30) days' prior written notice prior to termination.

25.2 City may terminate this Agreement upon fifteen (15) days' written notice to Consultant, in the event:

25.2.1 Consultant substantially fails to perform or materially breaches the Agreement; or

25.2.2 City decides to abandon or postpone the Project.

26. **Offsets.** Consultant acknowledges and agrees that with respect to any business tax or penalties thereon, utility charges, invoiced fee or other debt which Consultant owes or may owe to the City, City reserves the right to withhold and offset said amounts from payments or refunds or reimbursements owed by City to Consultant. Notice of such withholding and offset, shall promptly be given to Consultant by City in writing. In the event of a dispute as to the amount owed or whether such amount is owed to the City, City will hold such disputed amount until either the appropriate appeal process has been completed or until the dispute has been resolved.

27. **Successors and Assigns.** This Agreement shall be binding upon City and its successors and assigns, and upon Consultant and its permitted successors and assigns, and shall not be assigned by Consultant, either in whole or in part, except as otherwise provided in paragraph 9 of this Agreement.

28. **Venue.** Any action at law or in equity brought by either of the parties hereto for the purpose of enforcing a right or rights provided for by this Agreement shall be tried in the Superior Court, County of Riverside, State of California, and the parties hereby waive all provisions of law providing for a change of venue in such proceedings to any other county. In the event either party hereto shall bring suit to enforce any term of this Agreement or to recover any damages for and on account of the breach of any term or condition of this Agreement, it is mutually agreed that each party will bear their own attorney's fees and costs.

29. **Nondiscrimination.** During Consultant's performance of this Agreement, Consultant shall not discriminate on the grounds of race, religious creed, color, national origin, ancestry, age, physical disability, mental disability, medical condition, including the medical condition of Acquired Immune Deficiency Syndrome (AIDS) or any condition related thereto, marital status, sex, genetic information, gender, gender identity, gender expression, or sexual orientation, military and veteran status, in the selection and retention of employees and subcontractors and the procurement of materials and equipment, except as provided in Section 12940 of the California Government Code. Further, Consultant agrees to conform to the requirements of the Americans with Disabilities Act in the performance of this Agreement.

30. **Severability.** Each provision, term, condition, covenant and/or restriction, in whole and in part, of this Agreement shall be considered severable. In the event any provision, term,

condition, covenant and/or restriction, in whole and/or in part, of this Agreement is declared invalid, unconstitutional, or void for any reason, such provision or part thereof shall be severed from this Agreement and shall not affect any other provision, term, condition, covenant and/or restriction of this Agreement, and the remainder of the Agreement shall continue in full force and effect.

31. **Authority.** The individuals executing this Agreement and the instruments referenced herein on behalf of Consultant each represent and warrant that they have the legal power, right and actual authority to bind Consultant to the terms and conditions hereof and thereof.

32. **Entire Agreement.** This Agreement constitutes the final, complete, and exclusive statement of the terms of the agreement between the parties pertaining to the subject matter of this Agreement, and supersedes all prior and contemporaneous understandings or agreements of the parties. Neither party has been induced to enter into this Agreement by and neither party is relying on, any representation or warranty outside those expressly set forth in this Agreement.

33. **Interpretation.** City and Consultant acknowledge and agree that this Agreement is the product of mutual arms-length negotiations and accordingly, the rule of construction, which provides that the ambiguities in a document shall be construed against the drafter of that document, shall have no application to the interpretation and enforcement of this Agreement.

33.1 Titles and captions are for convenience of reference only and do not define, describe or limit the scope or the intent of the Agreement or any of its terms. Reference to section numbers, are to sections in the Agreement unless expressly stated otherwise.

33.2 This Agreement shall be governed by and construed in accordance with the laws of the State of California in effect at the time of the execution of this Agreement.

33.3 In the event of a conflict between the body of this Agreement and Exhibit "A" - Scope of Services hereto, the terms contained in Exhibit "A" shall be controlling.

34. **Exhibits.** The following exhibits attached hereto are incorporated herein to this Agreement by this reference:

Exhibit "A" - Scope of Services
Exhibit "B" - Compensation
Exhibit "C" - Key Personnel

IN WITNESS WHEREOF, City and Consultant have caused this Agreement to be duly executed the day and year first above written.

CITY OF RIVERSIDE, a California
charter city and municipal corporation
a California corporation

By: _____
City Manager

Attest: _____
City Clerk

Certified as to Availability of Funds:

By: _____
Chief Financial Officer

Approved as to Form:

By: _____
Ruthann M. Salera
Deputy City Attorney

CAROLLO ENGINEERS, INC.,
a California corporation

By: _____
GRAHAM JUBY
[Printed Name]
VICE PRESIDENT
[Title]

By: _____
Walid Karan
[Printed Name]
Vice President
[Title]

EXHIBIT “A”

SCOPE OF SERVICES

SCOPE OF SERVICES

TASK 1 – Project Management and Meetings

Provide general project management services throughout the course of the project including preparation of invoices, and agendas and meeting notes for all progress meetings. Prepare for and conduct up to four meetings. It is assumed that the project will have a duration of approximately 4 months.

TASK 2 – Data Gathering

Carollo will obtain the plant data for the last three years as a basis for estimating the biogas production anticipated at the RWQCP, for use in evaluating the alternatives. This data should include historical information for plant influent flow, digester heating requirements, digester gas production and digester gas use by the existing fuel cells. The City will also provide the most current information for the RWQCP power usage, and the cost of power purchased by the RWQCP.

TASK 3 – Improvements to Enhance Digester Gas Production

Carollo will evaluate the existing digester complex for improvements to maximizing biogas production, which will include, external feedstock sourcing from qualified entities, co-digestion of external feedstock and sewage sludge, diverted food waste, or bringing external high strength waste streams for additional energy production. The Analysis would include an estimate of total gas production possible for the digester complex.

TASK 4 – Evaluation of Bio-Methane Utilization Alternatives

The following alternatives will be evaluated for the beneficial use of digester gas:

1. Install new high efficiency digester gas internal combustion engines
2. Install new micro-turbines
3. Install new fuel cell(s)
4. Install a new Bio-CNG fueling station
5. Clean the digester gas to natural gas quality and inject into an SCG pipeline.

The evaluation of each of the above alternatives will include the following:

1. Development of a Process flow diagram (PFD) and a description of the equipment/system. The process equipment will be selected to meet stringent SCAQMD requirements. The anticipated NOx emissions will be identified.
2. Evaluation of the best use of the existing decommissioned cogeneration facility.
3. For power generation alternatives, development of a microgrid powered by biogas and other clean energy technology will be evaluated.
4. Evaluation of the feasibility of delivering the alternative via a public-private-partnership approach, including benefits and risks associated with such agreements.
5. Financial Analysis: Conduct a preliminary financial analysis to determine the 20-year life cycle cost, taking into account the following:
 - a. Initial capital costs for implementation.
 - b. Ongoing Operation and Maintenance costs.
 - c. Conditioning digester gas for the proposed purposes, including but not limited to, treatment of hydrogen sulfide, siloxanes, nitrogen, and oxygen, and removal of moisture and other particulate matters.
 - d. Proposed project footprint required, access, construction sequencing opportunities, maintaining plant operations during construction, and availability and proximity to required utilities.
 - e. Possible impacts of tax credits, renewable energy credits, rebates, accelerated depreciation and similar features which improve financial feasibility.
 - f. Possible grant funding opportunities to offset in whole or in part the capital costs for any pursued alternatives should be listed and the likelihood of attaining them analyzed.
6. Non-Economic Factors: For each of the alternatives proposed, provide evaluations based on non-economic factors that may include, but not be limited to the following:
 - a. Reliability
 - b. Ease of maintenance
 - c. Implementation schedule
 - d. Sustainability

- e. Public or community perception or acceptance
 - f. Regional versus local benefits
 - g. Opportunity to partner with other agencies or entities
7. Regulatory and Permitting Analysis: For each of the alternatives proposed, provide evaluations based on Regulatory Compliance and Permitting issues and considerations. Additionally:
- a. For any proposed projects with SCG, compliance with SCG Tariff Rules 30 and 39, as well as any other rules or considerations will be demonstrated.
 - b. For any proposals that include RPU with power generation interconnection, the proposal must show compliance with Electric Rule 22.
 - c. Carollo will evaluate any proposed project for participation in the Renewable Energy Certificates (RECs – “Green Credits”) program.
8. Agreement Identification: For each of the alternatives proposed, identify, evaluate and explore any agreements that will be needed prior to any project be executed.

Alternative Selection Criteria: Carollo will conduct a “paired-wise” comparison to develop weighting factors for the agreed financial and non-financial selection criteria. Each of the alternatives will then be ranked for each criteria and the weighting factors will be applied to develop a score. Carollo will discuss the selection criteria and scoring in a workshop meeting with the City. Sensitivity evaluations will be conducted to determine impacts to the scores. The alternative with the highest score will be the recommended best alternative for the City.

TASK 5 – Report Preparation

Prepare a draft and final report providing a summary of the work carried out in Tasks 2, 3 and 4. The report will include preliminary layouts indicating conceptually the location of the proposed new facilities for each alternative. The report will also provide a comparison of the alternatives which will include both cost and non-cost criteria and a paired-wise comparison.

After delivering a Draft report to the City, conduct a meeting with the City to receive comments. Finalize the report by updating the Draft with the City’s comments.

Deliverables:

- Meeting Agendas.
- Summary Meeting Notes.
- Report - Draft, and Final Versions (one electronic and two hard copies)

SCOPE ASSUMPTIONS

The following assumptions were used in the development of the above Scope of Work and associated budget cost estimate:

- The Work will be complete within four months.
- Only 11- by 17-inch or smaller sketches/diagrams will be produced.
- Future biogas production values are estimates.
- Preliminary Design drawings will not be produced.
- Technical specifications will not be produced.
- The City will furnish available studies, reports, and other data pertinent to the required services and we will be entitled to use and rely upon all such information and services provided by the City or others in performing the work.
- We have no control over the cost of labor, materials, equipment or services furnished by others, over the DG quality and/or quantity, or over the way the RWQCP and/or associated processes are operated and/or maintained. Data projections and estimates are based on our opinion based on experience and judgment. We cannot and do not guarantee that actual costs and/or quantities realized will not vary from the data projections and estimates prepared by us.

WORK PLAN

Our proposed work plan is presented on the next page, and details a summary of the proposed work effort, deliverables, the meetings/workshops to be carried out, and the anticipated results. This provides a comprehensive and coordinated plan that results in more productive meetings/workshops.

SCHEDULE

Our preliminary schedule is shown in the form of a Gantt chart on page 20. As shown, we anticipate that the work can be completed in a little more than four months—from about mid-June to mid-October.

City of Riverside - RWQCP Bio-Methane Utilization Project Work Plan

	JUN 2018	JULY 2018	AUG 2018	SEPT 2018	OCT 2018
RESULTS	<p>Establish Direction on:</p> <ul style="list-style-type: none"> • DG Production at the RWQCP • Alternatives to be Considered 	<p>Establish Direction on:</p> <ul style="list-style-type: none"> • Capacity of Existing Digester Complex • Alternative Feedstock and Estimated DG Production • Design Criteria and PDF for DG Utilization Alternatives 	<p>Establish Direction on:</p> <ul style="list-style-type: none"> • Preliminary Layouts for DG Alternatives • Financial Analysis for Alternatives • Non-Economic Factors for Alternatives • Regulatory and Permitting Analysis for Alternatives 	<p>Establish Direction on:</p> <ul style="list-style-type: none"> • Recommended Alternative for DG Utilization 	<p>Establish Direction on:</p> <ul style="list-style-type: none"> • Final Report
MEETINGS/WORKSHOPS	<p>Kick-off Meeting</p> <ul style="list-style-type: none"> • Project Goals • Project Team • Project Elements • Work Plan • Key Decisions Needed and Timing • Schedule 	<p>Progress Meeting No. 1</p> <ul style="list-style-type: none"> • Enhancements to Improve DG Production • DG Utilization Alternatives 	<p>Progress Meeting No. 2</p> <ul style="list-style-type: none"> • Preliminary Layouts • Financial Analysis • Non-Economic Factors • "Paired-Wise" Comparison 	None	<p>Draft Report Review Meeting</p>
DELIVERABLES	<ul style="list-style-type: none"> • Updated Work Plan/Schedule 	<ul style="list-style-type: none"> • Monthly Progress Report 	<ul style="list-style-type: none"> • Monthly Progress Report 	<ul style="list-style-type: none"> • Draft Report • Monthly Progress Report 	<ul style="list-style-type: none"> • Final Report • Monthly Progress Report
WORK EFFORT	<ul style="list-style-type: none"> • Review DG Production • Identify Preliminary Alternatives for DG Utilization • Update Work Plan 	<ul style="list-style-type: none"> • Evaluate Existing Digester Capacity • Evaluate Feedstock Sourcing Alternatives • Estimate DG Production from Alternate Feedstock • Develop Preliminary Design Criteria and PDFs for DG Utilization Alternatives 	<ul style="list-style-type: none"> • Develop Preliminary Layouts for DG Alternatives • Evaluate Feasibility of Microgrid for Power Generation Alternatives • Evaluate Feasibility of PPA for all Alternatives • Develop 20-year Life Cycle Costs for the Alternatives • Compare Non-Economic Factors for all Alternatives • Complete Regulatory and Permitting Analysis for the Alternatives 	<ul style="list-style-type: none"> • Develop Draft DG Utilization Report 	<ul style="list-style-type: none"> • Develop and Submit Final Report

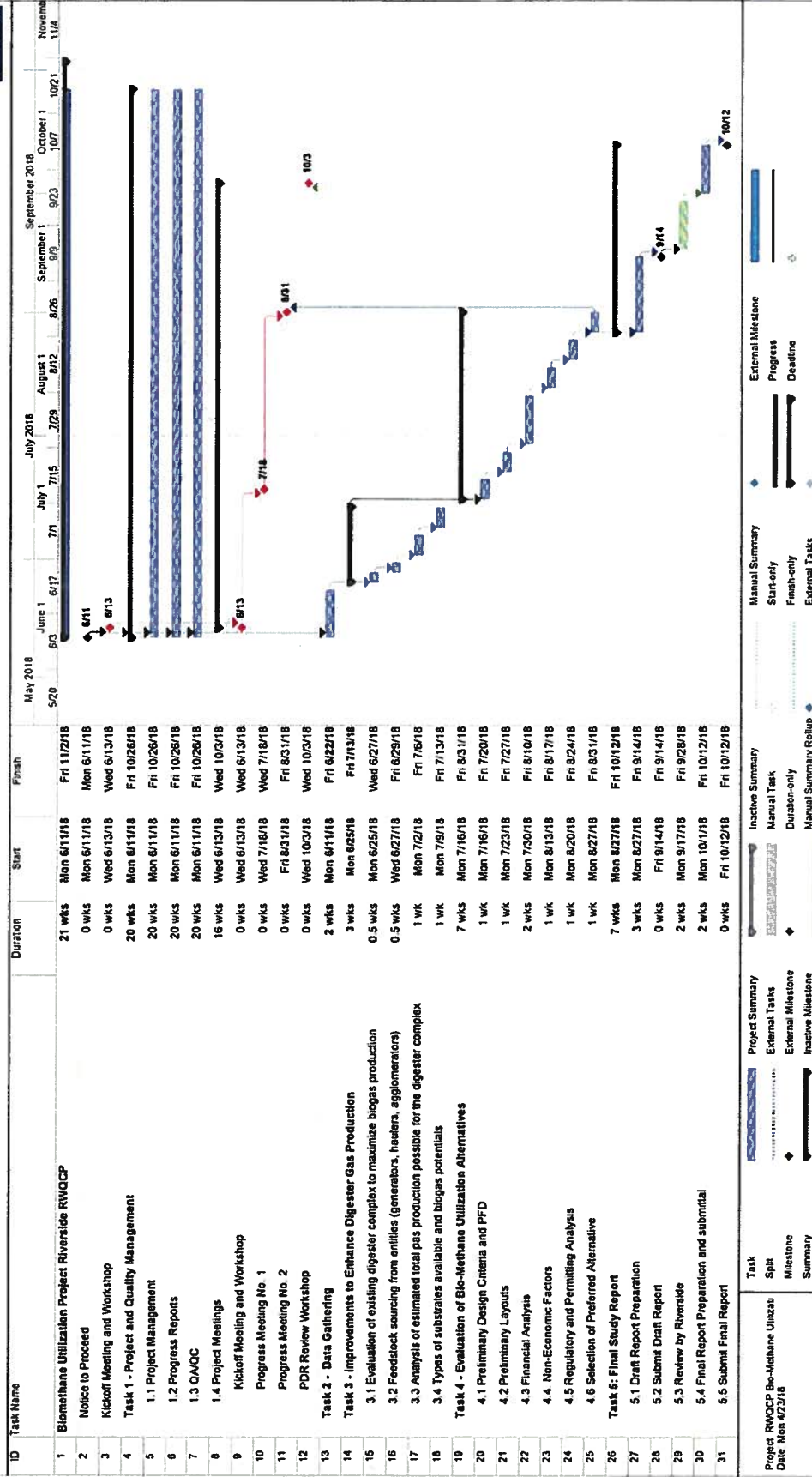
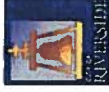


EXHIBIT "B"
COMPENSATION

G | Pricing

City of Riverside - RWQCP Bio-Methane Utilization Fee Estimate

Estimated Labor Costs

Task Description	Senior Professional	Lead Project Professional	Professional	Assistant Professional	CAD	Graphics	Word Processing	Total Hours	Carollo Labor	Subconsultants	Other Direct Costs	Total Carollo Costs
<i>Hourly Rate</i>	\$288	\$255	\$208	\$169	\$150	\$126	\$126					
Task 1: Project and Quality Management												
1.1 - Project Management	6	16	0	0	0	0	0	22	\$5,808	-	-	\$5,808
1.2 - Progress Reports	4	12	0	0	0	0	0	16	\$4,212	-	-	\$4,212
1.3 - QA/QC (Technical Advisors)	12	4	0	0	0	0	0	16	\$4,476	-	-	\$4,476
1.4 - Meetings (4)	16	20	24	0	0	0	8	68	\$15,708	-	\$250	\$15,958
<i>Subtotal Task 1</i>	<i>38</i>	<i>52</i>	<i>24</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>8</i>	<i>122</i>	<i>\$30,204</i>	<i>-</i>	<i>\$250</i>	<i>\$30,454</i>
Task 2: Data Gathering												
2.1 - Collect and Review Background Data, incl. AQMD Regulations	1	1	20	10	0	0	0	32	\$6,393	-	-	\$6,393
<i>Subtotal Task 2</i>	<i>1</i>	<i>1</i>	<i>20</i>	<i>10</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>32</i>	<i>\$6,393</i>	<i>-</i>	<i>-</i>	<i>\$6,393</i>
Task 3: Improvements to Enhance DG Production												
3.1 - Evaluate Existing Digester Complex	1	2	18	8	0	0	1	30	\$6,020	-	-	\$6,020
3.2 - Evaluate External Feedstock and Estimated DG Production	1	2	18	8	0	0	1	30	\$6,020	0	0	\$6,020
<i>Subtotal Task 3</i>	<i>2</i>	<i>4</i>	<i>48</i>	<i>16</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>60</i>	<i>\$12,040</i>	<i>-</i>	<i>-</i>	<i>\$12,040</i>
Task 4: Evaluation of Bio-Methane Utilization Alternatives												
4.1 - Preliminary Design Criteria and PFD	2	4	32	8	0	3	1	50	\$10,108	\$7,040	-	\$17,148
4.2 - Preliminary Layouts	2	4	20	10	0	4	0	40	\$7,950	-	-	\$7,950
4.3 - Financial Analysis	4	8	40	20	0	0	0	72	\$14,892	-	-	\$14,892
4.4 - Non-Economic Factors	2	4	20	10	0	4	0	40	\$7,950	-	-	\$7,950
4.5 - Regulatory and Permitting Analysis	2	4	20	10	0	4	0	40	\$7,950	-	\$150	\$8,100
<i>Subtotal Task 4</i>	<i>12</i>	<i>24</i>	<i>132</i>	<i>58</i>	<i>0</i>	<i>15</i>	<i>1</i>	<i>242</i>	<i>\$48,850</i>	<i>\$7,040</i>	<i>\$150</i>	<i>\$56,040</i>
Task 5: Final Study Report												
5.1 - Prepare and Submit Draft Report	2	4	12	20	0	8	10	56	\$9,740	-	\$150	\$9,890
5.2 - Prepare and Submit Final Report	2	2	10	0	0	4	8	26	\$4,678	-	\$150	\$4,828
<i>Subtotal Task 5</i>	<i>4</i>	<i>6</i>	<i>22</i>	<i>20</i>	<i>0</i>	<i>12</i>	<i>18</i>	<i>82</i>	<i>\$14,418</i>	<i>-</i>	<i>\$300</i>	<i>\$14,718</i>
GRAND TOTAL	57	87	246	104	0	27	29	538	\$111,905	\$7,040	\$700	\$119,645

EXHIBIT "C"

KEY PERSONNEL

D | Company Personnel

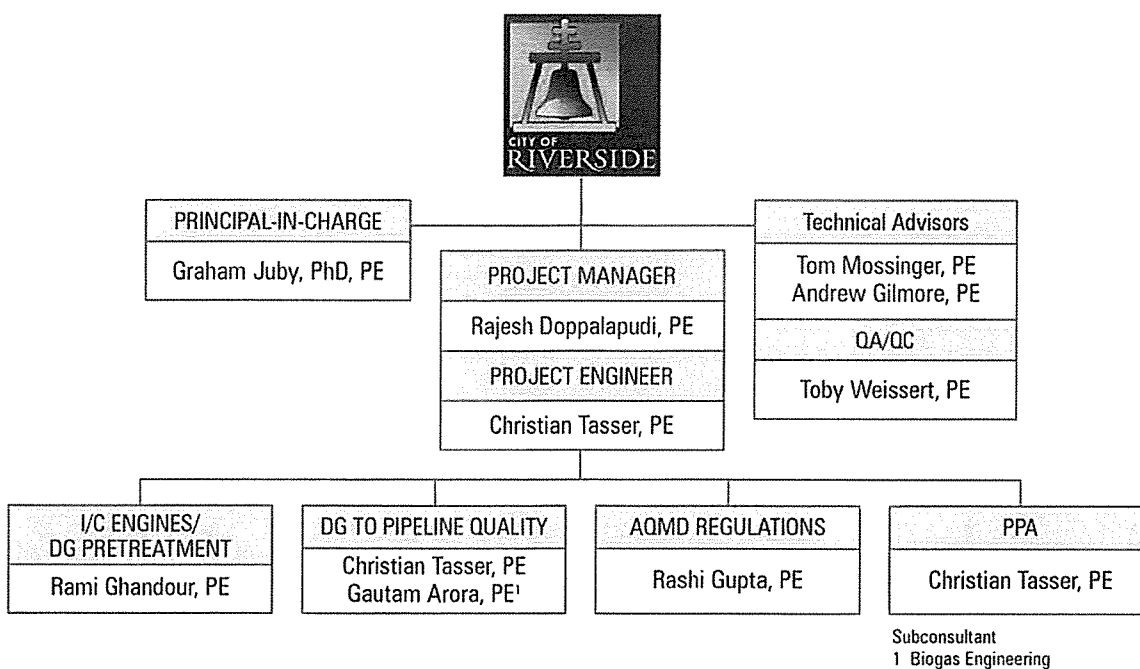
PROJECT TEAM

A key prerequisite to delivering successful projects for the City is to assign professionals who not only have the experience, but also the technical understanding to deliver quality planning, design, and construction management services. We will leverage our local experience on similar City projects to achieve your goals in the most cost efficient and productive way. Our organizational chart introduces our project team and identifies communication, functional, and reporting responsibilities.





Subconsultants

For this project, Carollo proposes using one subconsultant: **Biogas Engineering**. Established in 2016, Biogas Engineering is a consulting and contracting company providing engineering, procurement and construction (EPC) services in the waste organic processing, digester gas, landfill gas and methane mitigation fields. Biogas Engineering staff comprises industry experts and leaders. The firm has expertise in providing turnkey solutions for landfill gas (LFG)/DG cleanup and treatment system design, DG/LFG to high BTU facility design, LFG/DG utilization feasibility studies, active and passive methane mitigation system design, organic food processing facility design, air permitting for LFG control devices, and more.






Prior to rejoining Carollo, Christian Tasser worked with Biogas Engineering whose specialty is treating DG for injection into natural gas pipelines. There have only been two of these types of projects in California. Biogas Engineering was involved in the first pipeline project, which is at the Point Loma Wastewater Plant. Biogas Engineering will provide a review of the gas to pipeline alternative for this study.



Staff Qualifications Table

Name/Role	Qualifications
 <p>Rajesh Doppalapudi, PE Project Manager</p> <p>Licenses: Professional Engineer CA, WA Years of Experience: 17 Contact Number: 714-593-5100</p>	<p>Rajesh Doppalapudi has more than 17 years of process engineering experience on numerous projects with particular emphasis on biosolids handling, treatment facilities, and disposal projects. Rajesh served as process design engineer for similar work at Eastern Municipal Water District, including the Perris Valley RWRf, the Moreno Valley/ Temecula Valley RWRf WAS Thickening Expansion, and the Moreno Valley RWRf Acid Phase Anaerobic Digester project. He is the project engineer for the ongoing RP-1 Capacity Recovery Project for IEUA. As project manager, Rajesh will be responsible for leading all technical work assignments and day-to-day office engineering, as well as managing the project scope, budget, and schedule.</p>
 <p>Christian Tasser, PE Project Engineer / DG to Pipeline Quality / PPA</p> <p>Licenses: Civil Engineer CA Years of Experience: 18 Contact Number: 714-593-5100</p>	<p>Christian Tasser brings 18 years of expertise in water and wastewater projects as a research and design engineer, as well as project manager. He has managed upgrades and expansions of industrial and municipal wastewater and biogas plants, including waste-to-energy facilities. He has served as project manager, project engineer, and most recently as the lead on industrial biogas plant operations and start-up of the Inland BioEnergy plant in Chino, which includes a Renewable Natural Gas project for truck fueling funded by California Energy Commission.</p>
 <p>Graham Juby, PhD, PE Principal-in-Charge</p> <p>Licenses: Civil Engineer CA; Professional Engineer TX Years of Experience: 35 Contact Number: 951-776-3955</p>	<p>Graham Juby is the head of our Inland Empire office, which is located in Riverside. He has 35 years of experience in the process design of advanced water treatment systems for water, wastewater and concentrate treatment. His technical background includes all facets of work ranging from ozone generation, dosing facilities, and biological processes for wastewater treatment including MBRs, to disinfection technologies, ion exchange, MF and RO membrane treatment systems, and electrically driven membrane technologies such as EDR. From his experiences working with IEUA, he has gained a strong understanding of the project environment, as well as developed positive working relationships with IEUA staff. This combination of institutional knowledge and positive communication skills is what makes him a trusted and credible advisor. For this project, Graham will be in the role of principal-in-charge—the same role he has for the ongoing Master Plan Update for the RWQCP and the Collection System.</p>
 <p>Tom Mossinger, PE Technical Advisor</p> <p>Licenses: Professional Engineer CA, FL, HI, IL, OR, WA; Mechanical Engineer NM, NV Years of Experience: 33 Contact Number: 925-932-1710</p>	<p>Tom Mossinger, a vice president with Carollo Engineers, is a mechanical engineer with 33 years of experience in the design of major process, pumping, and odor control, and cogeneration systems associated with water and wastewater treatment facilities. As a mechanical engineer, he provides all aspects of design services associated with the design of air, heating, cooling, power production, chemical, odor treatment, gas handling, and process solids systems including all associated subsystems. Tom has designed digester gas handling, utilization, gas conditioning, and compression systems on 50+ MW of biogas projects. He will leverage lessons learned from these previous digester gas system design and construction projects to develop reliable solutions for the project team. Tom is familiar with providing appropriate work guidance and oversight, and will leverage this expertise for all aspects of mechanical work on this project.</p>

Staff Qualifications Table

Name/Role	Qualifications
 <p>Andrew Gilmore, PE Technical Advisor</p> <p>Licenses: Civil Engineer CA, AZ, NV; Professional Engineer NM Years of Experience: 21 Contact Number: 602-263-9500</p>	<p>Andrew Gilmore is an accomplished civil engineer with more than 21 years of consulting experience including professional experience in project management, wastewater treatment process and design, construction administration, water system process and design, civil site design, and cost estimating. His expertise includes FOG biogas enhancement, food waste biogas enhancement, and cogeneration for projects such as the Waste Management and the Los Angeles County Sanitation District's Engineered Food Waste Demonstration project, as well as the Biogas Enhancement Design project for the Sacramento Regional County Sanitation District involving a permanent FOG/ food processing waste receiving station.</p>
 <p>Toby Weissert, PE, PMP Quality Assurance/Quality Control</p> <p>Licenses: Civil Engineer CA, AZ; Project Management Professional Years of Experience: 35 Contact Number: 714-593-5100</p>	<p>An associate vice president with Carollo, Toby Weissert, has more than 35 years of experience in water resources planning and design. Toby has a strong combination of experience in wastewater treatment and financial planning. His experience covers all facets of wastewater treatment facilities, including the planning and design of wastewater collection and treatment, pumping and storage facilities, and sewer and water systems inspection and analysis. His recent experience includes leading the Inland Empire Utilities Agency's (IEUA) Wastewater Facilities Master Plan Update, the RP-5 Water Reclamation Facility project and Recycled Water Facilities project, and serving as project manager for Eastern Municipal Water District's Perris Valley Regional Water Reclamation Facility 2005 Expansion and Moreno Valley Bardenpho Plant Modifications project. In all, he has led wastewater planning and design projects with constructed values of more than \$1 billion, and is well known by the City of Riverside.</p>
 <p>Rami Ghandour, PE I/C Engines & DG Pretreatment</p> <p>Licenses: Mechanical Engineer CA Years of Experience: 17 Contact Number: 714-593-5100</p>	<p>Rami Ghandour is a mechanical engineer with more than 17 years of experience in the design of process, pumping, and odor control systems associated with water and wastewater treatment facilities and systems (including five years as a design engineer in the HVAC equipment manufacturing industry). He has provided design and construction support on digester gas cogeneration systems including gas conditioning in the South Coast AQMD region, pumping and blower systems, as well as odor control and HVAC facilities.</p>
 <p>Gautam Arora, PE (Biogas Engineering) DG to Pipeline Quality</p> <p>Licenses: Civil Engineer, CA; Qualified Stormwater Developer, CA Years of Experience: 10 Contact Number: 562-726-3565</p>	<p>Gautam Arora is a senior engineer and project manager with expertise in the development, design, construction management, commissioning and operations of biogas utilization projects including high BTU, medium BTU and biogas to energy projects. With more than 10 years of experience in landfill gas (LFG) and biogas (waste water, dairy and food DG) industries, Gautam has successfully designed several different types of biogas utilization facilities. His roles and responsibilities include coordination with local municipalities, air quality management districts, and regional water quality control boards to acquire project permits; project design, construction management, commissioning and operations of these facilities.</p>
 <p>Rashmi Gupta, PE AQMD Regulations</p> <p>Licenses: Civil Engineer CA Years of Experience: 15 Contact Number: 714-593-5100</p>	<p>Rashmi Gupta has specialized in delivering sustainable solutions for biosolids management and wastewater treatment throughout her career. Rashmi is the co-chairperson of Carollo's biosolids community-of-practice, which allows her to remain current on leading technologies and changes within the biosolids management field. Through her involvement with this group and her responsibilities on various design projects, Rashmi has become a leader in solids thickening, dewatering, and digestion systems and serves as Carollo's Biosolids Lead in California.</p>