ATTACHMENT 1

CITY OF COSTA MESA
PROFESSIONAL SERVICES AGREEMENT
WITH
PACIFIC ADVANCED CIVIL ENGINEERING, INC.

THIS PROFESSIONAL SERVICES AGREEMENT ("Agreement") is made and entered into this 7th day of December, 2021 ("Effective Date"), by and between the CITY OF COSTA MESA, a municipal corporation ("City"), and PACIFIC ADVANCED CIVIL ENGINEERING, INC. a California corporation ("Consultant").

W I T N E S S E T H :

A. WHEREAS, City proposes to utilize the services of Consultant as an independent contractor to provide professional design services in connection with City's Tewinkle Park Lakes Renovation Project, as more fully described herein; and

B. WHEREAS, Consultant represents that it has that degree of specialized expertise contemplated within California Government Code section 37103, and holds all necessary licenses to practice and perform the services herein contemplated; and

C. WHEREAS, City and Consultant desire to contract for the specific services described in Exhibits "A" and "B" and desire to set forth their rights, duties and liabilities in connection with the services to be performed; and

D. WHEREAS, no official or employee of City has a financial interest, within the provisions of sections 1090-1092 of the California Government Code, in the subject matter of this Agreement.

NOW, THEREFORE, for and in consideration of the mutual covenants and conditions contained herein, the parties hereby agree as follows:

1.0. SERVICES PROVIDED BY CONSULTANT

1.1. Scope of Services. Consultant shall provide the professional services described in City's Request for Proposals, attached hereto as Exhibit "A," and Consultant's Proposal, attached hereto as Exhibit "B," both incorporated herein.

1.2. Professional Practices. All professional services to be provided by Consultant pursuant to this Agreement shall be provided by personnel experienced in their respective fields and in a manner consistent with the standards of care, diligence and skill ordinarily exercised by professional consultants in similar fields and circumstances in accordance with sound professional practices. Consultant also warrants that it is familiar with all laws that may affect its performance of this Agreement and shall advise City of any changes in any laws that may affect Consultant's performance of this Agreement.

1.3. Performance to Satisfaction of City. Consultant agrees to perform all the work to the complete satisfaction of the City. Evaluations of the work will be done by the City Manager or his or her designee. If the quality of work is not satisfactory, City in its discretion has the right to:

(a) Meet with Consultant to review the quality of the work and resolve the

matters of concern;

(b) Require Consultant to repeat the work at no additional fee until it is satisfactory; and/or

(c) Terminate the Agreement as hereinafter set forth.

1.4. Warranty. Consultant warrants that it shall perform the services required by this Agreement in compliance with all applicable Federal and California employment laws, including, but not limited to, those laws related to minimum hours and wages; occupational health and safety; fair employment and employment practices; workers' compensation insurance and safety in employment; and all other Federal, State and local laws and ordinances applicable to the services required under this Agreement. Consultant shall indemnify and hold harmless City from and against all claims, demands, payments, suits, actions, proceedings, and judgments of every nature and description including attorneys' fees and costs, presented, brought, or recovered against City for, or on account of any liability under any of the above-mentioned laws, which may be incurred by reason of Consultant's performance under this Agreement.

1.5. Non-Discrimination. In performing this Agreement, Consultant shall not engage in, nor permit its agents to engage in, discrimination in employment of persons because of their race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military or veteran status, except as permitted pursuant to section 12940 of the Government Code.

1.6. Non-Exclusive Agreement. Consultant acknowledges that City may enter into agreements with other consultants for services similar to the services that are subject to this Agreement or may have its own employees perform services similar to those services contemplated by this Agreement.

1.7. Delegation and Assignment. This is a personal service contract, and the duties set forth herein shall not be delegated or assigned to any person or entity without the prior written consent of City. Consultant may engage a subcontractor(s) as permitted by law and may employ other personnel to perform services contemplated by this Agreement at Consultant's sole cost and expense.

1.8. Confidentiality. Employees of Consultant in the course of their duties may have access to financial, accounting, statistical, and personnel data of private individuals and employees of City. Consultant covenants that all data, documents, discussion, or other information developed or received by Consultant or provided for performance of this Agreement are deemed confidential and shall not be disclosed by Consultant without written authorization by City. City shall grant such authorization if disclosure is required by law. All City data shall be returned to City upon the termination of this Agreement. Consultant's covenant under this Section shall survive the termination of this Agreement.

2.0. COMPENSATION AND BILLING

2.1. Compensation. Consultant shall be paid in accordance with the fee schedule set forth in Exhibit "C," attached hereto and made a part of this Agreement by this reference (the "Fee Schedule"). Consultant's total compensation shall not exceed One Hundred Twenty Thousand Four Hundred Twenty-Five Dollars ($120,425.00).

2.2. Additional Services. Consultant shall not receive compensation for any services provided outside the scope of services specified in the Consultant's Proposal unless the City Manager or designee, prior to Consultant performing the additional services, approves such additional services in writing. It is specifically understood that oral requests and/or approvals of such additional services or additional compensation shall be barred and are unenforceable.

2.3. Method of Billing. Consultant may submit invoices to the City for approval on a progress basis, but no more often than two times a month. Said invoice shall be based on the total of all Consultant's services which have been completed to City's sole satisfaction. City shall pay Consultant's invoice within forty-five (45) days from the date City receives said invoice. Each invoice shall describe in detail, the services performed, the date of performance, and the associated time for completion. Any additional services approved and performed pursuant to this Agreement shall be designated as "Additional Services" and shall identify the number of the authorized change order, where applicable, on all invoices.

2.4. Records and Audits. Records of Consultant's services relating to this Agreement shall be maintained in accordance with generally recognized accounting principles and shall be made available to City or its Project Manager for inspection and/or audit at mutually convenient times from the Effective Date until three (3) years after termination of this Agreement.

3.0. TIME OF PERFORMANCE

3.1. Commencement and Completion of Work. Unless otherwise agreed to in writing by the parties, the professional services to be performed pursuant to this Agreement shall commence within five (5) days from the Effective Date of this Agreement. Said services shall be performed in strict compliance with the Project Schedule approved by City as set forth in Exhibit B. The Project Schedule may be amended by mutual agreement of the parties. Failure to commence work in a timely manner and/or diligently pursue work to completion may be grounds for termination of this Agreement.

3.2. Excusable Delays. Neither party shall be responsible for delays or lack of performance resulting from acts beyond the reasonable control of the party or parties. Such acts shall include, but not be limited to, acts of God, fire, strikes, pandemics, material shortages, compliance with laws or regulations, riots, acts of war, or any other conditions beyond the reasonable control of a party (each, a "Force Majeure Event"). If a party experiences a Force Majeure Event, the party shall, within five (5) days of the occurrence of the Force Majeure Event, give written notice to the other party stating the nature of the Force Majeure Event, its anticipated duration and any action being taken to avoid or minimize its effect. Any suspension of performance shall be of no greater scope and of no longer duration than is reasonably required and the party experiencing the Force Majeure Event shall use best efforts without being obligated to incur any material expenditure to remedy its inability to perform; provided, however, if the suspension of performance continues for sixty (60) days after the date of the occurrence and such failure to perform would constitute a material breach of this Agreement in the absence of such Force Majeure Event, the parties shall meet and discuss in good faith any amendments to this Agreement to permit the other party to exercise its rights under this Agreement. If the parties are not able to agree on such amendments within thirty (30) days and if suspension of performance continues, such other party may terminate this Agreement immediately by written notice to the party experiencing the Force Majeure Event, in which case neither party shall have any liability to the other except for those rights and liabilities that accrued prior to the date of termination.

4.0. TERM AND TERMINATION

4.1. Term. This Agreement shall commence on the Effective Date and continue for a period of two (2) years, ending on December 6, 2023, unless previously terminated as provided herein or as otherwise agreed to in writing by the parties. This Agreement may be extended by two (2) additional one (1) year periods upon mutual written agreement of both parties.

4.2. Notice of Termination. The City reserves and has the right and privilege of canceling, suspending or abandoning the execution of all or any part of the work contemplated by this Agreement, with or without cause, at any time, by providing written notice to Consultant. The termination of this Agreement shall be deemed effective upon receipt of the notice of termination. In the event of such termination, Consultant shall immediately stop rendering services under this Agreement unless directed otherwise by the City.

4.3. Compensation. In the event of termination, City shall pay Consultant for reasonable costs incurred and professional services satisfactorily performed up to and including the date of City's written notice of termination. Compensation for work in progress shall be prorated based on the percentage of work completed as of the effective date of termination in accordance with the fees set forth herein. In ascertaining the professional services actually rendered hereunder up to the effective date of termination of this Agreement, consideration shall be given to both completed work and work in progress, to complete and incomplete drawings, and to other documents pertaining to the services contemplated herein whether delivered to the City or in the possession of the Consultant.

4.4. Documents. In the event of termination of this Agreement, all documents prepared by Consultant in its performance of this Agreement including, but not limited to, finished or unfinished design, development and construction documents, data studies, drawings, maps and reports, shall be delivered to the City within ten (10) days of delivery of termination notice to Consultant, at no cost to City. Any use of uncompleted documents without specific written authorization from Consultant shall be at City's sole risk and without liability or legal expense to Consultant.

5.0. INSURANCE

5.1. Minimum Scope and Limits of Insurance. Consultant shall obtain, maintain, and keep in full force and effect during the life of this Agreement all of the following minimum scope of insurance coverages with an insurance company admitted to do business in California, rated "A," Class X, or better in the most recent Best's Key Insurance Rating Guide, and approved by City:

(a) Commercial general liability, including premises-operations, products/completed operations, broad form property damage, blanket contractual liability, independent contractors, personal injury or bodily injury with a policy limit of not less than One Million Dollars ($1,000,000.00), combined single limits, per occurrence. If such insurance contains a general aggregate limit, it shall apply separately to this Agreement or shall be twice the required occurrence limit.

(b) Business automobile liability for owned vehicles, hired, and non-owned vehicles, with a policy limit of not less than One Million Dollars ($1,000,000.00), combined single limits, per occurrence for bodily injury

and property damage.

(c) Workers' compensation insurance as required by the State of California. Consultant agrees to waive, and to obtain endorsements from its workers' compensation insurer waiving subrogation rights under its workers' compensation insurance policy against the City, its officers, agents, employees, and volunteers arising from work performed by Consultant for the City and to require each of its subcontractors, if any, to do likewise under their workers' compensation insurance policies.

(d) Professional errors and omissions ("E&O") liability insurance with policy limits of not less than One Million Dollars ($1,000,000.00), combined single limits, per occurrence and aggregate. Architects' and engineers' coverage shall be endorsed to include contractual liability. If the policy is written as a "claims made" policy, the retro date shall be prior to the start of the contract work. Consultant shall obtain and maintain, said E&O liability insurance during the life of this Agreement and for three years after completion of the work hereunder.

5.2. Endorsements. The commercial general liability insurance policy and business automobile liability policy shall contain or be endorsed to contain the following provisions:

(a) Additional insureds: "The City of Costa Mesa and its elected and appointed boards, officers, officials, agents, employees, and volunteers are additional insureds with respect to: liability arising out of activities performed by or on behalf of the Consultant pursuant to its contract with the City; products and completed operations of the Consultant; premises owned, occupied or used by the Consultant; automobiles owned, leased, hired, or borrowed by the Consultant."

(b) Notice: "Said policy shall not terminate, be suspended, or voided, nor shall it be cancelled, nor the coverage or limits reduced, until thirty (30) days after written notice is given to City."

(c) Other insurance: "The Consultant's insurance coverage shall be primary insurance as respects the City of Costa Mesa, its officers, officials, agents, employees, and volunteers. Any other insurance maintained by the City of Costa Mesa shall be excess and not contributing with the insurance provided by this policy."

(d) Any failure to comply with the reporting provisions of the policies shall not affect coverage provided to the City of Costa Mesa, its officers, officials, agents, employees, and volunteers.

(e) 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.

5.3. Deductible or Self Insured Retention. If any of such policies provide for a deductible or self-insured retention to provide such coverage, the amount of such deductible or self-insured retention shall be approved in advance by City. No policy of insurance issued as to which the City

is an additional insured shall contain a provision which requires that no insured except the named insured can satisfy any such deductible or self-insured retention.

5.4. Certificates of Insurance. Consultant shall provide to City certificates of insurance showing the insurance coverages and required endorsements described above, in a form and content approved by City, prior to performing any services under this Agreement.

5.5. Non-Limiting. Nothing in this Section shall be construed as limiting in any way, the indemnification provision contained in this Agreement, or the extent to which Consultant may be held responsible for payments of damages to persons or property.

6.0. GENERAL PROVISIONS

6.1. Entire Agreement. This Agreement constitutes the entire agreement between the parties with respect to any matter referenced herein and supersedes any and all other prior writings and oral negotiations. This Agreement may be modified only in writing, and signed by the parties in interest at the time of such modification. The terms of this Agreement shall prevail over any inconsistent provision in any other contract document appurtenant hereto, including exhibits to this Agreement.

6.2. Representatives. The City Manager or his or her designee shall be the representative of City for purposes of this Agreement and may issue all consents, approvals, directives and agreements on behalf of the City, called for by this Agreement, except as otherwise expressly provided in this Agreement.

Consultant shall designate a representative for purposes of this Agreement who shall be authorized to issue all consents, approvals, directives and agreements on behalf of Consultant called for by this Agreement, except as otherwise expressly provided in this Agreement.

6.3. Project Managers. City shall designate a Project Manager to work directly with Consultant in the performance of this Agreement.

Consultant shall designate a Project Manager who shall represent it and be its agent in all consultations with City during the term of this Agreement. Consultant or its Project Manager shall attend and assist in all coordination meetings called by City.

6.4. Notices. Any notices, documents, correspondence or other communications concerning this Agreement or the work hereunder may be provided by personal delivery or mail and shall be addressed as set forth below. Such communication shall be deemed served or delivered: (a) at the time of delivery if such communication is sent by personal delivery, and (b) 48 hours after deposit in the U.S. Mail as reflected by the official U.S. postmark if such communication is sent through regular United States mail.

IF TO CONSULTANT:

Pacific Advanced Civil Engineering, Inc.
17520 Newhope Street, Suite 200
Fountain Valley, CA 92708
Tel: (714) 481-7203
Attn: Michelle Halton

IF TO CITY:

City of Costa Mesa
77 Fair Drive
Costa Mesa, CA 92626
Tel: (714) 754-5633
Attn: Seung Yang

Courtesy copy to:

City of Costa Mesa
77 Fair Drive
Costa Mesa, CA 92626
Attn: Finance Dept. | Purchasing

6.5. Drug-Free Workplace Policy. Consultant shall provide a drug-free workplace by complying with all provisions set forth in City's Council Policy 100-5, attached hereto as Exhibit "D" and incorporated herein by reference. Consultant's failure to conform to the requirements set forth in Council Policy 100-5 shall constitute a material breach of this Agreement and shall be cause for immediate termination of this Agreement by City.

6.6. Attorneys' Fees. In the event that litigation is brought by any party in connection with this Agreement, the prevailing party shall be entitled to recover from the opposing party all costs and expenses, including reasonable attorneys' fees, incurred by the prevailing party in the exercise of any of its rights or remedies hereunder or the enforcement of any of the terms, conditions, or provisions hereof.

6.7. Governing Law. This Agreement shall be governed by and construed under the laws of the State of California without giving effect to that body of laws pertaining to conflict of laws. In the event of any legal action to enforce or interpret this Agreement, the parties hereto agree that the sole and exclusive venue shall be a court of competent jurisdiction located in Orange County, California.

6.8. Assignment. Consultant shall not voluntarily or by operation of law assign, transfer, sublet or encumber all or any part of Consultant's interest in this Agreement without City's prior written consent. Any attempted assignment, transfer, subletting or encumbrance shall be void and shall constitute a breach of this Agreement and cause for termination of this Agreement. Regardless of City's consent, no subletting or assignment shall release Consultant of Consultant's obligation to perform all other obligations to be performed by Consultant hereunder for the term of this Agreement.

6.9. Indemnification and Hold Harmless. Consultant agrees to defend, indemnify, hold free and harmless the City, its elected officials, officers, agents and employees, at Consultant's sole expense, from and against any and all claims, actions, suits or other legal proceedings brought against the City, its elected officials, officers, agents and employees arising out of the negligence, recklessness, or willful misconduct of the Consultant, its employees, and/or authorized subcontractors, in the performance of the work undertaken pursuant to this Agreement. The defense obligation provided for hereunder shall apply without any advance showing of negligence or wrongdoing by the Consultant, its employees, and/or authorized subcontractors, but shall be required whenever any claim, action, complaint, or suit asserts as its basis the negligence, errors, omissions or misconduct of the Consultant, its employees, and/or authorized subcontractors, and/or whenever any claim, action, complaint or suit asserts liability against the City, its elected officials, officers, agents and employees based upon negligence, recklessness, or willful misconduct in the work performed by the Consultant, its employees, and/or authorized subcontractors under this Agreement, whether or not the Consultant, its employees, and/or authorized subcontractors are specifically named or otherwise asserted to be liable. Notwithstanding the foregoing, the Consultant shall not be liable for the defense or indemnification

of the City for claims, actions, complaints or suits arising out of the sole active negligence or willful misconduct of the City. In no event shall the cost to defend charged to Consultant exceed Consultant's proportionate percentage of fault. However, notwithstanding the previous sentence, in the event one or more defendants is unable to pay its share of defense costs due to bankruptcy or dissolution of the business, Consultant shall meet and confer with other parties regarding unpaid defense costs. This provision shall supersede and replace all other indemnity provisions contained either in the City's specifications or Consultant's Proposal, which shall be of no force and effect.

6.10. Independent Contractor. Consultant is and shall be acting at all times as an independent contractor and not as an employee of City. Consultant shall have no power to incur any debt, obligation, or liability on behalf of City or otherwise act on behalf of City as an agent. Neither City nor any of its agents shall have control over the conduct of Consultant or any of Consultant's employees, except as set forth in this Agreement. Consultant shall not, at any time, or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of City. Consultant shall secure, at its sole expense, and be responsible for any and all payment of Income Tax, Social Security, State Disability Insurance Compensation, Unemployment Compensation, and other payroll deductions for Consultant and its officers, agents, and employees, and all business licenses, if any are required, in connection with the services to be performed hereunder. Consultant shall indemnify and hold City harmless from any and all taxes, assessments, penalties, and interest asserted against City by reason of the independent contractor relationship created by this Agreement. Consultant further agrees to indemnify and hold City harmless from any failure of Consultant to comply with the applicable worker's compensation laws. City shall have the right to offset against the amount of any fees due to Consultant under this Agreement any amount due to City from Consultant as a result of Consultant's failure to promptly pay to City any reimbursement or indemnification arising under this paragraph.

6.11. PERS Eligibility Indemnification. In the event that Consultant or any employee, agent, or subcontractor of Consultant providing services under this Agreement claims or is determined by a court of competent jurisdiction or the California Public Employees Retirement System (PERS) to be eligible for enrollment in PERS as an employee of the City, Consultant shall indemnify, defend, and hold harmless City for the payment of any employee and/or employer contributions for PERS benefits on behalf of Consultant or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of City.

Notwithstanding any other agency, state or federal policy, rule, regulation, law or ordinance to the contrary, Consultant and any of its employees, agents, and subcontractors providing service under this Agreement shall not qualify for or become entitled to, and hereby agree to waive any claims to, any compensation, benefit, or any incident of employment by City, including but not limited to eligibility to enroll in PERS as an employee of City and entitlement to any contribution to be paid by City for employer contribution and/or employee contributions for PERS benefits.

6.12. Cooperation. In the event any claim or action is brought against City relating to Consultant's performance or services rendered under this Agreement, Consultant shall render any reasonable assistance and cooperation which City might require.

6.13. Ownership of Documents. All findings, reports, documents, information and data including, but not limited to, computer tapes or discs, files and tapes furnished or prepared by

Consultant or any of its subcontractors in the course of performance of this Agreement, shall be and remain the sole property of City. Consultant agrees that any such documents or information shall not be made available to any individual or organization without the prior consent of City. Any use of such documents for other projects not contemplated by this Agreement, and any use of incomplete documents, shall be at the sole risk of City and without liability or legal exposure to Consultant. City shall indemnify and hold harmless Consultant from all claims, damages, losses, and expenses, including attorneys' fees, arising out of or resulting from City's use of such documents for other projects not contemplated by this Agreement or use of incomplete documents furnished by Consultant. Consultant shall deliver to City any findings, reports, documents, information, data, in any form, including but not limited to, computer tapes, discs, files audio tapes or any other Project related items as requested by City or its authorized representative, at no additional cost to the City.

6.14. Public Records Act Disclosure. Consultant has been advised and is aware that this Agreement and all reports, documents, information and data, including, but not limited to, computer tapes, discs or files furnished or prepared by Consultant, or any of its subcontractors, pursuant to this Agreement and provided to City may be subject to public disclosure as required by the California Public Records Act (California Government Code section 6250 *et seq*.). Exceptions to public disclosure may be those documents or information that qualify as trade secrets, as that term is defined in the California Government Code section 6254.7, and of which Consultant informs City of such trade secret. The City will endeavor to maintain as confidential all information obtained by it that is designated as a trade secret. The City shall not, in any way, be liable or responsible for the disclosure of any trade secret including, without limitation, those records so marked if disclosure is deemed to be required by law or by order of the Court.

6.15. Conflict of Interest. Consultant and its officers, employees, associates and subconsultants, if any, will comply with all conflict of interest statutes of the State of California applicable to Consultant's services under this agreement, including, but not limited to, the Political Reform Act (Government Code sections 81000, *et seq*.) and Government Code section 1090. During the term of this Agreement, Consultant and its officers, employees, associates and subconsultants shall not, without the prior written approval of the City Representative, perform work for another person or entity for whom Consultant is not currently performing work that would require Consultant or one of its officers, employees, associates or subconsultants to abstain from a decision under this Agreement pursuant to a conflict of interest statute.

6.16. Responsibility for Errors. Consultant shall be responsible for its work and results under this Agreement. Consultant, when requested, shall furnish clarification and/or explanation as may be required by the City's representative, regarding any services rendered under this Agreement at no additional cost to City. In the event that an error or omission attributable to Consultant occurs, then Consultant shall, at no cost to City, provide all necessary design drawings, estimates and other Consultant professional services necessary to rectify and correct the matter to the sole satisfaction of City and to participate in any meeting required with regard to the correction.

6.17. Prohibited Employment. Consultant will not employ any regular employee of City while this Agreement is in effect.

6.18. Order of Precedence. In the event of an inconsistency in this Agreement and any of the attached Exhibits, the terms set forth in this Agreement shall prevail. If, and to the extent this Agreement incorporates by reference any provision of any document, such provision shall be deemed a part of this Agreement. Nevertheless, if there is any conflict among the terms and

conditions of this Agreement and those of any such provision or provisions so incorporated by reference, this Agreement shall govern over the document referenced.

6.19. Costs. Each party shall bear its own costs and fees incurred in the preparation and negotiation of this Agreement and in the performance of its obligations hereunder except as expressly provided herein.

6.20. Binding Effect. This Agreement binds and benefits the parties and their respective permitted successors and assigns.

6.21. No Third Party Beneficiary Rights. This Agreement is entered into for the sole benefit of City and Consultant and no other parties are intended to be direct or incidental beneficiaries of this Agreement and no third party shall have any right in, under or to this Agreement.

6.22. Headings. Paragraphs and subparagraph headings contained in this Agreement are included solely for convenience and are not intended to modify, explain or to be a full or accurate description of the content thereof and shall not in any way affect the meaning or interpretation of this Agreement.

6.23. Construction. The parties have participated jointly in the negotiation and drafting of this Agreement and have had an adequate opportunity to review each and every provision of the Agreement and submit the same to counsel or other consultants for review and comment. In the event an ambiguity or question of intent or interpretation arises with respect to this Agreement, this Agreement shall be construed as if drafted jointly by the parties and in accordance with its fair meaning. There shall be no presumption or burden of proof favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Agreement.

6.24. Amendments. Only a writing executed by the parties hereto or their respective successors and assigns may amend this Agreement.

6.25. Waiver. The delay or failure of either party at any time to require performance or compliance by the other of any of its obligations or agreements shall in no way be deemed a waiver of those rights to require such performance or compliance. No waiver of any provision of this Agreement shall be effective unless in writing and signed by a duly authorized representative of the party against whom enforcement of a waiver is sought. The waiver of any right or remedy in respect to any occurrence or event shall not be deemed a waiver of any right or remedy in respect to any other occurrence or event, nor shall any waiver constitute a continuing waiver.

6.26. Severability. If any provision of this Agreement is determined by a court of competent jurisdiction to be unenforceable in any circumstance, such determination shall not affect the validity or enforceability of the remaining terms and provisions hereof or of the offending provision in any other circumstance. Notwithstanding the foregoing, if the value of this Agreement, based upon the substantial benefit of the bargain for any party, is materially impaired, which determination made by the presiding court or arbitrator of competent jurisdiction shall be binding, then both parties agree to substitute such provision(s) through good faith negotiations.

6.27. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original. All counterparts shall be construed together and shall constitute one agreement.

6.28. Corporate Authority. The persons executing this Agreement on behalf of the parties hereto warrant that they are duly authorized to execute this Agreement on behalf of said parties and that by doing so the parties hereto are formally bound to the provisions of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by and through their respective authorized officers, as of the date first above written.

CONSULTANT

_____ Date: _____
Signature

_____
[Name and Title]

CITY OF COSTA MESA

_____ Date: _____
Lori Ann Farrell Harrison
City Manager

ATTEST:

_____
Brenda Green
City Clerk

APPROVED AS TO FORM:

_____ Date: _____
Kimberly Hall Barlow
City Attorney

APPROVED AS TO INSURANCE:

_____ Date: _____
Ruth Wang
Risk Management

APPROVED AS TO CONTENT:

_____ Date: _____

Seung Yang
Project Manager

DEPARTMENTAL APPROVAL:

_____ Date: _____

Raja Sethuraman
Public Services Director

APPROVED AS TO PURCHASING:

_____ Date: _____

Carol Molina
Finance Director

ATTACHMENT 1

EXHIBIT A

REQUEST FOR PROPOSALS

ATTACHMENT 1

CITY OF COSTA MESA

P.O. BOX 1200 • 77 FAIR DRIVE • CALIFORNIA 92628-1200

FROM THE DEPARTMENT OF PUBLIC SERVICES/ENGINEERING DIVISION

May 14, 2021

SUBJECT: **REQUEST FOR PROPOSALS (RFP) TO PROVIDE PROFESSIONAL DESIGN SERVICES FOR THE RENOVATION OF THE ORNAMENTAL LAKES AT TEWINKLE PARK**

Dear Consultant:

The City of Costa Mesa is requesting a proposal from your firm to provide professional design services, for the design of a complete renovation for the existing ornamental lakes and water features at TeWinkle Park, 970 Arlington Avenue, Costa Mesa. The schedule is as follows:

SCHEDULE		**DATE**
1. Deadline for Inquiries or Request for Information	5:00 p.m.	05/03/21
2. *Non-mandatory Job Walk	9:30 a.m.	05/19/21
3. Proposal Submission DUE DATE	5:00 p.m.	05/26/21
4. City Council Award (Professional Services Agreement)		07/06/21
5. Kick-off meeting		08/16/21

Enclosed is a Request for Proposal to provide professional services for the subject project. The proposal requirements and the necessary professional services required by the City are stated within the RFP. The consultant shall provide all services as requested in the RFP and stated in the submitted proposal.

CITY OF COSTA MESA CONTACT PERSON

The City of Costa Mesa contact person for this project is Bart Mejia. All inquiries shall be submitted in writing and via Planet Bids by 5:00 p.m., on May 26, 2021. Inquiries submitted other than via Planet Bids will not receive a response.

PROPOSAL SUBMITTAL REQUIREMENTS

Proposals shall be submitted electronically via PlanetBids:
https://www.planetbids.com/portal/portal.cfm?CompanyID=45476
No other form of submittal shall be accepted by the City.

FEE PROPOSAL
Fee Proposals shall be submitted in a separate file electronically via PlanetBids:
https://www.planetbids.com/portal/portal.cfm?CompanyID=45476

****A non-mandatory job walk is scheduled for Wednesday, May 19, 2021, at 9:30 a.m. at the following location: TeWinkle Park, 970 Arlington Drive, Costa Mesa, CA 92636. Meet in the parking lot closest to the intersection of Junipero Drive and Arlington Drive.***

Your participation is greatly appreciated by the City. It is the intent of this RFP to establish the minimum consultant services required by the City. To assist in your preparation, this RFP was categorized into sections stating the specific requirements of the City. All insurance documents must be submitted and approved prior to the award of contract.

Sincerely,

Seung Yang, P.E.
City Engineer

1. INTRODUCTION

The City of Costa Mesa, California (City) is soliciting Request for Proposals (RFP) for selection of a design firm for the repair and renovation of the TeWinkle Park Lakes.

The artificial TeWinkle Park Lakes consist of two lakes, two ponds, an intermediate pond, five streams, 1.91 acres of water surface and 3,249 feet of shoreline. A partial renovation of the lakes was undertaken in 2004. Since then, damaging water leakage has occurred out of Lakes #1 and #2, water wash-out continues to undermine the surrounding soil and areas, the Intermediate Pond, Streams #3 and #5, and the Dual Streams were not re-constructed during the renovation and are not waterproofed. In addition, excessive water percolation and infiltration losses into the soil below and surrounding them occurs when water enters into them. Pumps have been damaged and the aeration and ozone systems are not operational. The gravel bed biological filter has been damaged, and water circulation pumps are not fully operational. A copy of the most current record drawings for the lakes will be provided for reference.

This RFP includes professional design and construction support services; working closely with City project staff; preparation of the construction documents constructability analysis; prime contractor prequalification; review and analysis of general contractor bid proposals; and project close-out and post job walks for the project and related site improvements.

The objective of this RFP is for the City to identify and select a design firm (with a proven track record by both the firm and the individuals to be assigned to the project) to provide comprehensive design services. The selected firm and identified staff shall demonstrate strong knowledge and background in design and renovation of lakes/pond systems and municipal public works projects; be capable of providing leadership to the entire design team and be able to work in close partnership with City staff;. Strong organization, documentation and communication skills are also a must to be considered for selection.

2. CONTENT OF PROPOSAL

To maintain uniformity, your proposal must be limited to a ***maximum of 25 pages*** (excluding front and back covers, section dividers, resumes, and photographs) and include the following:

Statement of project understanding containing any suggestions to expedite the project or additional concerns that the City should be made aware of, and a project approach containing any scope of work tasks you feel are necessary for the successful completion of the project indicated as line items with appropriate fee associated to the item provided in the fee schedule and separately.

A project team organization chart identifying those who will perform work, and a brief resume of each team member, including similar type projects in which they have been directly involved. Identify the Project Manager for this project. The Project Manager will be the primary contact person to represent your firm and to conduct the presentation, if invited for an interview. Sub-consultants, if any, shall be identified in the proposal with the same requirements as for the main consultant.

A list of similar projects that your firm has completed within the last five years. Information of the completed projects should include project name and description, agency or client name along with the person to contact and telephone number, year completed, fee, and project construction cost.

A proposed schedule indicating stages of work, time frames, and ability to perform the required services in a timely manner.

A fee proposal provided in a separate electronic file.

3. CONSULTANT SELECTION COMMITTEE

The Public Services Department of the City of Costa Mesa has established a Consultant Selection Committee consisting of members from this department who have acted in the capacity of Project Manager or Project Engineer for the City on previous similar projects. The evaluation of each proposal will be based on the technical information and qualifications presented in the proposal, reference checks, and other information, which will be gathered independently.

4. FEE PROPOSAL

A. One separate electronic fee schedule for the project shall be submitted in a separate electronic file labeled "Fee Proposal" with your company's name and the project title.

B. A cover letter stating the not-to-exceed total lump sum fee.

C. The fee schedules shall depict individual project tasks, and the basic hourly rates for specific personnel to be used on the project. The specific hourly rates shall include direct salary costs, employee benefits, overhead, and profit. Travel time will not be allowed. The fee proposal shall reflect all anticipated fee increases during the contract duration. A pre-award audit may be required to confirm and establish a final fee schedule.

D. It is requested that the fee includes all meetings, reproduction, materials, mailings, and associated project expenses.

5. ESTABLISHMENT OF FEES

The fee proposal will not be opened until the Consultant Selection Committee has evaluated the consultants' submitted proposals. In conformance with the Mini-Brooks Act, the City will select the Consultant based on qualifications, and then negotiate a contract price based on available funding and a further breakdown of the "not-to-exceed" fee submitted in the fee proposal.

6. PROFESSIONAL SERVICES AGREEMENT

City of Costa Mesa has a sample of the Professional Services Agreement, which is available at the City for your review. The RFP's and the consultant's proposal will be attached to and become part of the executed agreement as exhibits.

The City will not permit reduction in the City's "Scope of Consultant Services" without written approval.

7. INSURANCE REQUIREMENTS

General Liability:	$1,000,000
Automobile Liability:	$1,000,000
Workers Compensation and Employers' Liability:	$1,000,000
Professional Liability:	$1,000,000

Additional and primary Insurance endorsements shall include the City of Costa Mesa.

8. SCOPE OF CONSULTANT SERVICES

A. Project Analysis and Review:

Analyze the project, perform field review and investigations, evaluate existing conditions, research existing plans and records, and meet with City staff to define the detailed project scope and objectives.

Consultant shall review all existing information such as plans, maintenance records, and any other information needed to evaluate current lake system.

Consultant shall perform a site visit to review all of the issues that need to be identified and addressed in the TeWinkle Park Lake System Master Plan. Also, discuss lake system issues with any and all responsible parties to include City staff and lake personnel excluding personnel currently performing daily lake maintenance.

Consultant shall determine, analyze, and prioritize all items of the lake system that need to be identified and fixed.

Consultant shall determine all of the equipment that can be salvaged and reused from the existing system.

Consultant shall create a list and description of water quality enhancements that shall be incorporated into the final report. Some of these water quality enhancements include biofiltration, plantings, skimmers, liner (to eliminate seepage and be maintenance friendly), shoreline, circulation, and aeration.

Note that the lakes and streams are under the jurisdiction of the United States Fish and Wildlife Service (USFWS). The selected consultant will be tasked with the coordination and permit processing with USFWS.

B. Plans:

1. The consultant shall prepare construction drawings containing title sheet, general note sheet, plan sheets, typical cross section sheets, and detail sheets for the project. The title sheet shall contain a vicinity map and location map for the project. Scale for plan and profile drawings shall be as follows: Horizontal: 1” = 20’; Vertical: 1” = 2’. Scale for detail drawings shall be as follows: Horizontal: 1” = 10’; Vertical: 1” = 1’.

2. The consultant shall plot typical cross sections on Mylar illustrating existing and proposed conditions. The typical cross sections shall include existing and proposed elevations, stations, percent cross slopes, labeling, other information as outlined in the

above Design Survey Section, and other required information at the following scales: Horizontal: 1" = 10'; Vertical: 1" = 1'.

3. The consultant shall plot existing improvements in broken or screened lines and place existing elevations in parenthesis.
4. The consultant shall incorporate the following minimum information on plan views: right-of-way (ROW), property lines, existing AC and PCC improvements, and all existing structures (power poles, storm channels, fences, trees, plants, grass, walkways, pull boxes, and sprinkler systems).

C. Specifications:

Prepare complete project specifications including Special Provisions (including permits from other agencies) and Proposal forms in a format consistent with current City projects. Copies of Standard General Provisions and Construction Contract Agreement will be supplied by the City for incorporation into construction documents. A description for each bid item will be required.

D. Preparation of Environmental Related Documents:

This includes any and all preparation, research, and execution of, *but not limited to*, National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) documents and regulatory compliance. The selected consultant shall coordinate with all government and non-government agencies in procuring, processing, and executing all the requirements related to environmental compliance. The selected consultant will bear the responsibility in competently executing all the necessary aforementioned environmental documentation.

E. Process and Obtain Permits from Regulatory Agencies:

This includes the application, processing, and procurement of any and all permits, agreements, licenses, etc., from all the relevant departments in the City of Costa Mesa, as well as from different federal, state, and local government agencies that pertain to this project. The selected consultant will bear the responsibility in competently procuring all the necessary aforementioned permits.

F. Surveying:

This includes all field work, research, and development of topographic, boundary, and property line surveys and base maps. Work in this area will conform to City of Costa Mesa standards, which will be provided to the selected consultant. All surveys will be created using the latest version of AutoCAD and on full-sized 24" X 36" (ARCH D) sheets. Upon completion, said AutoCAD files will be transferred to the City.

G. Geotechnical Investigation:

This includes all field work, research, and development of geotechnical analysis. Borings and samples will be undertaken and all data related to this section will be transferred to the City. All investigations and site work will be done in accordance with state and local standards, and a final comprehensive geotechnical report will be given to the City.

H. Utility Coordination:

This includes complete, full, and comprehensive utility research, analysis, and coordination. The selected consultant will contact each and every utility company or agency to ascertain all relevant date and information related to this project. The City will provide to the selected consultant all the utility contacts for this specific task. The selected consultant will bear the responsibility in competently procuring all the necessary utility information.

I. Presentations:

The selected consultant will prepare any and all presentations to news organizations, public civic groups, City Council, commissions and committees, and to City staff. Presentations may include, but not limited to: PowerPoint, drawing boards with easels, coordination with other agencies, three dimensional renderings, models, props, etc.

J. Quantity and Cost Estimates:

Provide complete preliminary and final construction quantity and cost estimates for each one of the proposed phases. A preliminary estimate shall be provided at 70% and 100% complete submittals and a final estimate upon final submittal. With the final submittal, color-code one set of blue lines showing one color for each item of construction with dimensions, areas, quantities, and other items for each sheet, showing total quantities for each item on the first sheet. These quantities shall match the proposed final quantities. In addition, quantity takeoff sheets shall be provided by the consultant to aid the City during construction.

K. Construction Documents:

Plans and specifications shall comply with standard drawings and specifications of the City of Costa Mesa and other agencies as applicable.

All construction drawings shall be provided to the City on four mil thick, erasable Mylar sheets; and in electronic formats (in native programs like ACAD, MS Word, etc) and searchable PDF

Prepare one Resident Engineer's file. The file must contain a minimum of the following: preliminary and final construction quantities and cost estimates and updates, quantity takeoff sheets, calculation documents, fieldwork information, meeting minutes, utility coordination correspondence, geotechnical documents, and all other related correspondence. The consultant shall submit this file to the City in conjunction with the final submittal.

L. Project Document Submittal and Plan Information:

1. <u>Project Initialization and General Requirements:</u>

   a. Develop Project Schedule and Staffing Requirements.
   b. Submit Monthly Progress Reports to the City.
   c. Participate in Periodic Meetings with City staff.
   d. Any permits required for the project shall be obtained by the CONSULTANT. City will pay any fees to the respective agencies.

e. Fieldwork will be conducted Monday through Friday from 7:00 a.m. to 5:00 p.m. or as authorized by the City. The City shall be made aware of work conducted outside of normal hours prior to commencement of said work. No work will be conducted outside of normal hours without City approval.

2. Preliminary Engineering – 70% Complete PS&E's:
   a. Conduct all topographic and property surveys and combine with available topographic surveys to create of base maps for the project.
   b. Conduct all geotechnical investigations necessary for the construction of the project.
   c. The selected CONSULTANT shall review field conditions with respect to storm drain maps and irrigation plans provided by the City and report any configuration errors or inconsistencies to the City for clarification or correction.
   d. Prepare Base Maps,.
   e. This submittal must include all the proposed improvements, construction notes and as many details as possible.
   f. Preliminary engineer's estimate

3. Preliminary Engineering – 100% Complete PS&E's:
   a. CONSULTANT shall address any comments from the City or other agencies generated from the 70% submittal.
   b. Based on the input received from the previous submittal, complete the design and prepare final PS&E's.
   c. Submit construction documents to the City of Costa Mesa Building Division and to other agencies and utility companies for review and to obtain preliminary approvals.
   d. Submit draft Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) in compliance with local, state and federal requirements.

4. Preliminary Engineering – Final PS&E's:
   a. CONSULTANT shall address any comments from the City or other agencies generated from the previous plan check.
   b. Submit final set of PS&E's (printed and electronic formats) complete with the necessary instructions and details to carry out the work in accordance with the approved construction phasing. The final set of plans shall be printed on reproducible Mylar with each sheet stamped and signed.
   c. Submit final construction permits.
   d. Submit final SWPPP.

7. Deliverables:
   The CONSULTANT shall provide the City with the following:
   a. For progress plan check submittals, in addition to the printed copies submitted for this phase, all plans and reports must also be submitted in electronic format (e.g. AutoCAD, Microsoft Word, Microsoft Excel).
   b. For the final construction and environmental documents, and supporting calculations, in addition to the printed copies submitted for this phase, all plans and reports must be submitted in electronic format (e.g. AutoCAD, Microsoft Word, Microsoft Excel).
   c. Approved permits.

The following are the typical services and deliverables anticipated for this project.

Other Meetings: Attend other construction-related meetings as requested by the City.
Other Services: If you believe there are other services that are directly related to project management administrative support services and that are not specifically listed above please indicate these services in your proposal.

9. EXAMINATION OF SITE PRIOR TO SUBMITTING PROPOSAL

Each consultant must fully know all project conditions and the effort required to successfully complete the project. Failure to do so will not relieve the selected consultant of the obligations to carry out the contract.

10. RIGHT TO REJECT ALL PROPOSALS

The City of Costa Mesa reserves the right to reject any or all proposals submitted, and no representation is made hereby that any contract will be awarded pursuant to this RFP's or otherwise. The City also reserves the right to award a portion of work or combination, thereof.

All costs incurred in the preparation of the proposal, the submission of additional information and/or any aspect of a proposal prior to award of a written contract will be borne by the consultant. The City will provide only the staff assistance and documentation specifically referred to herein and will not be responsible for any other cost or obligation of any kind that may be incurred by the consultant. All proposals submitted to the City of Costa Mesa become the property of the City.

11. SUMMARY

The City appreciates your participation, and the intent of this RFPs is to establish the minimum consultant services required. Prior to awarding a contract, all insurance documents must be submitted and approved.

Attachment: 1. City Standard Agreement
2. Certificate of Insurance Forms

ATTACHMENT 1

EXHIBIT B

CONSULTANT'S PROPOSAL

ATTACHMENT 1

PROFESSIONAL DESIGN SERVICES PROPOSAL
FOR THE THE RENOVATION OF THE

ORNAMENTAL LAKES

AT TEWINKLE PARK

PREPARED FOR:

Attn: Robert Ryan
City of Costa Mesa
77 Fair Drive, CA 92628

PREPARED BY:

PACE
Advanced Water Engineering
17520 Newhope St, Ste 200
Fountain Valley,CA 92708
714.481.7300 | pacewater.com

B836 | JUNE 3RD, 2021

ATTACHMENT 1

PACE
Advanced Water Engineering

June 3, 2021

Robert Ryan
City of Costa Mesa, 77 Fair Drive, CA, 92628

Re: Professional Design Services Proposal for the Renovation of the

Ornamental Lakes at Tewinkle

Robert,

PACE understands the City of Costa Mesa desires to renovate the two Tewinkle Park lakes to enhance the aesthetic and functions of the lake system at this popular community park. ***We have assembled a team with over 30 years of experience in manmade lakes that offer strategies and solutions to apply the desired improvements to the Tewinkle Park Lakes most cost-effectively.*** We understand the City desires to maintain the unique and naturalized character that attracts many community visitors while increasing the system's longevity by addressing the deficiencies of the current system's shoreline, liner, water quality management, and circulation. Additionally, there are opportunities to reduce the impacts from waterfowl by designing methods to direct them to specific locations and reduce their densities. Both the water quality and landscaping would benefit from these approaches.

The PACE team offers an ideal mix of expertise, experience, and background in lake systems and municipal water infrastructure to accomplish your project goals effectively. Key benefits our team offers include:

- Experience designing over 1,000 manmade lake systems
- Vast lake design resource library
- Strong relationship with local water feature equipment vendors and contractors
- Accurate cost estimating by partner water feature contractor firm
- Proven strategies or deterring excessive waterfowl
- Effective water quality management system design strategies
- Ideal mix of expertise in water quality, aquaculture, pumping/ mechanical systems, shoreline, lining, etc.
- Vast experience with a wide range of water systems
- Sustainability focused design approaches
- Streamlined permitting process

Our team subconsultants will support survey, geotechnical (if needed), and environmental permitting needs, and we have successful collaboration experience with all of these firms. Further, we developed a permitting approach that will streamline the project delivery and minimize costs to the City.

We prepared our enclosed proposal by closely following the requirements of the RFP. As Project Manager, I will be your main point of contact and pride myself in hyper-responsiveness and strong collaboration. In addition, as a resident of Costa Mesa, I will take personal pride in supporting this important community benefit project. We look forward to your review of our proposal and collaborating with the City to achieve all project goals.

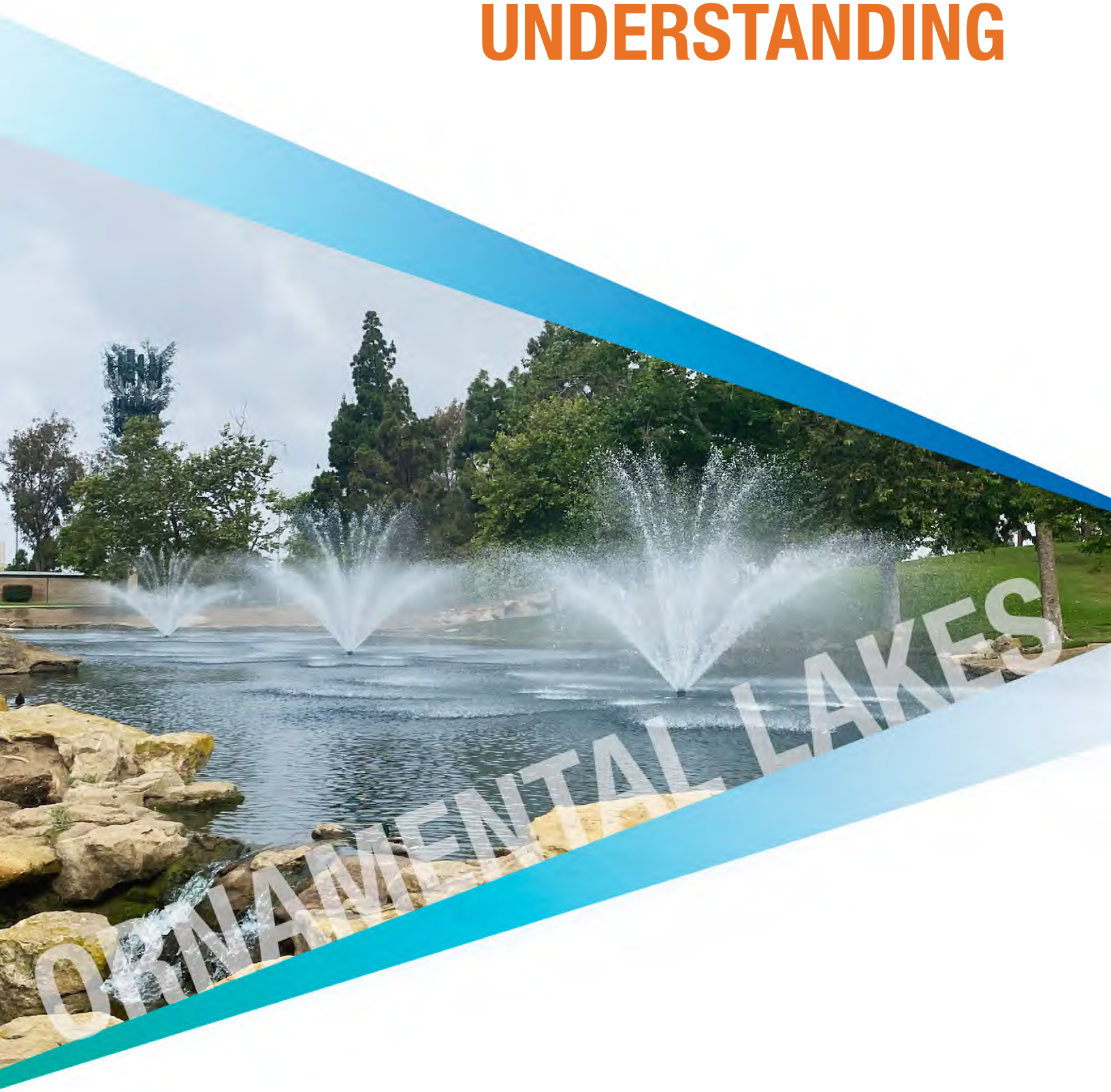
Andy Komor, MS, PE
Vice President, Environmental Water Division

mobile: (714) 514-8919 *office: (714) 481-7225* *e-mail: akomor@pacewater.com*
17520 Newhope Street, Suite 200 - Fountain Valley, CA 92708

contents

ATTACHMENT 1

PROJECT
UNDERSTANDING



PROJECT **UNDERSTANDING**

The Tewinkle Park's lakes and surrounding features are an important signature park location for the City of Costa Mesa. The lakes provide an exciting place for children to interact with wildlife, allow passive and active recreation in a natural environment, and provide interesting features, including cascading waterfalls and meandering walking paths. The essence of the park and water features creates a unique experience for the community, but the park lakes need rehabilitation to improve the experience, the consistency of operation, and minimize maintenance.

DEBRIS AND SLUDGE BUILD-UP

Currently, the two lakes, the Lake #1 and Lake #2, are relatively small at two acres combined, and due to their small size, they are shallow and filled with organic debris and sludge from the many years of operation. Much of the sludge is caused by the excrement of dozens of waterfowl present at the park, and the digested material from natural decay of this material. This material contains very high concentrations of nutrients that cause excessive aquatic growth.

Waterfowl reside throughout the park with no barriers or deterrents. Visitors also encourage their inhabitance by feeding them throughout the day.

Surrounding sidewalk walking paths have excessive waterfowl excrement from lack of designated waterfowl area.

SHORELINE DAMAGED

At the end of their useful life, the lakes' shorelines are damaged and do not fit with the natural feeling of the park's architecture. Surrounding the shorelines is primarily dirt and mud caused by waterfowl damage. The sidewalk paths also have waterfowl excrement that requires frequent cleaning. During the site visit on 5/19/21, City staff indicated they did not want landscape architecture design as part of the renovation scope of services. The shoreline damage is exasperated by turtles that currently burrow into the shoreline, likely at locations where the shotcrete shoreline has eroded away.

The existing shorelines and edges are damaged and at the End of their useful life, and lack of landscaping creates muddy condition.

FOUNTAINS POPULAR, BUT POSE SAFETY THREAT FROM OVERSPRAY

Six in-lake spray fountains are used on a timer to provide aesthetic noise and beauty and deter waterfowl. The spray fountains are supposed to be controlled such that during high wind events, they are not operated. However, during a site reconnaissance visit on a recent windy day, they appeared to operate during high winds with overspray blowing outside of the lake shoreline boundary. The spray from the fountains can create health and safety issues.

The existing six fountain spray systems are popular features activated on a timer and push water onto the shore during minor wind events.

RECIRCULATION PIPING FLOATING AND PUMPS EXPERIENCING CAVITATION

The existing recirculation system draws water from Lake #1 and discharges to the top of either Pond #1/Stream #4 or the Pond #2/Stream #5, which was not operational at the time of the site walk due to pump cavitation issues. Recirculated water from the ponds/streams discharge into Lake #2 and overflow into additional waterfalls into Lake #1. Existing schedule 40 PVC recirculation piping previously installed on the bottom of the lakes is floating to the surface and requires repair or replacement. Also, not all recirculation pumps are currently operational due to cavitation issues.

The Existing PVC recirculation piping is not properly secured to the bottom of the lake and requires replacement.

PROJECT **GOALS**

Based on the RFP documents and discussions with City staff during the site visit on 5/19/21, PACE ascertained the following project goals:

1. Replace existing shoreline with durable shoreline.
2. Replace lining system with a system that will prevent water seepage.
3. Replace circulation and water quality management systems.
4. Include surface fountains.
5. Maintain character of the system (i.e., boulders, naturalized feel, walkability and accessibility).
6. Maintain existing footbridges and piers, and coordinate the lake renovation with the replacement of the bridge crossing Pond #1.
7. Promote community safety.
8. Enhance wildlife management, including measures to reduce the nuisances associated with waterfowl habitation.
9. Use as much existing infrastructure as possible while extending the useful life of the system.
10. Improve ease of operation with measures such as remote-access controls.
11. Reduce operations and maintenance requirements and costs.
12. Develop a plan that is cost-effective to construct and energy efficient/ cost-effective to operate.

PROJECT **APPROACH**

We look forward to working closely with the City to develop concepts for improving the lake and park site to deliver on all project goals. The following are descriptions of approaches we could take to enhance the lake system. These approaches will be further developed in consultation with City staff to ensure alignment with project goals. Generally, there are opportunities at the park as described as follows:

01 Detailed Initial Assessment to Establish Proper Goals and Expectations

The assessment of the existing lake system will include a review of available data, detailed site reconnaissance, and in-depth discussion with pertinent City staff members so that the project's goals are well-defined, and all of the pertinent issues to resolve are properly understood. Examples of specific insight the consultant team desires to gain include:

a. Desired improvements to day-to-day and long-term O&M "wish list"
b. Importance of protecting existing vegetation that could be impacted by lake renovation construction
c. Visitor lake experience desired
d. Water quality objectives
e. Ease / automation of operations

02 Develop Program for Efficient Removal of Lake Bottom Material

Similar to the Villa Venetia Apartment complex (Adams Ave and Mesa Verde Dr.) lake renovation project that PACE led, it is important to efficiently treat / oxidize the accumulated material on the bottom to allow for proper removal with minimal water and odor. Various dewatering techniques can be provided, including geotechnical bags and filter press systems. The demolition and dredging of materials shall be provided in a safe, organized, and efficient manner while minimizing disturbance to the park.

03 Optimize the Separation of Humans and Waterfowl

There is an opportunity to designate and encourage waterfowl to inhabit specific areas. Waterfowl can be encouraged to specific locations through shoreline access and ground materials and potentially provide netting so that they will stay within areas separate from walking pathways and landscaping. The shape of the center island could be reconfigured to promote its use. Heavily trafficked waterfowl "zones" could be outfitted with geofabrics and artificial vegetation/turf products to allow for ease of cleaning and prevent erosion and muddy conditions. Shoreline access can be encouraged or discouraged by creating specific areas where waterfowl can easily walk in and out of the lakes and other specific areas where there are physical barriers that prevent access. If access on foot is prevented, waterfowl will relocate to other areas where access is direct between land and water. Barriers could be boulders or vegetation in or outside of the lake edge.

04 Deepen Depth of Lakes and Reduce Stagnation

The existing lakes do not have sufficient volume to dilute high in-loads of nutrients. They also have insufficient depth to discourage photosynthesis. When cleaning and dredging the lakes and replacing the shorelines, there is an opportunity to re-orientate the shorelines to improve depth and circulation to prevent stagnant areas. Potentially the shoreline could be expanded in some areas to closer to the walking paths to prevent turf degradation between the paths and the shoreline. Additionally, the flows could be routed clockwise from the northwest creek to the east interlake waterfall / bridge for part of the day, and counterclockwise from the northeast creek to the west interlake / bridge for part of the day to promote better circulation.

Conceptual circulation flow routing layout that minimizes piping and optimizes circulation for water quality benefit.

05 Install Blend of Shorelines for Various Purposes

A new set of shorelines can provide important variety and naturalize the look and feel of the lakes. Potentially three or four different non-erodable shorelines can be incorporated, including a natural edge gabion wall, a natural-looking bulkhead rock (such as the Costa Mesa Public Golf Course Mesa Linda Hole 8), vegetated areas, and shallow reinforced turf entry areas for waterfowl to enter/exit. Turtle docks could be placed in strategic areas to prevent turtles from damaging new shorelines, similar to the Avenue of the Arts lake near South Coast Plaza.

Example of separation of waterfowl and shoreline/walking pathway at Earvin Magic Johnson Park.

06 Manage Water Quality with Coagulation and Potential Ozone Oxidation

During recirculation, in addition to the existing dye already added, an NSF-approved coagulant such as aluminum sulfate would improve water clarity and color and remove phosphorus from the water (which otherwise causes unwanted excess algae growth). This type of chemical, similar to dye, is non-hazardous, easy to manage, and inexpensive. In addition, if the City desires to improve the color and clarity of the water, ozone oxidation of the water in the recirculation pipeline can be provided by electrifying the air and injecting it into the liquid stream. This ozone treatment also provides complete disinfection of the water to kill pathogens that accumulate in the lakes (and can be accidentally sprayed from the existing fountains).

07 Re-Program the Spray Fountains to Avoid Unwanted Conditions

The existing fountains provide a powerful and surprising spray feature. Unfortunately, during light winds, the over-spray tends to blow onto park guests, which could be unsafe due to pathogens present in the lakes. In addition, when the fountains are turned on and off, they tend to push waterfowl onto all the edges of the lake instead of one confined area. Therefore, it may be advantageous to turn down the height/diameter of the fountains, leave them on for longer durations to prevent scaring waterfowl to unwanted areas, and move them to strategic locations.

08 Phase Construction to Retain Aquatic Life

Aquatic life can be protected during construction by staging the construction in phases and locating aquatic life in portions of the lake while other portions are under construction. This plan will be developed in concert with regulatory requirements for any wildlife / habitat that will need to be protected.

09 Provide Remote Access to Controls System with Automation and Flexibility for Operations

PACE has an in-house Instrumentation and Controls team that specializes in developing simple to use remote access controls systems. They are well-versed in common water feature equipment and controls systems and will ensure the City has a straightforward platform that can be access from a mobile phone or device, if desired.

SCOPE OF WORK

TASK 01 – PROJECT START-UP AND PROJECT MANAGEMENT

TASK 1.1	Consultant shall coordinate with City and all sub-consultants to review/confirm project scope, schedule, work procedure, meeting arrangement, available data, project protocols, and all other items the City would like to discuss.
TASK 1.2	A kick-off meeting will take place between the Consultant and City to establish project goals such as communication structure and frequency, schedule, budget, design requirements, lake system goals and appropriate contacts for data gathering.
TASK 1.3	Monthly progress reports will be delivered to the City electronically.

TASK 02 – EXISTING LAKE SYSTEM REVIEW AND PROJECT ANALYSIS

TASK 2.1	Consultant shall review all lake as-built plans, maintenance records, lake renovation records, water use records, electric bills, water quality records if available, and all other lake system-related information.
TASK 2.2 Lake Site Reconnaissance/ Investigation	In addition to problems identified by the City in the RFP, Consultant shall visit the site to investigate all potential issues that can be rectified during the lake renovation. Focus of the on-site investigation will be: a. Lake physical conditions, water flows, and general observations. b. Lake Water Quality – multiple water samples will be collected at different times at different locations and will be tested in our in-house lab to identify deficiencies. c. Lake Bottom Sediment Testing/Estimate – It is important to understand lake bottom sediment amount in the existing lakes and to include sediment mitigation in the renovation design if necessary. Consultant shall measure sediment layer in the existing lakes. d. Existing Lake Equipment Evaluation: Testing for electrical power use. Water flow rate and pumping pressure. Review O&M records to determine if any equipment can be re-used. e. Existing underground piping will be tested for leakage under operating pressure to determine the condition. f. All existing electrical panels, junction boxes, controls, level sensors, wind sensors, and control valves will be evaluated on-site for working conditions. g. Existing utilities including electrical power system, water fill pipeline, storm drain for lake overflow, and telecommunication for improved lake system remote monitoring and control integration. The existing storm drain survey for storm drain size, location and flow rates can be used for possible option of using the lakes as storm water quality treatment facility, but it is understood that a recent bioswale treatment system was constructed along Arlington Drive. h. Existing equipment building evaluation for space available, condition of equipment, and condition of building structure (note: this evaluation does not include a formal structural engineering evaluation of the building structure, but instead just a visual inspection).
TASK 2.3	Consultant shall interview and have discussions with City staff regarding the past operation and maintenance issues to be resolved with the renovation design.
TASK 2.4	An existing lake investigation summary will be prepared and presented to the City. The summary will serve as a background for the lake renovation design.

TASK 03 – PROJECT SURVEY

TASK 3.1 Aerial Topographic Mapping	Consultant will prepare 1"=40' scale aerial topographic mapping of the water features and approximately 50' beyond their boundaries, with one-foot contour intervals. Work includes setting and control of aerial targets, flight, photography and map compilation. The project will utilize GPS Static Survey methods and the Basis of Bearings will be in California State Plane Coordinates. Consultant will deliver AutoCAD version of the aerial topo with field located centerline monuments and a calculated centerline.
TASK 3.2 Design Survey	Field topography will be collected and will include hardscape features, lake edges, sidewalk, buildings, trees, utilities, light poles and natural ground and assumes five days of survey effort. Vertical control will be tied to an County of Orange Benchmark. The Basis of Bearings will be on California State Plane Coordinates. A level run will be performed between Hz control points to ensure vertical accuracy.

TASK 04 – PROBLEM IDENTIFICATION AND RECOMMENDED SOLUTIONS/ALTERNATIVES

This task is for critical deficiency identification and improvement recommendations and is the most important work in the lake renovation process. Consultant will form a lake expert panel made up of a minimum of five senior staff members, each with 20 to 40 years hands-on experience in lake system design renovation/improvement and lake construction. Following the existing lake reconnaissance, water quality testing, and existing lake system evaluation, the lake expert panel will review all findings, provide improvement recommendations and possible alternatives for important elements such as lake liner options, lake water quality improvement options, and lake shoreline alternatives.

Each and all existing lake deficiencies and potential problems will be discussed and listed in a report presented in order of importance. Solutions and recommended alternatives will be provided, identifying advantages and disadvantages for each lining system and lake shoreline type analyzed. A list of water quality enhancement methods will also be prepared, ranging from aeration, recirculation, ozone/UV, alum and lake dye, aquatic planters, bio-filters, and mechanical filtration. External sources of lake water contamination like irrigation runoff, waterfowl, excessive fish will be analyzed, and prevention methods will be proposed.

A presentation of these findings will be provided to the City, along with exhibits with layouts and sections of key recommended improvements. This process ensures that the design solutions implemented will produce the greatest longevity for the lake system, optimized construction cost and minimized operation and maintenance.

TASK 05 – ENVIRONMENTAL REVIEW AND PERMITTING

Environmental impact review and permit application will be prepared by the environmental subconsultant, VCS. The governing regulations and agencies will include California Environmental Quality Act (CEQA), and we assume NEPA does not apply on this project. To comply with CEQA, Consultant will propose the preparation of an Categorical Exemption (CE)/Pre-Screening Initial Study. Where needed, Project Design Features will be identified and incorporated into the project to minimize and reduce potential impacts to less than significant. Therefore, it is anticipated that an IS/MND would not be required.

TASK 5.1 CEQA Compliance – Categorical Exemption (CE)/ Pre-Screening Initial Study	For the Renovation of the Ornamental Lakes at Tewinkle Park project, VCS will prepare a Pre-Screening Initial Study to demonstrate that the project would not result in any potential significant impacts and would qualify for a Categorical Exemption. The Pre-Screening Initial Study will quantify air, greenhouse gas emissions, energy demand and construction noise levels and will include a Cultural Resources, Paleontological and Sacred Lands record searches to support that no potential significant impacts would occur. Where needed, Project Design Features will be identified and incorporated into the project to minimize and reduce potential impacts. Please see Task 6.3 for Technical Studies to accompany the Pre-Screening Initial Study.
Circulation Tasks and Reimbursables This task includes filing fee, mileage, production/printing and mailing deliverables.	
TASK 5.2 Technical Studies	The following technical studies will be prepared to support the project's CEQA document. During the kickoff for the project, Consultant will engage with City staff to ensure that a well-written project description is prepared which will serve as the basis for each of the technical studies' analysis. Consultant will develop a project schedule to optimize the delivery of technical studies and the environmental document. All technical reports will be prepared in accordance with the CEQA, the City of Costa Mesa's Environmental Policy Guidelines and Administrative Procedures.
TASK 5.2.1 Biological Memorandum	Consultant will take a multi-step approach to identifying biological resources on a project site. The first step in the process typically involves an assessment and review of existing data pertaining to sensitive biological resources in the vicinity of a project. This information is gathered from existing literature about the area (e.g., past biological reports) and databases including the California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) Rare Plant Database, and U.S. Fish and Wildlife Service (USFW) species lists and critical habitat information. Following the database and literature review, a general biological survey of the Project area is conducted to identify existing conditions onsite including mapping the plant communities, mapping jurisdictional waters, determining potential for sensitive wildlife and plant species, and identifying wildlife and plant species present onsite. Plant communities are mapped using the Manual of California Vegetation classification system, deviating only as necessary to better describe the site conditions. Jurisdictional waters are mapped based on the accepted current protocols. To reduce the overall project budget, Consultant will evaluate multiple factors during each site visit, performing as many assessments and surveys as possible to minimize the need for additional subsequent site visits. The biological memorandum will include a description of the existing biological conditions at the project site and an assessment of the potential for sensitive resources to occur using existing survey data. The report will also include an impact analysis with proposed measures to avoid, minimize, and mitigate the proposed impacts and offset their effects. Based on the field reviews, Consultant will be able to identify whether focus surveys are required for sensitive species. At present, we believe the potential is low based on the CNDDB database and the fact that this is an active park. However, based on the ponds, a western pond turtle habitat assessment and/or focus survey may be necessary. Assumptions: • If needed, a Western Pond Turtle survey will be conducted (optional task). • Assumes no other suitable habitat for sensitive species requiring focused surveys. If focused surveys are found to be required, a separate cost will be provided. • Regulatory costs assuming jurisdiction by USACE, CDFW, and RWQCB have been identified for budgeting purposed as optional tasks.

TASK 5.2.2 Cultural Resources	Consultant will request a records search of the proposed project, including a one mile radius buffer, in the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center, California State University, Fullerton, California to determine the nature and location of cultural resources and cultural resources studies that are known to exist within one mile of or within the APE area. In addition to the archaeological records, reports and historic maps, an examination will be made of the Historic Resource Inventory (HRI) maintained by the California Office of Historic Preservation (OHP). The HRI contains listings for the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), California Historical Landmarks, and California Points of Historical Interest properties. Assumptions: • Assumes no Cultural/Historical studies are required.
TASK 5.2.3 Air Quality | Energy | Greenhouse Gas | Noise	Birdseye Planning Group (BPG) will prepare an air quality analysis in support of the document that will be consistent with the requirements of CEQA and NEPA.
TASK 5.2.3.1 Air Quality/ Greenhouse Gas Report	It is assumed that the emissions generated by the project will be primarily construction-related. The scope of work includes the following tasks: • Calculate daily construction emissions using the most current version of the California Emissions Estimator Model (CalEEMod) 2016.3.2. Emissions will be calculated based on the scope of the project, client-provided assumptions regarding construction equipment used, grading activities, scheduling, and project-related vehicle trips. • Compare temporary daily emissions generated during, site preparation, and construction to South Coast Air Quality Management District (SCAQMD) significance thresholds and federal de minimis values for temporary construction emissions. • Estimate operation emissions associated with maintenance vehicle trips. • Quantify carbon dioxide equivalent (CO_2e) (i.e., GHG emissions) units associated with construction of the repairs and operation/maintenance of the system. • Compare GHG emission with SCAQMD significance thresholds and City Sustainability Goals. The information will be provided in an Air Quality/Greenhouse Gas Report for use in preparing the associated section of the environmental documents.
TASK 5.2.3.2 Energy Memorandum	Based on CalEEMod output for construction equipment and haul/vendor/worker trips, BPG will calculate diesel and gasoline demand associated with the construction activity and long-term maintenance. Information will be provided in a memorandum for use in preparing the energy section of the environmental documents.
TASK 5.2.3.3 Noise Report	The project will require an evaluation of temporary construction noise impacts, as well as long-term operational impacts associated with the lake system. The following outlines our approach to the noise technical report: • Acquire ambient noise measurements at 2-3 locations using an ANSI Type II sound level meter. The duration of each monitoring session will be 15 minutes. Monitoring locations will be on or adjacent to the site and approximate noise levels at neighboring sensitive properties located adjacent to and north of the park property. • Characterize and quantify on-site construction activities to determine local construction noise and vibration effects and associated impacts to species under USFWS jurisdiction. • Determine the significance of effects based on City Municipal Code criteria for residential uses, the City General Plan Noise Element and CEQA guidelines. • Develop recommendations and measures, if necessary, to mitigate possible significant construction and operational effects to below threshold levels. Information will be provided in a memorandum for use in preparing the noise section of the environmental documents.
Optional Regulatory Permitting	To minimize the potential permitting requirements, Consultant will first determine whether we can remove some or all of the ponds from jurisdiction on legal parameters for waters. If not, the work on the ponds may be considered temporary impacts, which are not subject to the same acreage thresholds as permanent impacts by the U.S. Army Corps of Engineers. Additionally, the ponds are artificial and that may limit the area of jurisdiction. Based on the outlet to the storm drain, the agencies will likely take jurisdiction over some or all of the ponds. Consultant will identify the most streamlined process under the law which will ultimately be approved by the City and the resource agencies. It is assumed that no additional permitting will be required . This is based on the assumption that there are no State or Federally threatened species that will be impacted in the Park (the databases show no potential species anywhere near here).

TASK 06 – PRESENTATIONS / PUBLIC OUTREACH

Consultant will serve in a support role to the City in their public outreach efforts to solicit input on the lake improvements and gain community support of the proposed improvements. The City desires to survey the community and hold up to two public outreach meetings. Consultant will coordinate with the City to develop survey questions and supply the initial concept imagery to present to the community. A clear framework will be developed by the City and Consultant to define the limits of the project, and therefore the limits of improvement concepts available for consideration and feedback by the community. Concept imagery and presentation content will be supplied in support of the City in the lead role for two public outreach meetings. This scope assumes content for these two meetings will be identical, with meetings held on different dates and times to encourage participation by a wide variety of community members. A team member representative will attend both meetings and be available to present with City staff members and respond to community questions. This effort assumes the City will be responsible for developing and hosting the survey platform, all outreach and advertising efforts for the survey and meetings, which may include direct mailings, fliers or posters, use of City email lists, newsletters, and social media channels, and collaboration with partners.

TASK 07 – CONSTRUCTION DOCUMENTS

Complete lake systems improvement construction plans shall be prepared according approved improvement concepts. Plans will include:

1. Demolition Plans for all lake elements to be removed and items to be protected in place.
2. Construction Phasing Plans for sustaining and transferring aquatic life transfer during construction.
3. Lake, Pond and Stream Construction Layout with horizontal controls and elevations which will generally follow the existing layout. Any proposed changes will be discussed and approved by the City prior to the Construction Documents phase.
4. Sections for Lake, Shorelines, Streams, Islands, Dock, Bridges, and other lake elements.
5. Lake Recirculation Piping and Aeration Plans showing new and existing piping pipe sizes, pipe materials, and inverts.
6. Lake Construction Details – lake liner, shorelines, planters, pipe penetrations, inlets, outlets, skimmers, intake, aeration, and all other construction details.
7. Lake mechanical, pumping, aeration blower system, water treatment and other equipment plans and installation sections/details.
8. Lake Electrical Plans for all equipment power supply system, load calculations, pump VFDs, 480V 3 phase and 120V single phase panels, single line diagram, breakers, switches, electrical installation layout plan and details, and conduit / wiring schedule.
9. Local System Control including on-site PLC control panel with HMI for pressure, water level, flow rate wind sensor and all other instrumentation. CCTV video cameras can be designed to monitor the site.
10. Remote Monitoring and Control: SCADA communications via a licensed or unlicensed radio system per City standards using either high speed network system or radio system. It is assumed that adequate radio reception exists between the pump station site and existing City infrastructure using a mast and antenna, or a cell phone dialer.
11. Draft Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP).

Construction Documents will be be prepared as 70%, 100% and final PS&E submittals and delivered in printed and electronic formats. The final plan set will be printed on reproducible Mylar. Construction Documents will contain title sheet, general note sheet, plan sheets, typical cross section sheets, and detail sheets. Scale for plan and profiled drawings shall be as follows: horizontal: 1″=20′; vertical: 1″=2′. Scale for detail drawings shall be as follows: horizontal: 1″= 10′; vertical: 1″=1′. PS&Es will be submitted to the City Building Division and applicable agencies and utility companies for review and approvals.

TASK 08 – ENGINEERING SPECIFICATIONS

Consultant shall prepare engineering specifications for the entire lake renovation project. Sections of the specifications shall include: general conditions, civil and site work, mechanical valves and piping, electrical, and control. The specifications shall conform with City's standard format.

TASK 09 – CONSTRUCTION COST ESTIMATE

Consultant shall prepare lake renovation system construction cost estimate which shall include quantity breakdown in detailed construction activity line items, unit cost and total cost. If required, consultant shall prepare bid form for the City to use for project bidding.

ASSUMPTIONS AND EXCLUSIONS:

1. The Client's responsibilities shall include providing PACE with the base data and project information in a timely manner, coordination and management of other team consultants to assure that the project schedule can be met, and prompt payment of invoices in accordance with the terms and conditions included herein. The specific items that are to be provided by the Client or other consultants include the following:
   a. Client input pertaining to project design issues and requirements including scheduling.
   b. Site land-use base plans with existing and proposed elevation contours in transferable computer format.
   c. Existing geologic and soils investigation reports.
   d. Existing and proposed hydrologic and drainage data, maps, and reports.
   e. Any other data that directly impacts PACE ability to perform the design in an efficient and economic manner.

2. Any proposed project changes which affect work in progress or previously completed will be justification for additional compensation.

3. All permitting and regulatory approval fees will be paid directly by the City.

4. No structural inspection will be provided by Consultant based on City's assessment that the pump station structure is sound and requires no renovations.

5. No geotechnical investigation will be provided by Consultant, and instead, Consultant will rely on soils information provided by the City for other areas of the park as representative of the soil conditions in and around the water features.

6. Bidding and construction support services scope and fees are not included in this proposal. If requested, a separate change order can be submitted for authorization.

7. For all the data delivered to PACE for the purpose of digital mapping, including but not limited to GIS and AutoCAD, PACE requires said data be delivered in one of the recognized standard coordinate systems such as the Stateplane Coordinate System or the Universe Transverse Mercator (UTM). In addition, PACE requires all datums, vertical and horizontal, be documented in a metadata sheet and be included along with the delivered data. If the coordinate system is in what is often referred to as a "Local Coordinate System," and the deliverer does not have the capability to convert data into one of the recognized standard coordinate systems, PACE requires a Control Conversion document (CCD) be included in the deliverable. The CCD will include all the necessary coordinate transformation information and scale factors needed to make an accurate translation of the data to PACE's acceptable coordinate systems. If this information is not available, PACE will require an addendum to this proposal to include Time and Materials used to translate the delivered data into the appropriate standard coordinate system.

8. The fees proposed herein shall apply until one year from date of proposal. Due to ever-changing costs, Consultant will increase those portions of the contract fee for which work must still be completed after one year from date of proposal, as negotiated with the Client up to a maximum of ten-percent (10%).

ATTACHMENT 1

PROJECT **TEAM**

ABOUT **PACE**

PACE (Pacific Advanced Civil Engineering, Inc.) is a specialized civil engineering firm formed in 1987 offering advanced water resource services worldwide. With over 30 years of experience, we offer a wide range of engineering services related to water, wastewater, stormwater management and water resource permitting and regulatory compliance to ensure projects are both economically viable and environmentally sustainable. Our engineering approach focuses on maximizing value by creating multi-use infrastructure systems, cost-effective phasing strategies and systems that include environmental, aesthetic and recreation uses. PACE staff members include licensed professional engineers with PhDs, university instructors and policy-makers in the water resource arena.

> *"Creativity, innovation and advanced knowledge of water resources are cornerstones of our services leading to aesthetic, environmentally sustainable, and practical engineering solutions.*

As a water resource specialty-engineering firm, PACE's specialized areas of expertise include:

- Manmade Lake Systems
- Water Features
- Aquatic Recreation Facilities
- Lake / River / Wetland Restoration
- Water Quality Management
- Water and Wastewater Treatment
- Potable Water Storage and Distribution
- Reclaimed Water Storage and Distribution
- Stormwater Management
- River Engineering
- Floodplain Mapping
- Watershed Analysis / Planning
- GIS Water Resource Applications

ENVIRONMENTAL WATER
- Controls and Instrumentation
- Infrastructure Master Planning
- Water Infrastructure
- Wastewater and Recycled
- Water Treatment
- Wastewater Treatment
- Natural Water Treatment

STORMWATER MANAGEMENT
- Stormwater Management
- Floodplain Mapping
- River Restoration
- Flood Control Systems
- River Engineering
- GIS and Water Resources Hydraulics
- Hydrology and Watershed Analysis / Planning
- Hydraulic Modeling and Research

RECREATIONAL WATER
- Community Lakes
- Entry Features
- Interactive Water Features
- Manmade Rocks
- Pools and Swimming Lagoons
- Streams
- Water Features

GEOGRAPHIC INFORMATION SYSTEMS (GIS) | **INSTRUMENTATION AND CONTROLS** | **ENVIRONMENTAL WATER LABORATORY**

MANMADE LAKE DESIGN QUALIFICATIONS

The PACE team brings very specialized expertise and extensive experience on ***manmade and natural lake systems / limnology*** that enables us to address the project objectives with comprehensive understanding of the cause and effect relationships of the activities that take place over time. The team is comprised of lake experts and water resource civil engineers. We work closely with clients throughout the project development process, starting with planning that takes into account the function and aesthetics of the lake within the ecosystem of the community. Then, combining a wide variety of engineering disciplines, our engineers develop a water feature that BEST serves the community and the environment.

The PACE team brings *extensive expertise in lake systems,* which include the following areas:

- Lake water quality management systems
- Limnology
- Shoreline systems
- Water containment / lining systems
- Wetlands systems
- Hydrodynamic modeling
- Lake sediment management / dredging programs
- Watershed characteristics / analysis
- Fish and wildlife habitat
- Lake operations and maintenance
- Environmental permitting
- Lake management systems / improvements
- Water quality testing / analysis

As part of the lake design, we apply innovation and creativity to address:

- Site plan integration
- Concept development
- Utility coordination
- Stormwater treatment and infrastructure
- Source water characterization and management strategies
- Water demand / balance analysis
- Lake water treatment
- Water recycling optimization
- Water containment / liner systems
- Shoreline systems
- Design PS&Es
- Lake construction
- O&M manual development and operations staff training

UNIQUE QUALIFICATIONS

Specific qualifications include the following:

1

Designed Over 1,000 Lake Systems

The PACE team has been involved in the design and/or design-build of over 1,000 lake systems over the last 40+ years, throughout the United States and internationally and is highly experienced in renovating existing lakes. PACE has also hosted several lake planning and design seminars for municipalities, land developers and consultants.

2

Multiple Team Members With Over 20 Years of Lake Design Experience Each

Our team of lake engineering and construction experts are highly experienced in all facets of lake design and construction with experience ranging from 20-40+ years among our senior team members.

3

Vast Library and Experience With Key Lake Design Features

PACE has advanced knowledge and library of lake lining, shoreline and water quality management/circulation systems, vendors and design strategies to optimize aesthetic and functional objectives of these system.

4

Relationships With Local Water Feature Equipment Vendors and Contractors

Extensive knowledge of mechanical pumping, filtration and controls equipment and strong vendor relationships to ensure the best-suited equipment will be sourced with by highly reputable and reliable vendors with accurate cost estimates.

5

Accurate Construction Cost Estimating

PACE has a partner water feature construction firm, Pacific Aquascape International (PAI) that provides current and detailed cost estimates and will provide the City with valuable accurate estimates early and throughout the project. PAI will also help determine realistic construction timelines and appropriate construction phasing.

6

Strategies For Deterring Excessive Waterfowl

Shoreline, fountain / aeration system, lake edge geometry, etc. can include design features that will help deter excessive water fowl from residing along the lake edge/park and reduce the negative impacts to landscaping and visitor experience. Additionally, physical barriers that add aesthetic value to the lake can be designed that also act as water fowl deterrents.

7

Effective Water Quality Management Systems

PACE has extensive and experience implementing cutting-edge, cost effective, and natural-based solutions to improve the water quality of natural and manmade water bodies. Water quality management includes biofiltration, disinfection, aeration and natural filtration. PACE's expertise integrates runoff, wetlands filtration and lake ecosystem to create and maintain the delicate balance needed for a successful lake management project.

8

In-House Electrical and Controls Design Staff

Members specialized in lake systems to develop automated and remote-access controls for flexibility and ease of operations.

9

Pooling of Technical Resources Within Project Team

With a diverse range of experts in the aquaculture and water resources fields residing within PACE, every project issue from water quality/treatment, water source, pumping/mechanical systems, hydrology/ hydraulics to aquatic plants and species can be adequately addressed.

10

Vast Experience With Wide Range of Water Systems

Firm comprised of civil engineers who specialize in water engineering provides a highly specialized expertise in wider applications of municipal water infrastructure and mechanical equipment (pumping, instrumentation/controls) that will be applied to identify most efficient design solutions.

11

Sustainability-Focused Design Approaches

Precise pump sizing to minimize energy, intelligent pump controls that minimize flow rates, and experience working with green energy sources.

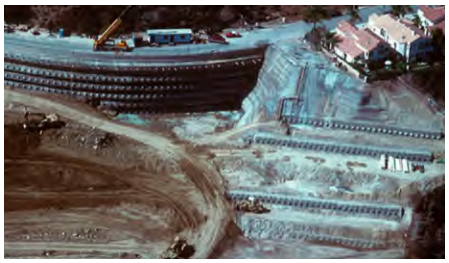
12

Streamlined Permitting Process

Extensive municipal water feature design experience and highly competent environmental processing subconsultant (VCS Environmental) leading to design approach that accounts for various design standards, project scheduling needs, and minimization of environmental impacts.

SUBCONSULTANTS

American Geotechnical, Inc
GEOTECHNICAL/CIVIL ENGINEERING, TESTING & INSPECTION



Geotechnical Engineering

American Geotechnical is a firm of consulting engineers and geologists specializing in geotechnical engineering, geology, groundwater hydrology, and seismology. American Geotechnical was founded in 1984 as a California corporation and provides services regionally and nationally. In addition to new development projects, their experience also includes property evaluations/risk management, moisture intrusion and groundwater studies, earthquake and fault studies, slope stability and landslide evaluations, etc. They also have significant experience in performing distress investigations and forensic studies and providing remedial recommendations to correct problems to existing structures and other improvements.

▲ Project manager, Andy Komor, MS, PE, onsite at Harmony Lake.

HUITT-ZOLLARS

Surveying

Huitt-Zollars (HZ) is a Full-Service Civil Engineering Firm with approximately 550 employees in 19 offices covering the Western half of the United States. Huitt-Zollars also offers a complete range of land surveying services to support all types of clients and projects, ranging from On-Call Surveying contracts with City, County, and State governmental agencies to developers, construction companies, Title Companies, and the real estate industry. Their experienced group of Professional Land Surveyors, multiple field crews, office Survey Technicians, and state-of-the-art surveying and mapping equipment, they are able to provide clients with well-coordinated, cost-effective surveys and related documentation in a timely and efficient manner.

VCS Environmental
EXPERT SOLUTIONS | CEQA-NEPA . Biology . Regulatory

Environmental

VCS Environmental is a full service environmental consulting firm with 20 staff located in San Juan Capistrano founded in 1996. VCS brings a diverse range of qualifications with decades of experience to provide expert solutions to each and every project — whether related to project entitlement, CEQA/NEPA, wetlands restoration, biology, jurisdictional waters and wetlands regulations or cultural resources.

ATTACHMENT 1

ORGANIZATION **CHART**

subconsultants
1. American Geotechnical
2. Huitt-Zollars
3. VCS Environmental

Project Manager
Andy Komor, MS, PE

Principal / QA/QC
Mark E. Krebs, PE

Sr. Project Engineer
Zirang Song, MS, PE

Project Engineer
Binh Le, EIT

Sr. CAD Designer
Ryan Ching

Geotechnical Engineering
Douglas S. Santo, PG, CEG, CHG [1]

Fei-chiu (Jerry) Huang, PhD, PE, GE, QSD/QSP [1]

Surverying
Russell Hanson, PLS [2]

Environmental
Dan Bott [3]

PROJECT **MANAGER**

ANDY KOMOR, MS, PE

Andy Komor is a technical expert on engineering infrastructure having successfully performed engineering design, project management, and field services for over $200 million in capital on over 40 completed water resource projects in the past ten years. His background as a researcher has led to four national presentations and technical papers. Mr. Komor is sought after as a technical expert for lake improvement projects including lake and reservoir water quality enhancements and new technology research and development, as well as water infrastructure, ocean and brackish water desalination, and groundwater recharge. Andy has been the Project Manager or Lead Designer in charge of improvements to several large lakes and reservoirs including Lake Elsinore, Canyon Lake, Upper Oso Reservoir, San Joaquin Reservoir, Walnut Canyon Reservoir, Castac Lake, Discovery Lake, Lake San Marcos, and Harmony Lake. His lake expertise extends into all aspects of lake projects including water quality monitoring and testing, wetlands design and functionality, recirculation and aeration design, and biological analysis of lake ecosystems. He has an excellent breadth and depth of experience in lake improvement and upgrade projects.

ATTACHMENT 1

project manager

Andy Komor, MS, PE

EDUCATION
BS Civil Engineering, University of Minnesota, 1999 – Cum Laude

MS Civil and Environmental Engineering, Arizona State Universit, 2001

YEARS OF EXPERIENCE
21 Years
Joined PACE in 2000

REGISTRATIONS
Professional Engineer / AZ – 2007 / 46719
Professional Engineer / CA – 2003 / 64928
Professional Engineer / LA – 2009 / 34854
Professional Engineer / OR – 2018 / 95149E

AFFILIATIONS
Adjunct Instructor of Water Reuse, Santiago Community College

Past President of Orange County Water Association (OCWA)

California Water Environment Association (CWEA)

WateReuse Foundation National American Lake Management Society (NALMS)

PUBLICATIONS
Photobiological Treatment of RO Reject. Global Water Intelligence. 2020

Cost to Benefit Analysis of Desalination of Golf Irrigation Water.

Water Reuse Symposium, Phoenix, AZ. 2011

Effects of Nitrification, Stratification, and Algaecidal Disinfection in Country's Largest Recycled Water Reservoirs. Water Reuse Symposium, Washington DC. 2010

Upper Oso Reservoir: Lake Management Update. Presentation to Santa Margarita Water District. 2009
Evaluation of Denitrification

Andy Komor is a technical expert on engineering infrastructure having successfully performed engineering design, project management, and field services for over $200 million in capital on over 40 completed water resource projects in the past ten years. His background as a researcher has led to four national presentations and technical papers. Mr. Komor is sought after as a technical expert for lake improvement projects including lake and reservoir water quality enhancements and new technology research and development, as well as water infrastructure. Andy has been the Project Manager or Lead Designer in charge of improvements to several natural and manmade lake systems serving a variety of functions. His lake expertise extends into all aspects of lake projects including water quality monitoring and testing, wetlands design and functionality, recirculation and aeration design, biological analysis of lake ecosystems, shorelines and lining systems. He has an excellent breadth and depth of experience in lake improvement and upgrade projects.

RELATED EXPREIENCE

Los Angeles County Earvin Magic Johnson Park Lake Renovation – Willowbrook, CA

Mr. Komor served as the Project Manager for the design of a sustainable stormwater management system which included the renovation of the existing lower lake at Earvin Magic Johnson Park. This unique new system captures urban runoff, treats the captured flows to improve water quality, and recycles the water throughout the park for onsite irrigation. The treated recycled water is stored within the two lakes, the South Lake at 8.4 AC and the North Lake (lower lake) at 5.5 AC enhancing the appearance and water quality of the lake system. The lake water is captured by the stormdrain line, is pumped to the onsite treatment facility with ozone, coagulation, circulation, aeration, and water conditioning, and is discharge to the alum discharge box at the submerged wetland planter areas along the entire lake edge, providing maintenance access and further lake water treatment through a naturally occurring biological process. PACE also designed a pump at the North Lake to recirculate the water through the treatment system at the South Lake at approximately 2,500 gpm to maintain high water quality in the lakes. Additionally, the shoreline replacement was designed along the lake and island in the center of the lake was repaired, and a boat ramp was added for recreational use.

Westlake Lakes – Stockton, CA

Mr. Komor is serving as the Project Manager to oversee the design of 5 manmade lakes for a total of 71 acres of lakes for the Westlake residential development. PACE previously designed lake 1 for this development but is now designing lake 2 and lake 4, all of which will have three primary functions including (1) stormwater collection and storage, (2) drainage conveyance, and (3) pumping. These lakes will be lined with treated soil and have lake edge planters for lake water treatment and will provide a more natural appearance. The soil liner company Seepage Control will develop a procedure for the lake lining installation to save installation cost and construction time. During the dry season, the lakes will be filled by two water sources – one from the adjacent slough with a siphon structure to draw the water over a levee to the lake, and one from a levee toe drain dewatering pumping system. PACE designed the siphon structure and levee toe drain dewatering system in addition to the stormwater and lake pump station with the discharge outfall structure at the levee. These lakes will be used for focal aesthetic and recreation for the community including boating and fishing. The lake system employs the use of multiple layers of treatment to facilitate water quality improvement through (1) lake water quality measures (alum injection, and aeration), (2) urban stormwater runoff controls (water quality filters and wetland planter areas), and (3) lake retention of runoff. A minimum operating depth of 15 to 25 feet will eliminate light penetration, maintain lower average temperature, allow temperature stratification, and minimize evaporation.

Tracy Lakes – Tracy, CA

Mr. Komor was the Project Manager leading engineering services for three manmade lakes that facilitate stormwater management for a proposed development located in Tracy, CA. The engineering effort included completing a study to

PROJECT MANAGER – Andy Komor, MS, PE

RELATED EXPERIENCE CONT.

determine the volumes of water that will be captured in Tracy Lakes including Lake C (Lower Lake) at approximately 2.75 acres, Lake F (Middle Lake) at 2.5 acres, and Lake G (Upper Lake) at 3.75 acres and 8.6 million gallons during a 10 and 100-year storm event as part of the stormwater management plan. The results of the study were used in the design and grading of the lakes and adjacent areas, design of outlets from the lakes, and evaluation of the flood impacts and level of flood protection provided to surrounding properties. PACE also designed a sediment management system using hydrodynamic separators at each stormdrain outfall to each lake to remove debris from stormwater runoff before it enters the lakes. The planters along the lake's edge will provide water quality improvement by reducing the amount of sediment, settling of particulate phosphorus and metals, denitrification and filtration, and biological removal of pesticides and hydrocarbons. Additionally, PACE prepared the construction plans for Lake C which included lake grading and construction details, lake recirculation piping, aeration, and utility requirements, stream and waterfall plan and construction details, and pump station plans. The pump station plans included pump station site and grading, as well as pump station mechanical, electrical, and control plans. The construction plans for Lake F and Lake G will be completed in the next phase.

Discovery Lake Restoration Evaluation – San Marcos, CA

Mr. Komor worked closely with the City of San Marcos to evaluate improvements to this shallow and warm inland recreational lake. He provided alternatives including recirculation, dredging, aeration, and chemical addition and presented to project stakeholders. Included in the analysis were preliminary layouts, cost estimates, cost to benefit analysis, and other planning documents.

Tri-City Park Lake Renovation – Placentia, Brea, and Fullerton, CA

Mr. Komor oversaw the water quality assessment, identifying the problems and deficiencies with the current lake system. The lake is stocked for fishing (typically trout and catfish), and is a habitat for various waterfowl. The large population of ducks, geese, and coots has a negative impact on lake water quality, because of an increasing amount of nutrients in the lake. Mr. Komor reviewed the initial lake restoration facility layout plan and approximation of the features and modifications to the existing lake system. PACE's lake renovation design included installing water quality filters at the shoreline along with water planter areas, biofilters which aid in the removal of nutrients and help with the horizontal circulation of the lake water, and an aeration system to circulate the lake water vertically.

Lake Elsinore Water Quality Restoration – Riverside County, CA

As Project Engineer, Mr. Komor oversaw the aeration system process and instrumentation design documents for this 1500-acre reservoir. He coordinated the process design with the project team, and presented the information to the Board of Directors and other agency staff. The aeration system improved conditions for game fish, recreation, and aesthetics.

Tejon Lake Water Quality Improvements – Tejon Ranch, CA

As part of the Tejon Ranch team, Mr. Komor was involved with every aspect of the management and restoration of this 400-acre natural lake. His duties range from client coordination and quarterly reports to establishment of the Tejon Ranch FTP website. PACE designed and implemented an aeration system consisting of nearly one mile of pipe with multiple aeration diffusers constructed in four phases. Mr. Komor is coordinated a project-wide data collection system that includes a variety of lake water physical, chemical and biological parameters, groundwater and climate data. The data is used to guide lake area restoration and enhancement efforts.

Castac Lake Water Quality Improvements – Tejon Ranch, CA

As part of the Tejon Ranch team, Andy was involved with every aspect of the management and restoration of this 400-acre natural lake. Andy ensured the design and implementation of an aeration system consisting of nearly one mile of pipe with multiple aeration diffusers constructed in four phases.

Town of Buckeye Lake – Buckeye, AZ

Mr. Komor completed a feasibility study for the lake in the Town of Buckeye including documents on lake source water quality, conceptual enhancement designs, and cost estimation for this 100-acre lake to be used for boating/fishing. Mr. Komor also provided lake construction options/protocol and cost estimates to the Town of Buckeye.

Gallery Golf Club Monochloramine Addition Lakes – Tucson, AZ

The Gallery Golf Club receives recycled water from the City of Tucson and stores them in two golf course lakes prior to irrigation, and the nutrients in the recycled water cause nuisance algae. As the Project Manager, Mr. Komor

PROJECT MANAGER – Andy Komor, MS, PE

RELATED EXPERIENCE CONT.

provided a series of studies and testing on monochloramine addition to suppress the algae and maintain consistent water quality for the lakes and irrigation system. Two chemical addition systems will be installed to maintain desired monochloramine doses in both golf course lakes.

Talbert Lake Restoration Project – Huntington Beach, CA

Mr. Komor served as Project Manager in the planning and design for a diversion system and stormwater treatment system that will treat at least 4 MGD of stormwater that would otherwise flow directly into Huntington Harbor and further impair the water body. Mr. Komor developed a wetland treatment concept that entails 20 acres of wetland plants and lake within Central Park, a signature feature of Huntington Beach. Pumped nuisance flows from the East Garden Grove Wintersburg Channel and gravity stormwater flows will enter the park at three locations, first flowing through hydraulically-augmented existing wetlands to provide physical sedimentation, biological denitrification and uptake of nutrients prior to discharge to the lake. While meeting the City's goal of treating the stormwater, the project will also restore one of Central Park's key features, the seven-acre lake that has been dried up for the last 15 years.

Los Angeles Stadium of Champions and Entertainment District Lake and Advanced Water Polishing Treatment – Inglewood, CA

As the Project Manager, Mr. Komor conducted mechanical and water quality design for the multi-purpose 5-acre lake at Hollywood Park, the new SoFi Stadium site. SoFi Stadium is the home field for two NFL football teams, the Los Angeles Rams and Los Angeles Chargers, among many other events. The lake serves as a site-wide stormwater management system including a treatment facility and in-lake water quality management for state-of-the-art water conservation and recycling, making it among the most advanced integrated lakes in existence. Mr. Komor also developed a 200 gpm recycled water treatment process to improve the existing Title 22 rated effluent quality proposed for use in the lake system, saving approximately $1.5 million in capital cost (30%) compared to a previously proposed membrane treatment system. The recycled water source contains high levels of odorous ammonia, which colors water, is toxic to aquatic biology, and creates other water quality problems. The recycled water also contains high phosphorus levels, which could cause high levels of nuisance algae turning the water green and turbid. A custom treatment solution was pilot tested to demonstrate its effectiveness. The treatment system consists of ion-exchange with zeolite, alum, and filtration to support phosphorus removal. Within the lake, the water is continuously recirculated and treated with ozone and additional alum. The lake and treatment system supports the lake make-up water needs and irrigation for the stadium property. Additionally, the system may be used for other non-potable water demands such as toilet flushing, cooling towers, and evaporative coolers in the future.

Lake San Marcos Remedial Improvements – San Marcos, CA

Mr. Komor provided a detailed assessment of the existing lake data and reports related to the EPA Total Maximum Daily Load (TMDL) requirements, and developed a comprehensive strategy for remedial actions for the lake including deep water oxygenation, shallow water coagulant addition and recirculation, waterfowl management, and sediment oxidation. The suggested improvements are intended to reduce nutrients nitrogen and phosphorus, improve clarity, reduce chlorophyll, and increase dissolved oxygen concentrations.

Bow River Harmony Reservoir and Water Treatment Plant – Calgary, Alberta, Canada

As the Project Manager, Mr. Komor oversaw the design of a new 123-acre rainwater harvesting, recreational lake, and drinking water reservoir. Harmony Lake serves as a reservoir for water supply to the community as well as a stormwater detention facility to control flooding of the project and areas downstream of the project. Providing safe and reliable water supply is the most important function of the lake, and thus the design has carefully considered a thermally separated deep zone to provide consistent water quality and a stable ecosystem. The lake also functions as a fishery, path walking, and boating attraction that are important amenities to the community. Aspects of the design of this reservoir include intakes/discharges, deep water treatment and oxygenation system, shallow water recirculation and aeration system, wetlands, and other aesthetic features. A lake water balance analysis was performed and we developed one- and three-dimensional hydrodynamic-water quality models. We recommended and designed a hypolimnetic oxygenation and ozonation system (HOOS) for the deep zone where water is thermally stratified during summer and winter.

River Islands Lake Water Quality / Urban Stormwater Management System – Lathrop, CA

PACE is providing water and wastewater infrastructure planning for River Islands, a large mixed-use development located in central California. The first phase is 900 acres and includes residences, schools, and commercial

PROJECT MANAGER – Andy Komor, MS, PE

RELATED EXPERIENCE CONT.

buildings. Mr. Komor currently serves as the Project Manager, and is directing PACE's production of the sewer plan, recycled water plan, and stormwater management plan. Mr. Komor is also leading the design for the interim and permanent sewer lift station and stormwater pump stations. Three strategically located master pump stations are provided throughout the site, essentially one for each 1,000-acre watershed. Each station will have five stormwater pumps capable of discharging about 30,000 gpm with one pump out of service, and the pumps will be used during dry weather for lake treatment and recirculation. Within the stations will also be irrigation pumping from the lakes, ozone and aluminum coagulant injection, and a lake fill air gap system using various water sources. The characteristics and complex nature of the proposed project interior drainage system required the use of a sophisticated "coupled" unsteady-state hydrology/hydraulic model with XP-SWMM. The modeling allowed detailed understanding of the hydraulic performance through the time variation of the stormwater storage in the manmade lake systems and allowed the stormwater pump station effects to be evaluated including the pump sizes, the pumping time periods, and the pump sequencing. The XP-SWMM model also provided the ability to optimize the size of the pump and storm drain pipes, saving significant construction costs for the project and effectively managing the interior flooding elevation so that it was contained within the manmade lakes.

Canyon Lake Drinking Water Reservoir Oxygenation Design – Riverside County, CA

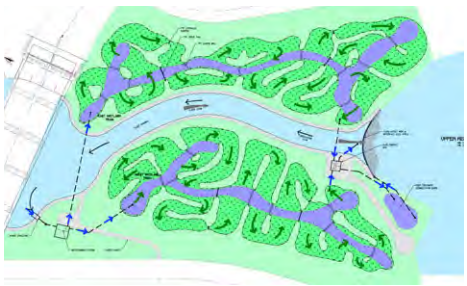
As Project Manager for the field testing, modeling, and design of a new deep water oxygenation system for this large 400 acre drinking water reservoir, Andy provided all communication with project stakeholders including alternatives analysis and presentations including a symposium on Water Resources at Canyon Lake.

Walnut Canyon Reservoir and Lenain Water Treatment Plant Operations and Water Infrastructure – Anaheim, CA

Mr. Komor served as the Project Manager, in charge of the study and recommended optimal operation of Walnut Canyon Reservoir (WCR), which is a 1.0-billion-gallon raw water reservoir with a storing capacity of 3,000 acre-feet located in Anaheim's hills and canyon area, as well as the Lenain Water Treatment Plant (LWTP). First, two occurrences of taste and odor compounds, including geosmin and 2-methylisoborneol (2-MIB), caused major upsets on the operations of the LWTP. PACE treated the reservoir water containing these taste and odor compounds using an elevated dose of ozone. This ozone treatment successfully oxidized and destroyed both geosmin and 2-MIB and treated water was odor-free. Later, the WCR experienced an accumulation of sulfide and manganese due to thermal stratification and oxygen depletion in the bottom layer. PACE optimized their treatment processes to get rid of these drinking water contaminants. PACE conducted a series of bench-scale tests to determine the ozone dose for sulfide and manganese oxidation. PACE also assisted the City commencing the start-up of the bottom water treatment in the LWTP. The PACE team monitored the sulfide and manganese concentrations at six different locations in the plant, as well as the ozone and chlorine levels, and provided quick feedback to the plant operators to make sure the finished water met the drinking water standards for sulfide, manganese, and bromate. Also, PACE provided the City with pressure reducing station upgrades at eight of their eastside locations. Upgrades included comprehensive civil, mechanical, electrical, and control improvements to modernize the aging infrastructure.

Sino-Singapore Eco-City – Tianjin, China

Mr. Komor served as the project manager and concept designer for the Sino-Singapore Eco-City project. The project consisted of wetland and lake design, sludge dredging, dewatering, and disposal/reuse. Mr. Komor examined water balance information for determination of inflow-outflow from the lake including inputs such as wastewater effluent discharge, dry weather nuisance flow, and storm flow, and outputs such as evaporation, irrigation reuse, discharge to the river, and ex-filtration from the lakes. He also developed a post WWTP nutrient removal treatment facility which was a combination of a mechanical facility and a natural wetlands-type facility, to reduce nitrogen entering the lake from the WWTP.



Erdos Lucky Cloud Park – Erdos, China

Mr. Komor served as the project manager and engineer of record for Lucky Cloud Park, a mixed-use development surrounding a 20 hectare restored upper reservoir and a new 60 hectare lower reservoir. The project is located in Northern China where water supply is extremely limited. Mr. Komor was the concept designer for the project which features a nutrient removal facility to reduce nitrogen and phosphorous levels, a wetland treatment system to treat dry-weather nuisance flow, small storm flows, and provide effluent polishing, a 20 hectare upper reservoir and 60 hectare lower reservoir that provides additional effluent polishing through bio-filters, aeration, and water quality filters. Mr. Komor also designed debris basins upstream of each reservoir, which captures sediment during storm events reducing lake operations & maintenance and increasing the life-span of each reservoir.

sr. project engineer

Zirang Song, MS, PE

EDUCATION
MS International Construction Management, Nanyang Technological University, Singapore, 2000

BS Mechanical Engineering, Harbin Institute of Technology, China, 1983

YEARS OF EXPERIENCE
31+ Years
Joined PACE in 2000

REGISTRATIONS
Professional Engineer / CA – 2005 / 69315

Zirang Song has civil design/engineering experience spanning back to 1990. From concept to final design and specifications, his areas of expertise include all areas of water infrastructure including, lake system design, water storage, water feature/fountain design, swimming pool filtration system design, pump station design, water conveyance, and construction management. He has specific water feature expertise in concept design, shoreline and lining systems, site grading, mechanical engineering design of aquatic facilities, electronic controls, telemetry, advanced disinfection systems and hydraulics. Additionally, Mr. Song has developed plans and specifications for dozens of pump station and reservoir facilities, many being municipal applications. Other responsibilities include construction support and coordination.

RELATED EXPERIENCE

Wilderness Park Lake Renovation – Downey, CA

Mr. Song served as the Project Manager to provide design and services during construction for the renovation of two one-acre lakes within Wilderness Park in Downey, CA. The lake renovation was part of the overall Wilderness Park renovation project involving demolition and reconstruction of the two lakes to improve lake water quality and enhance the aesthetic appearance of the lakes. Several water treatment features were implemented in the improved design including increased lake recirculation system, enhanced lake aeration system, alum addition to increase the water clarity, aquatic planting along lake shoreline, and lake as the park irrigation reservoir to increase the water turnover rate. The project also included waterfalls, streams, different type of shorelines, a new pump station, lake and equipment electrical and control design, and a new lake liner system. A park irrigation pumping and filter system was also included in the lake pump station design. PACE also performed services during construction including reviewing submittals, responding to RFIs, construction inspection and preparation of record drawings.

Lake Village Lake Restoration – Temecula, CA

Mr. Song served as the project manager to provide a rehabilitation plan for the existing lakes in the Lake Village Community to satisfy the community objectives and maintain healthy lake functions. The community consists of two lakes, an upper lake at approximately 4 acres and a lower lake at approximately 8 acres, separated by a spillway. The lake restoration objectives included replacing the aging lake liner, reducing lake makeup water demand, replaced eroded lake shoreline, removed lake sediment, improved lake water quality, added new lake circulation and water treatment, restore aquatic/lake ecosystem features, maintain sustaibable lake ecosystem, minimizing long-term maintenance costs, encance recreational functions, and phased implementation program to match available funding. PACE also phased implementation program to match available funding.

The Villages at Rancho El Dorado Lake – Maricopa, AZ

This project involved in a 1.2-acre park lake design and an entry water feature design. The park lake is located in the club house area, serving as an irrigation lake as well as an amenity for the property. The lake has four 20 feet high geyser fountains. The entry feature features a few horse sculptures right at the edge of water. The project is located at Smith-Enke and Santa Cruz in City of Maricopa, AZ.

Lagos Vistoso Lakes – Chandler, AZ

Mr. Song served as project manager for lake design services for Pulte Homes. The project is located at Riggs and McQueen in Chandler, AZ. The scope of work encompassed design services for the water feature system with 15 lakes (total surface area approximately 510,000 s.f.). The project also included two (2) entry water features, boat ramps, and an irrigation pump station.

Vistancia Lakes – Peoria, AZ

Trilogy at Vistancia is an Active Adult Community Golf Course that is home to two lakes. The lakes possess natural

SR. PROJECT ENGINEER – Zirang Song, MS, PE

RELATED EXPERIENCE CONT.

shorelines and waterfalls. In addition, there is an entry water feature and a clubhouse feature. Mr. Song, as Project Manager, was responsible for recirculation and aeration design and the mechanical filtration system.

Goodyear Park Lake – Goodyear, AZ

Mr. Song was responsible for the lake recirculation and aeration design as well as the mechanical pump station design. The lake at Goodyear Park is a one-acre irrigation storage lake with an eight-foot waterfall, and its shoreline is comprised of PVC and eroded concrete.

McQueen Park Lake – Chandler, AZ

McQueen Park Lake is a soil liner lake with an eroded concrete shoreline. As Project Engineer of this community park lake, Mr. Song's responsibilities included the design of a pump station, lake recirculation, and aeration design.

Province Phase I, II & III Lakes – Maricopa, AZ

The Province Residential Lake Community consists of multiple lakes. Phase 1, which has been completed, encompasses an area of 20 acres, and Phase 2, encompasses an area of 11 acres. These lakes contain shorelines that are a combination of eroded concrete and natural shoreline. As Project Manager, Mr. Song's responsibilities include recirculation and aeration system design, and entry waterfall design. The Phase III Lake including 7 lakes total 10 acres in area are serving as storm water detention as well as amenity feature for the property.

Val Vista Classic Lakes – Gilbert, AZ

The project is for Trend Homes Arizona for the lake system design including aesthetics, water quality, grading, drainage, fill, electrical, etc. There are five lakes in the project total 5.0 acres. PACE coordinated all the lake piping, pump vaults and well fill line with civil engineers for a successful installation. The project also involved in a faux bridge structural design and construction plan preparation. A single span 16-foot circular faux bridge structure consists of a 7-foot tall detailing wall structure with a 4-foot cantilever vertical bulkhead to provide appearance of real bridge.

The Barn at Power Ranch Lake – Queen Creek, AZ

Mr. Song served as Project Manager to Sunbult Holdings Inc. The project consisted of the design of a 2.2-acre lake for irrigation and water feature.

Laveen Farms – Phoenix, AZ

This project is located in the City of Phoenix and includes a water feature system of approximately 90,370 sf of water surface, 2,190 feet long of shoreline, and a waterfall feature. The pump vault is directly below the water fall with manmade rock camouflage.

Carlsbad Golf Course Lakes – Carlsbad, CA

The Carlsbad Golf Course is a new municipal golf course that consists of 2 lakes: one 3.6 acre irrigation lake and a one acre water feature lake. The irrigation lake includes a 20 foot waterfall and lighting. As Project Manager, Mr. Song's responsibilities included recirculation and aeration design, and irrigation pump station design for the irrigation lake.

Heritage Park Lake Renovation Consulting – Cerritos, CA

Mr. Song Served as the Sr. Project Engineer for the design and operation review of the nearly one-acre Heritage Park Lake and associated infrastructure and made recommendations on how to improve the lake system function. The lake has been subject to aesthetic and other concerns from deteriorated water quality despite the replacement of the entire water body with potable water. PACE reviewed the recirculation and water treatment function and determined causes for uncontrolled algae growth and the lack of effectiveness by the water treatment system. Recommended modifications to the lake and operation program addressed configuration, depth, circulation, nutrient loading from storm and irrigation flows, chemical and biological water quality treatment systems, lake structure and materials, and water turnover.

SilverRock Ranch Resort Lakes – La Quinta, CA

Mr. Song was a Project Engineer for water features design on Phase I. Mr. Song participated in the design of the resort and golf course water features, which include over 20 acres of lakes, an elaborate entry water feature with manmade rock walls with a more than 10,000 gpm flowrate.

PROJECT MANAGER – Zirang Song, MS, PE

RELATED EXPERIENCE CONT.

Silver Beach Lakes – Yangjiang, Guangdong, China

The Silver Beach development is located at HaiLing Island, YangJiang City, GuangDong Province. The total project size is approximately 183 hectares. The development is composed of residential area, an 18-hole golf course, and several lakes. Mr. Song serves as Project Engineer for drainage analysis of the Silver Beach development. The hydraulics analysis was conducted to evaluate the conveyance of offsite and onsite runoff through the project site. The ACOE HEC-RAS computer model was utilized for the hydraulics analysis. The 50-year discharges were also modeled. The results of the model were analyzed to size the storm drain system, consisting of roadway culverts, open channels, and lakes within the project.

Golden Sand Lake – Hangzhou, China

Mr. Song was the technical specialist tasked with designing the intake system, water delivery system and drainage system of Golden Sand Lake, a 36 hectare lake, including the lake engineering consultation and design service as well as managing/supervising the lake water quality treatment system, lake ecosystem, beach swimming areas and its disinfection system. Mr. Song prepared a detailed engineering report presenting the benefits of three proposed water treatment components, including attached growth bioreactor, constructed wetlands with lake water recirculation, and aeration mixing.

principal / QA/QC

Mark Krebs, PE

EDUCATION
B.S. / Civil Engineering (cum laude)
Structures & Hydraulics, University of Kentucky, 1988

YEARS OF EXPERIENCE
34 Years
Joined PACE in 1989, with others over 2 years

REGISTRATIONS
Professional Engineer / AZ – 1993 / 27388
Professional Engineer / CA – 1992 / 049292
Professional Engineer / CO – 2000 / 34093
Professional Engineer / KY – 1993 / 17891
Professional Engineer / NV – 1994 / 10587
Professional Engineer / NM – 1997 / 13635
Professional Engineer / UT – 1996 / 32137

AFFILIATIONS
American Concrete Institute, ACI 230, Soil Cement Committee Chairman
American Society of Civil Engineers (ASCE)
American Water Works Association (AWWA)
Floodplain Management Association (FMA)
Water Environment Federation (WEF)
Tau Beta Pi, Chi Epsilon
Eagle Scout - Boy Scouts of America

PUBLICATIONS
Soil-Cement Stands the Test of Near Record Breaking Rainfall in Southern California –Soil Cement Solutions
Flood and Environmental Protection –
Portland Cement Association
American Concrete Institute Report on Soil Cement
LA County Approves Soil Cement for Innovative Flood Protection – Land and Water
Design of Fish Passage Mitigation Measures for Flood Control Channels
Integrating Urban Design into Flood Protection Facilities
Streambank Stabilization with Geogrid System.
Levee Design for Flood Protection on Alluvial Fans
Design of Channel Flow Diversion Facilities for Habitat Irrigation

PATENTS RECEIVED
6,132,614 Modular Wastewater Treatment System
6,168,349 System for Lining a Bank of a Waterway

Mark Krebs has engineering and construction experience specific to water resources spanning back to 1988 with both public and private sector projects. His project design and construction experience includes all phases of infrastructure, grading, drainage, stormwater treatment, roadway, water, sewer, reclaimed water, storage, distribution, wetland evaluation and mitigation, and a wide range of stormwater quality experience including manmade lake treatment BMP's, and TMDL source control. He has highly specialized background in water feature engineering, including both small and large-scale manmade lakes, formal fountains, streams, waterfalls, and recreational pools and water play areas. In addition to the responsibility of being an officer of the company and President of PACE, Mr. Krebs maintains role as Principal/Sr. Project Manager and the lead design engineer on numerous water resource projects. Moreover, with his knowledge of operational and maintenance requirements of water features, he imparts field technical support and construction administration services.

RELATED EXPERIENCE

Arrowhead Ranch Lakes – Glendale, AZ

Mr. Krebs worked on the design concept for a multi-purpose lake system providing aesthetics, flood control, irrigation and effluent water storage for the Arrowhead Ranch community. The lake systems includes state-of-the-art detention basins, channels, flood control and irrigation supply for the adjacent golf course. The system reduced the 100-year flood flows of the four square mile tributary area from 3,000 to 1,600 cfs. Additionally, numerous flood control drop structures, waterfalls, cascades, and lakes were designed to minimize or eliminate typically costly flood control infrastructure facilities, while seamlessly blending with two 19-hole Arnold Palmer designed golf courses.

SouthShore Lake – Oxnard, CA

Mr. Krebs served as Principal and Project Manager for the engineering of stormwater management and aesthetic water feature systems for the SouthShore Community. SouthShore Lake is an 18-acre lake system that serves four main functions; 1) primary drainage conveyance and peak attenuation / storage facility for the project site, 2) high level urban runoff water quality treatment BMP, 3) irrigation reservoir for irrigation of all city-maintained landscaping, and 4) central community aesthetic focal point. The lake is designed with multiple layers of water quality management system to facilitate water quality improvement including biofiltration, aeration, wetland filters and detention of dry weather and stormwater runoff. These measures ensure that any discharge from the development is of the same or better quality than that discharged prior to development. The lake can accommodate temporary storage through surcharge or rise in the lake level from the 100-year 24-hour storm runoff volume.

Summer Lake Design – Contra Costa County, CA

Mr. Krebs acted as Principal and Project Manager providing design services for a 26-acre lake that serves as the centerpiece of a master planned community in Contra Costa County, CA. The primary function of Summer Lake, in addition to the visual amenities of open-water, beneficial wetland vegetation and wildlife, is to provide stormwater detention and treatment prior to discharge to downstream receiving waters. Freeboard is included to detain stormwater runoff from the proposed development. Subsequent flow beyond the designated detention volume is pumped from the lake to the adjacent river. Also, nuisance flow runoff due to irrigation, miscellaneous washing, etc. from property within the development is detained in the lake where pollutants undergo conversion and treatment. Lake water quality management is achieved with 1) lake level 2) bank erosion due to wave action 3) aquatic plants and algae 4) desiltation, and 5) chemical use within the project (including those used for lake maintenance, households, and the golf course).

PRINCIPAL / QA/QC – Mark Krebs, PE

RELATED EXPERIENCE CONT.

Bridgeport Lake – Santa Clarita, CA

Mr. Krebs served as Project Manager for the lake and flood control measures at this residential lake community which featured several fountain features throughout the community. A 15-acre manmade lake was developed to serve as the heart of the master-planned Bridgeport community. In addition to being the focal aesthetic feature of this high-end development, the lake system also serves as the primary drainage facility for the site and as a water quality and urban storm runoff enhancement facility. Bridgeport Lake incorporates a system of aeration, biofilters, water quality filters and wetland planter areas to manage runoff and maintain water quality, filtering out pollutants prior to lake discharge.

Westlake Lake Design – Stockton, CA

Mr. Krebs served as Principal for the 68-acre manmade lake system. The lake system serves three main functions; 1) focal and recreation feature for the community, 2) serves as a primary drainage conveyance facility for the project site, and 3) acts as a lake water quality and urban stormwater runoff treatment facility. Planned recreation includes boating and fishing and each water front residential lot will be equipped with a boat dock. The lake is designed with multiple layers of water quality management system to facilitate water quality improvement including biofiltration, aeration, wetland filters and detention of dry weather and stormwater runoff. These measures ensure that any discharge from the development is of the same or better quality than that discharged prior to development. The lake can accommodate temporary storage through surcharge or rise in the lake level from the 100-year 24-hour storm runoff volume from the initial tributary development watershed which is approximately 85-acre feet.

The Reserve Lake / Water Feature System – Palm Desert, CA

Mr. Krebs served as the PACE Project Manager and lead design engineer for this exclusive Weiskopf / Morrish golf course and residential development in Palm Desert. The project elements included flood control solutions in addition to 20 acres of lakes, 11 bridges, 3,000 linear feet of streams, five recirculation pump stations, numerous waterfalls, and one 16-foot high drop structure. The Reserve project team set out to create a first-class golf course/ residential development situated within the Deep Canyon watershed. Mr. Krebs initiated PACE's involvement with the redesign of a proposed drainage plan. The redesign provided The Reserve with a signature entry to the project and reduced flood control costs to around five million dollars. PACE's involvement then carried into the design of 11 bridges, the largest of which extends 260 feet over a 6-acre entry lake, a plunge pool for 35,000 cfs (more than the Colorado River), and the design of pristine lakes and streams.

Golden Sand Lake – Hangzhou, China

As the Project Manager, Mr. Krebs designed the intake system, water delivery system and drainage system of Golden Sand Lake, a 36-hectare lake, including the lake engineering consultation and design service as well as managing/ supervising the lake water quality treatment system, lake ecosystem, beach swimming areas and its disinfection system. PACE did a preliminary study on water quality standard and lake water surface elevation; identified source water alternatives and source water pretreatment plan; lake water flow direction study and inlet/outlet layout; water elevation control and water balance plan; intake, delivery and drainage plan; lake and surrounding area drainage recommendation; lake and shoreline study; lake bottom lining study; and submit study reports. PACE is also providing concept design, design development and construction documents for Golden Sand Lake.

Stone Eagle Naturalized Lake System – Palm Desert, CA

As Project Manager for this project Mr. Krebs oversaw the stormwater management program and aquascape design for this unique, championship style golf course located in the natural rugged terrain in Palm Desert. PACE was responsible for the design of 1,500 linear feet of streams with waterfalls and an irrigation lake with a sediment bay. The project consists of 4 lake systems, 8 waterfalls, and various streams. Severe natural drainage hazards exist within this site, which include the steep rocky watersheds, sediment delivery, and alluvial fan. The unique control measures developed for the flood protection integrate the aquascape features to provide hidden flood control benefits. Flood control services provided include hydraulic analysis, flood and sediment control features within Bruce Creek, bank improvements and bank protection.

Trilogy at Glen Ivy Lake System – Corona, CA

Mr. Krebs led the design for all drainage and flood control systems onsite, which minimized disturbance to the naturally hilly landscape and terrain. These flood control measures included two large 168 AF sediment/debris basins, multiple bio-engineered channels within the golf course totaling 8,000 linear feet with peak design flows

PRINCIPAL / QA/QC – Mark Krebs, PE

RELATED EXPERIENCE CONT.

of more than 1,000 cfs. Flood control and drainage measures were integrated into lakes, streams and waterfalls adding visually pleasing aesthetic amenities to the development. PACE provided the design for all integrated aquascapes and water features for the project. Additionally, PACE provided the rough grading design for the entire project site to ensure the most aesthetic and functional solution for the site drainage.

SilverRock Ranch Resort Lakes – La Quinta, CA

Mr. Krebs served as Principal for Phase I of 525-acre golf/resort development. Mr. Krebs developed the water conservation strategy that allowed the project to meet project water demand while satisfying CVWD's irrigation supply regulations, which was a significant challenge given CVWD's stringent guidelines. Techniques employed include improved grading and drainage, utilizing lakes for water storage, and an automated sensory irrigation control system. In addition to the water management plan, Mr. Krebs provided QA/QC of also of the resort and golf course water features, which include over 20 acres of lakes, an elaborate entry water feature with manmade rock walls and more than 10,000 gpm flowrate.

chief geologist / hydrogeologiest

Duoglas S Santo, PG, CEG, CHG

American Geotechnical, Inc
GEOTECHNICAL/CIVIL ENGINEERING, TESTING & INSPECTION

EDUCATION
BS Geology CSULA, Los Angeles, California

Graduate Studies in Engineering Geology, CSULA, Los Angeles, California

YEARS OF EXPERIENCE
30 Years

REGISTRATIONS
Professional Geologist / CA – 5917
Certified Engineering Geologist / CA – 1866
Certified Hydrogeologist / CA – 450
Registered Geologist / ID – 860
Registered Geologist / AZ – 30709

Mr. Santo has more than 30 years experience in southern California in all aspects of the applied earth sciences. He has managed major infrastructure and development projects for public and private sector clients. He has provided engineering geology, hydrogeology, geotechnical engineering, and environmental services for projects ranging from tunnels, dams, bridges, railroads, landfills, hospitals, schools, commercial/industrial developments, large planned communities, and single family residences. He has extensive experience in project and construction management. He has managed the geotechnical aspects for design and construction of more than fifteen large planned communities in Santa Clarita, Palmdale, The L.A. Basin and Orange County. These projects involved many millions of yards of earthwork and the mitigation of complex geologic, hydrogeologic, and geotechnical hazards. He has been the reviewing geologist for more than 20 cities in southern and central California. Mr. Santo provides quality geotechnical, geological, and hydrogeological consulting services to achieve an efficient and successful venture. His recommendations are practical, cost-effective and tailored to each site to ensure a safe project that will perform well over time.

RELATED EXPREIENCE

Eastern Municipal Water District – Diaz Lift Station Hydrogeologic Investigation – Temecula, CA

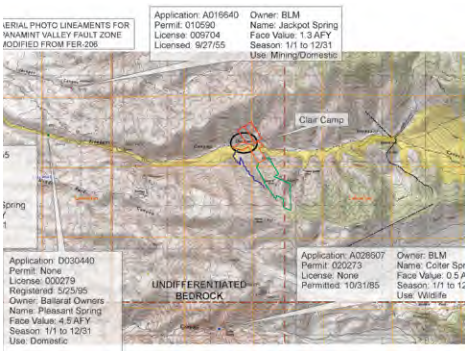
Mr. Santo completed a hydrogeologic investigation for a 49 foot deep wet well and 700 lineal feet of sewer line to be built by MTBM methods. The investigation included a regional hydrogeologic evaluation, excavation, sampling, and detailed logging of 8 large diameter bucket auger borings, installation and development of a 100 foot deep pumping well and 4 monitoring wells, instrumentation of the wells with digital data loggers, performance of a 4-hour step drawdown test to evaluate aquifer parameters and develop pumping rates for a long term groundwater pumping test, performance of a 72-hour continuous rate pumping test, evaluation of the physical aspects of the 4-hour and 72-hour pumping tests including development of structure contour maps depicting the cone of depression as defined by drawdown in the various wells, preparation of detailed hydrogeologic cross sections documenting soil stratigraphy in the complexly stratified alluvial aquifer, evaluation of the time-drawdown data using families of type curves developed by Boulton and Neuman for unconfined aquifers with delayed yield response, time-drawdown data check using a modified non-equilibrium well equation developed by Cooper and Jacob, recommendations for aquifer parameters including hydraulic conductivity, transmissivity, specific yield, and anisotropy, evaluation of the specific capacity of the pumping well, drawdown modeling assuming different well configurations and pumping rates for two optional wet well excavations, a jacking pit and receiving pit, development of recommendations for dewatering depending on excavation size including a deep well dewatering system and a subsurface secant-pile coffer dam system, recommendations regarding Micro Tunnel Boring Machines including potential for cobbles and boulders along the alignement, low density, low N-value sands, running sands, unstable headings and unstable excavations. Made presentations of the work to EMWD design team and Board.

Chino Basin Desalter Authority Phase 3 Expansion – Norco, CA

Mr. Santo completed a forensic evaluation for the proposed Product Water Pipeline Project. The project involved installing about 800 linear feet of 48 inch diameter steel casing below the active channel of the Santa Ana River near the Hamner Avenue Bridge in Norco, California. The casing was to house a product water pipeline. The casing was to be installed using a Micro Tunnel Boring Machine (MTBM). The project was to include dewatering and excavation of an MTBM jacking pit and receiving pit on either side of the alignment. The access pits were to be up to 45 feet deep vertical excavations, shored and internally braced. The northern receiving pit required pre-construction dewatering to lower the groundwater table to a depth 5 feet below base elevation. Numerous construction problems developed during the project including a failure of the dewatering contractor to dewater the receiving pit, and the MTBM becoming stuck in the subsurface about 200 feet short of the receiving pit. The project went substantially

CHIELF GEOLOGIST / HYDROGEOLOGIEST – Douglas S Santo, PG, CEG, CHG

RELATED EXPREIENCE CONT.



over budget and remains incomplete. Mr. Santo was designated a technical expert during the mediation process and provided technical review of project plans and specifications, design geotechnical investigations, post failure geotechnical investigations, and post failure pumping test and dewatering analysis. Mr. Santo provided analysis and findings regarding the reasons for the construction failures.

Hydrogeologic Evaluation of Goler Wash Near Keystone Mine, Southern Panamint Range – Inyo County, CA

Mr. Santo completed a hydrogeologic evaluation of a 4 mile reach of Goler Wash in the Southern Panamint Range near Death Valley National Park. The purpose of the investigation was to identify potential sources of water in this remote desert area, characterize the hydrogeologic conditions of the Goler Wash Alluvial Aquifer and the Panamint Valley Playa, prepare hydrogeologic maps and cross sections, evaluate the potential for groundwater development near active fault strands of the Panamint Valley Fault, determine the hydraulic parameters of the aquifers and estimate the groundwater available to pumping or other means of diversion, estimate groundwater available for diversion from Sourdough Spring, evaluate groundwater and spring water quality and usability for domestic and industrial processes, provide consulting services related to the water rights permitting process, prepared emergency lake and streambed alteration notification for California Department of Fish and Wildlife following torrential flash flooding in Goler Wash, designed remedial repair to reestablish Goler Wash Road and reopen the road to the public.

Moulton Niguel Water District Aliso Creek Hydrogeologic Investigation – Aliso Viejo, CA

Mr. Santo completed a hydrogeologic investigation for a 2 mile reach of Aliso Creek to characterize the alluvial aquifer, determine water rights status, determine permitting requirements, and evaluate the potential for using the aquifer as a supplement to the MNWD recycled water supply. The investigation included research and review of hydrogeologic information, evaluation of California water code, research and analysis of water quality data, and consultation with MNWD.

PB/DMJM - Hydrogeologic Investigation Universal City Station, North Hollywood, CA

Mr. Santo completed a hydrogeological investigation at the proposed Universal City Station in North Hollywood. The investigation included installation of pumping wells and monitoring wells, performance of groundwater pumping tests, evaluation of the pumping test data, and drawdown modeling. Developed aquifer characteristics using Cooper-Jacob and Hantush type curves. Modeled drawdown using the Hantush-Jacob equation for leaky confined aquifers. Developed recommendations for construction dewatering.

geotechnical principal engineer

Fei-chiu (Jerry) Huang, PhD, PE, GE, QSD/QSP

American Geotechnical, Inc
GEOTECHNICAL/CIVIL ENGINEERING, TESTING & INSPECTION

EDUCATION

BS Civil Engineering, Tamkang University, Taipei, Taiwan, R.O.C.

MS Civil and Environmental Engineering (Geotechnical) Utah State University, Logan, Utah

PhD (Geotechnical), Northwestern University, Evanston, Illinois

YEARS OF EXPERIENCE

25 Years

REGISTRATIONS

Professional Engineer / CA – C55670

Geotechnical Engineer / CA – GE2601

Governor's Office of Emergency Services (OES), Post-Disaster Safety Assessment Program (SAP) Evaluator / CA – SAP63537

California Stormwater Quality Association (CASQA), Qualified SWPPP Developer (QSD) and Qualified SWPP Practitioner (QSP) / Certificate #20136

Dr. Huang has more than 25 years of experience in southern California in all aspects of the civil and geotechnical engineering related fields. He has managed many infrastructure and development projects for public sectors and private clients. He has provided civil and geotechnical engineering services for projects ranging from bridges, levees, pipelines, tunnels, shafts, and reinforced concrete box (RCB), shoring/shields, commercial/industrial developments, large planned communities, and single family custom home developments. Dr. Huang has extensive experience in project development and construction management throughout southern and northern California areas. His primary duties were focused on project planning and management, site characterization, analysis and interpretation of subsurface data, static and dynamic design and analysis of shallow and deep foundations, pavement design, liquefaction analysis, as well as earth retaining and stabilizing structures. He investigated and mitigated various landslide and slope failure problems. His current duties included client contact, proposal preparation, planning geotechnical and forensic investigations, engineering data analyses, foundation design and recommendations, project management, as well as report writing. Dr. Huang has involved various types of construction projects including new construction, grading, landslide stabilization, slope repair, levees, tunnels, pipelines, shafts, reinforced concrete box (RCB) and temporary shoring/shields design, etc.

Dr. Huang has more than 25 years of geotechnical forensic investigation experience. He has worked on various construction litigation projects for lawyers, homeowner associations, insurance companies, financial institutions, and major developers in California. He has investigated various foundation problems, and designed treatments including shallow and deep foundation repairs, retaining structures stabilizations, mechanically-stabilized earth (MSE) retaining wall design and analysis, landslide/slope stabilizations, levee failure investigation, groundwater problems investigation, and pavement rehabilitation.

In addition to his expertise in geotechnical engineering, Dr. Huang also involved in various civil engineering and construction related projects, including but not limited to preparation of precise grading plans, erosion and sediment control plans (ESCP), drainage design, hydrology studies and hydraulic structure calculations, sustainable site design, storm water Best Management Practice (BMP) design, Low Impact Design (LID), and Water Quality Management Plan (WQMP). Dr. Huang is certified as Qualified SWPPP Developer (QSD) and Qualified SWPPP Practitioner (QSP).

RELATED EXPREIENCE

Concrete Street Pavement Reconstruction, Anade Avenue, Montero Avenue, and Alvarado Place – Newport Beach, CA

Geotechnical observation and testing services of concrete placement for proper coverage and consolidation, of reinforcement and placement, trench bottom and trench backfill for new pipe, concrete cylinders preparation, laboratory testing of soils and concrete. The project encompasses pavement reconstruction and associated curb, gutter, sidewalk, ramp, subdrain, catch basin, and storm drain work for about 160 linear feet of 6th Street, 510 Linear feet of Anade Avenue, and 543 linear feet of Montero Avenue, and 518 linear feet of Alvarado Place for a combined 1,570 linear feet of Portland Cement Concrete (PCC) road reconstruction on 4 surface streets in the Balboa Peninsula area, Newport Beach, California.

SURVEY ENGINEER – Jerry Huang, PhD, PE, GE, QSD/QSP

RELATED EXPREIENCE

Ocean Boulevard and Marguerite Avenue Pavement Rehabilitation – Newport Beach, CA

Prepared final compliance report summarizing the on-call geotechnical observation and testing services during construction. The project encompasses reconstruction of a 7-inch thick polypropylene, fiber-reinforced Portland Cement Concrete (PCC) street pavement, access ramps, curb and gutter, and sidewalk at Ocean Boulevard and Marguerite Avenue in the City of Newport Beach, California.

Camino Shores Community and Dochester Road Street Rehabilitation – Newport Beach, CA

Geotechnical investigation for evaluating various distresses observed in street asphalt pavement within Camino Shores Community. The investigation included subsurface exploration by coring of existing pavement sections and hand-augering of ten (10), 8-inch diameter borings to depth of 5 feet below ground surface, laboratory testing of representative intact and bulk samples, engineering analyses and pavement design, as well as preparation of report. Conducted observation and testing services during street rehabilitation and prepared final compaction report.

Bayview Heights Drainage Runoff Treatment Project – Newport Beach, CA

Geotechnical observation and testing services consists of subgrade, subgrade sample collection, placement and compaction of soil, laboratory testing, and preparation of final report.

Removal of Seven Buildings on Palos Verdes Drive West, Palos Verdes Estates – Palos Verdes, CA

Prepared final compaction report summarizing the geotechnical observation and testing services performed during construction. The project consists of removal of seven buildings and other improvements on seven properties, minor grading to create desired grade elevations, and compaction of near-surface materials as well as installation of a drainage system.

FY12/13 Reline/Replace Sewer Pipelines: Tierra Bonita Road, Olive Tree Lane, and Allbrook Drive – Poway, CA

Prepared final compaction report summarizing the geotechnical observation and testing services performed during construction. The project encompasses relining/replacing sewer pipelines, installing new manholes, and new sewer cleanout at Tierra Bonita Road, Olive Tree Lane, and Allbrok Drive in the City of Poway, California.

survery manager

Russell Hanson, PLS

Russell Hanson has 23 years of experience in the preparation of Tract Maps, Parcel Maps, Records of Survey, Right-of-Way maps, Legal Descriptions, ALTA Surveys and Lot Line Adjustments. He has been involved in numerous rehabilitation projects for parks, streets and intersections using conventional survey, GPS survey and scanning. Russell coordinates field crews, processing field work and delivers final CAD product and has extensive survey experience in Southern California.

HUITT-ZOLLARS

EDUCATION
BS, Civil Engineering, Cal Poly Pomona

YEARS OF EXPERIENCE
23 years
Huitt-Zollars

REGISTRATIONS
Professional Land Surveyor (PLS 8873)
Geographic Informational Systems Professional (GISP)

RELATED EXPREIENCE

Polliwog Park Playground Site – Manhattan Beach, CA

As Project Surveyor, Mr. Hanson was responsible for field coordinating for the park rehabilitation project. This included coordination of office and field staff of the topographic survey and final delivery. Field survey included all hardscape features, utilities, playground equipment, grid shoots of open park area to create contours, trees and lake edges. Office work included preparing a final topo in CAD that included features and contours.

Ritz Cove Gate House – Dana Point, CA

As Project Surveyor, Mr. Hanson was responsible for field coordinating for the Gate House rehabilitation project. This included coordination of office and field staff of the topographic survey and final delivery. Field survey included all hardscape features, water features, utilities, trees and surrounding walls. Office work included reviewing the Preliminary Title Report, establishing the property boundary, plotting easements and the field coordination of the topographic survey.

Wishing Tree Park – Torrance, CA

As Project Surveyor, Mr. Hanson was responsible for field coordinating for wishing tree park project. This included coordination of office and field staff of the topographic survey and final delivery. Field survey included all hardscape features, water features, utilities, trees and surrounding walls. Office work included reviewing the Preliminary Title Report, establishing the property boundary, plotting easements and the field coordination of the topographic survey.

Pacific Electric Bike Trail – Upland, CA

As Project Surveyor, Mr. Hanson was responsible for field coordinating for the bike trail project. This included coordination of office and field staff of the topographic survey and final delivery. Field survey included 50 foot sections along trail, all hardscape features, utilities, trees, HCR and other trail features (trail length 2,500 feet). Office work included preparing a final topo in CAD that included features and contours.

ATTACHMENT 1

CEQA/NEPA manager

Dan Bott, MS

VCS Environmental
EXPERT SOLUTIONS | CEQA-NEPA . Biology . Regulatory

Dan Bott is the Director of CEQA/NEPA services for VCS Environmental (VCS). Dan has over 30 years of combined environmental planning experience in both the private and public sector. He is responsible for the preparation and management of environmental documents (Initial Studies, Negative Declarations, Environmental Impact Reports, and Environmental Assessments), as well as other policy plans, including Specific Plans, for a wide variety of residential, commercial and industrial land use projects, transportation improvement projects and water resource infrastructure projects. He is an effective problem solver, able to understand and clearly communicate complex technical and environmental development issues and to create economically feasible solutions.

EDUCATION
MS Environmental Studies, California State University, Fullerton

BA Anthropology, Minor in Political Science, California State University, Fullerton

YEARS OF EXPERIENCE
31 Years
Joined VCS in 2019

AFFILIATIONS
Association of Environmental Professionals (AEP)

American Planning Association (APA)

RELATED EXPREIENCE

Mid Basin Centennial Park Injection Well and Community Park Improvement Project – Santa Ana, CA

Dan managed and prepared the Environmental Impact Report CEQA Plus Document evaluating construction of for underground injection wells, 1.5 miles of underground piping, construction of two recreation buildings, reconstruction of parking lot, construction of impervious sidewalk and skate park improvements. Key environmental issues included construction traffic impacts, noise impacts to sensitive land uses, school access conflicts, park use conflicts, parking impacts and coordination with United States Park Service, Santa Ana Unified School District, Orange County Flood Control District and various neighborhood community groups.

Heritage Museum Monitoring Well/Park Site Improvements – Santa Ana, CA

Dan managed and prepared the construction and maintenance of two underground monitoring wells and museum park improvements, including reconstruction of park lot, non-native vegetation removals, establishment of interpretative area and construction of a community farm. Key environmental issues included construction traffic impacts, noise impacts to sensitive land uses, school access conflicts, park facility access conflicts, historical structure evaluations and coordination with Santa Ana Unified School District, Orange County Flood Control District and various neighborhood community groups.

Groundwater Replenishment System Expansion – Fountain Valley, CA

This Water Reuse project will expand Orange County Water District's existing 100 million gallons per day (MGD) Groundwater Replenishment System (GWRS) to produce an additional 30 MGD drought-proof drinking water supply for its service area. The project will replenish the Orange County Groundwater Basin and reduce the need for imported water. Treated wastewater from the Orange County Sanitation District (OCSD) Plant 2 will be purified using a three-step process that produces high quality water and then stored in the groundwater basin. The final expansion project will include expanding the existing treatment facility, constructing a pump station, rehabilitating pipelines, and reconfiguring the treatment process. Dan prepared and managed the Addendum to Environmental Impact Report which evaluated improvements to existing water treatment facility, including construction of two 33-foot high above ground storage tanks and associated underground piping. Key environmental issues included construction traffic impacts, noise impacts to sensitive land uses and aesthetic view impacts.

ATTACHMENT 1

SIMILAR **PROJECTS**

SIMILAR **PROJECTS**

EARVIN MAGIC JOHNSON PARK LAKE RENOVATION *WILLOBROOK, CA*

Relevant Features

- Lake renovation
- Shoreline replacement
- New pump station and circulation / irrigation delivery system
- Aquatic planters to reduce nuisance water fowl populations
- Mechanical equipment design
- Water quality management systems design
- Remote access automated controls
- Operations and maintenance training and manual development

Reference
Thuan Nguyen
County of Los Angeles
(626) 458-7165

Year Completed 2020

Fee $200,000 (lake only)

Construction $4M (lake only)

PACE served as the design engineer for a sustainable stormwater management system which included the renovation of the existing lower lake at Earvin Magic Johnson Park. This unique new system captures urban runoff, treats the captured flows to improve water quality, and recycles the water throughout the park for onsite irrigation. The treated recycled water is stored within the two lakes, the South Lake at 8.4 AC and the North Lake (lower lake) at 5.5 AC enhancing the appearance and water quality of the lake system. The lake water is captured by the stormdrain line, is pumped to the onsite treatment facility with ozone, coagulation, circulation, aeration, and water conditioning, and is discharge to the alum discharge box at the submerged wetland planter areas along the entire lake edge, providing maintenance access and further lake water treatment through a naturally occurring biological process. PACE also designed a pump at the North Lake to recirculate the water through the treatment system at the South Lake at approximately 2,500 gpm to maintain high water quality in the lakes. Additionally, repaired the shoreline along the lake and island in the center of the lake, as well as added a boat ramp for recreational use.

WILDERNESS PARK LAKE RENOVATION *DOWNEY, CA*

Relevant Features

- Lake renovation design
- Improved lake water quality
- Improved shoreline edge
- New lake liner system

Reference
John Oskoui
City of Downey
(562) 923-6388

Year Completed 2020

Fee $163,500

Construction $1.5M (est.)

PACE provided design and services during construction for the renovation of two one-acre lakes within Wilderness Park in Downey, CA. The lake renovation was part of the overall Wilderness Park renovation project involving demolition and reconstruction of the two lakes to improve lake water quality and enhance the aesthetic appearance of the lakes. Several water treatment features were implemented in the improved design:

- Increased lake recirculation system
- Enhanced lake aeration system
- Alum addition to increase the water clarity
- Aquatic planting along lake shoreline
- Lake as the park irrigation reservoir to increase the water turnover rate.

The project also included waterfalls, streams, different type of shorelines, a new pump station, lake and equipment electrical and control design, and a new lake liner system. A park irrigation pumping and filter system was also included in the lake pump station design. PACE also performed services during construction including reviewing submittals, responding to RFIs, construction inspection and preparation of record drawings.

CITY OF RANCHO CUCAMONGA RED HILL LAKE RENOVATION *RANCHO CUCAMONGA, CA*

Relevant Features

- Lake renovation design
- Lake water used for irrigation
- Mechanical equipment design
- Shoreline replacement
- Liner replacement
- Aeration and circulation design that significantly reduced chemical applications
- Solar power generation
- O&M training and manual development

Red Hill Park Lake is an approximately one-acre reclaimed water impoundment lake at the Red Hill Community Park originally constructed in 1985 that uses reclaimed water delivered from the Regional Water Recycling Plant No. 4 in Rancho Cucamonga. Suffering from poor water quality and expensive maintenance requirements, PACE evaluated the lake to determine viable options to improve water quality conditions while reducing operations and maintenance costs. Subsequently, design services were performed based on the selected alternative based on the evaluation. An analysis was conducted of all lake related components including the mechanical equipment, lake structure, and utility connections (i.e., water, sewer, and storm drain) to provide appropriate options for the lake. The recycled water supply was also conducted tested as part of the water quality analysis. Capital and operations costs were estimated for seven options.

The selected alternative includes a highly energy efficient sub-surface aeration system that operates on a 3 HP compressor, compared to a 15 HP pump utilized with the original aeration system that was out of service. A new 7.5 HP circulation pump was designed to replace the original 10 HP circulation pump and includes improved circulation routing. A solar power generation system was also designed to provide approximately half the power needed to support the aeration compressor and recirculation pump. The solar system coupled with the more energy efficient equipment significantly reduces power costs for operating the lake.

Additionally, a portion of the park is now being irrigated by the lake which provides a lake water turnover rate of approximately 37 days. The utilization of the lake as an irrigation reservoir promotes healthier water quality and improved aesthetic appearance of the water. Collectively, these improvements to the lake will significantly reduce the need for chemical application, further reducing O&M costs for this popular community amenity.

Reference
Michael Courtney (former City of Rancho Cucamonga employee)
City of Rancho Cucamonga | (949) 337-7017

Year Completed 2016

Fee $93,500 **Construction** $500,000

CITY OF LAKE FOREST VILLAGE POND PARK REHABILITATION *LAKE FOREST, CA*

Relevant Features

- Lake renovation design
- Water quality management design
- Pump station / mechanical equipment design
- Shoreline replacement with features to deter excessive water fowl
- O&M training and manual development

Reference
Tom Munoz
Nuvis
(714) 754-7311

Year Completed 2019

Fee $57,200

Construction $500,000

The 4.7-acre Village Pond Park features a one-acre lake, co-owned by the City of Lake Forest Public Works Department and the Lake Forest Community Association. PACE assisted in the Consensus Master Plan and developed alternatives to improve the water quality of the lake. These alternatives included utilizing the lake as an irrigation reservoir, biological filtration, chemical addition, and convert the lake to a pond and stream system. PACE then performed the design for the one-acre lake which is 10 feet deep and holds 1.7 Million gallons of water. The lake design includes a retaining wall shoreline with decorated boulders along the shoreline edge to soften the retaining wall, giving the shoreline a more natural appeal. The lake also includes an existing soil liner with a three layers of 6" lift. The main purpose of the lake is for recreational use and serves as an irrigation storage basin for the park. The lake also provides stormwater basin storage with 12" additional storage above the lake water level. PACE designed the recirculation system with a filter, aeration, and alum system to maintain lake water quality. The pump station was also designed in an underground vault to reduce noise levels.

JAPANESE FRIENDSHIP GARDEN LAKE RENOVATION *PHOENIX, AZ*

Relevant Features

- Lake rehabilitation
- Water quality management design
- Mechanical equipment design
- Maximized reuse of existing equipment
- Constructed in phases to protect and maintain aquatic life
- Developed more simplified operations program

Reference
Dan Kuwitzky
Valley Rain Construction
(480) 894-2835

Year Completed 2016

Fee $44,000

Construction $742,900

The Japanese Friendship Garden allows visitors to escape the city life of Phoenix, AZ without leaving downtown, and enjoy the ambiance and nature of Japanese culture. PACE was part of a design/build team with the City of Phoenix and Pacific Aquascape, Inc. to conduct a detailed on-site analysis of the installed mechanical equipment of their 25,000 square foot koi pond in an attempt to better understand its operation and deficiencies. Based on this analysis, PACE designed systems to improve the existing pond's water quality and simplify the operations of the mechanical systems. The water quality of the pond was greatly impacted by the koi fish and high temperatures of the desert, which promoted rapid growth of algae. PACE resolved this growing concern by dissembling parts of the pond, retaining as many usable elements as possible, and renovating the mechanical equipment. PACE designed a simplified pond operational system where its outward beauty can be enjoyed by the public, and the maintenance team can easily operate it for long-term use.

ADDITONAL LAKE EXPERIENCE

Project Name and Location	Lake Size	Renovation Design	New Lake Design	Liner design	Shoreline Design	Water Quality Management Design	Mechanical Equipment Design	O&M Manual Development
Anthem Community Park Lake, *Anthem, AZ*	4-acres		●	●	●	●	●	●
Anthem Country Club, *Las Vegas, NV*	10-acres		●	●	●	●	●	●
Arrowhead Ranch Lakes, *Glendale, AZ*	400-acres		●	●	●	●	●	●
Ashley Pond Restoration, *Los Alamos, NM*	3-acres	●		●	●	●	●	●
Bridgeport Community Lake, *Valencia, CA*	15-acres		●	●	●	●	●	●
Bridgeport Marketplace Lake, *Valencia, CA*	5-acres		●	●	●	●	●	●
Caldera Springs, *Sunriver, OR*	9-acres		●	●	●	●	●	●
Carlsbad Golf Course Lake, *Carlsbad, CA*	5-acres		●	●	●	●	●	●
City of Champions Lake, *Inglewood, CA*	6-acres		●	●	●	●	●	●
Dos Lagos, *Corona, CA*	2-acres		●	●	●	●	●	●
El Dorado Park Duck Pond Restoration, *Long Beach, CA*	4 acres	●		●	●	●	●	●
Fancher Creek Lake, *Fresno, CA*	1-acre		●	●	●	●	●	●
Fulton Ranch Lakes, *Peoria, AZ*	28-acres		●	●	●	●	●	●
Gilbert Regional Park Lake, *Gilbert, AZ*	8-acres		●	●	●	●	●	●
Golden Sand Lake, *Hangzhou, China*	89-acres		●	●	●	●	●	●
Goodyear Park Lake, *Goodyear, AZ*	1-acre		●	●	●	●	●	●
Grizzly Ranch, *Portola, CA*	10-acres		●	●	●	●	●	●
Harmony Lake, *Calgary, Canada*	123-acres		●	●	●	●	●	●
Japanese Friendship Garden, *Phoenix, AZ*	1-acre	●		●	●	●	●	●
La Jolla Reserve Water Feature Renovation, *La Jolla, CA*	0.5-acre	●		●	●	●	●	●
Lagos Vistoso Lakes, *Chandler, AZ*	12-acres		●	●	●	●	●	●
Laveen Farms Lakes, *Phoenix, AZ*	2-acres		●	●	●	●	●	●
Layton Lakes, *Chandler, AZ*	17-acres		●	●	●	●	●	●
Magic Johnson Park Lake Renovation, *Willowbrook, CA*	14 -cres	●		●	●	●	●	●
Marbella Vineyards Lake, *Gilbert, AZ*	1-acre		●	●	●	●	●	●
Marriott Desert Springs Resort, *Palm Springs, CA*	35-acre		●	●	●	●	●	●
McQueen Park Lake, *Chandler, AZ*	1-acre		●	●	●	●	●	●
Ocotillo Lakes Phase I and Phase II, *Chandler, AZ*	95-acres		●	●	●	●	●	●
Province Lakes, *Maricopa, AZ*	13-acres		●	●	●	●	●	●
Quintana Lake, *Thermal, CA*	22-acres		●	●	●	●	●	●
Riverwalk Lake, *Riverside, CA*	3-acres		●	●	●	●	●	●
San Lorenzo Park Lake, *San Lorenzo, CA*	2-acres		●	●	●	●	●	●
SilverRock Resort Lakes, *La Quinta, CA*	20-acres		●	●	●	●	●	●
Sun City Aliante Park, *Henderson, NV*	1-acre		●	●	●	●	●	●
The Barn at Power Ranch Lake, *Queen Creek, AZ*	2-acres		●	●	●	●	●	●
The Villages at Rancho El Dorado, *Maricopa, AZ*	1-acre		●	●	●	●	●	●
Val Vista Classic, *Gilbert, AZ*	5-acres		●	●	●	●	●	●
Villa Venetia Lake Renovation, *Costa Mesa, CA*	0.75-acre	●		●	●	●	●	●
Village Pond Park, *Lake Forest, CA*	1-acre	●		●	●	●	●	●
Vistancia Community Water Features, *Peoria, AZ*	4 acres		●	●	●	●	●	●
Westlake Lakes, *Stockton, CA*	43-acres		●	●	●	●	●	●
Wetlands of Avondale Lakes, *Avondale, AZ*	88-acres		●	●	●	●	●	●
Wilderness Park Lake Renovation, *Downey, CA*	2-acres	●		●	●	●	●	●
Woodbridge Lake, *Manteca, CA*	2-acres		●	●	●	●	●	●

SIMILAR PROJECTS **AMERICAN GEOTECHNICAL**

MORENO VALLEY LAKE *MORENO VALLEY, CA*

Relevant Features

- Forensic lake evaluation
- Sedimentation sources
- Estimated dredging volumes

Reference
Cang Le, Partner
Angius & Terry LLP
(800) 610-4292

Year Completed 2021

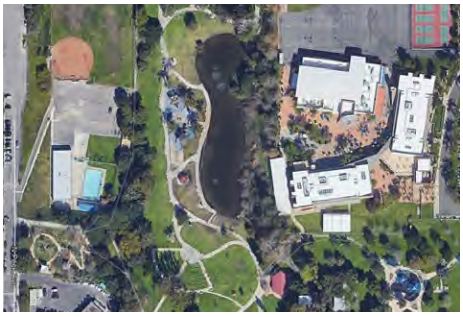
Fee $50,500

Construction $2.5M

American Geotechnical is currently providing consulting services to the Moreno Valley Lake HOA through counsel to provide ongoing consulting services related to excess lake sedimentation. The work included lake bottom survey, sediment sampling and sediment thickness determination, sedimentation sources, recommendations for lake dredging, and ongoing litigation support. Doug Santo is the AG project manager and designated technical expert.

SIMILAR PROJECTS **HUITT-ZOLLARS**

POLLIWOG PARK PLAYGROUND SITE
MANHATTAN BEACH, CA



Huitt-Zollars was responsible for reviewing the Preliminary Title Report, establishing the property boundary, plotting easements and the field coordination of the topographic survey. Field survey included all hardscape features, utilities, playground equipment, grid shoots of open park area to create contours, trees and lake edges.

Relevant Features

- Park/lake renovation

Reference
Jeremy Klemic
SWA Group
(213) 787-2595

Year Completed 2020

Fee $12,000 **Construction** $1M

RITZ COVE GATE HOUSE RENOVATION *DANA POINT, CA*

Huitt-Zollars was responsible for reviewing the Preliminary Title Report, establishing the property boundary, plotting easements and the field coordination of the topographic survey. Field survey included all hardscape features, water features, utilities, trees and surrounding walls.

Relevant Features

- Entry renovation

Reference
Jason Atkins
Marmol Radziner
(310) 826-6222

Year Completed On-Going

Fee $10,000 **Construction** $450,000

WISHING TREE (DEL AMO NEIGHBORHOOD) PARK
LOS ANGELES COUNTY, CA

Huitt-Zollars was responsible for reviewing the Preliminary Title Report, establishing the property boundary, plotting easements and the field coordination of the topographic survey. Field survey included all hardscape features, utilities, grid shoots of open park area to create contours and surrounding walls. Huitt-Zollars is also responsible for the onsite construction staking.

Relevant Features

- Park renovation

Reference
Ashley Hart
Los Angeles Neighborhood Land Trust
(323)365-3224

Year Completed On-Going

Fee $50,000 **Construction** $350,000

SIMILAR PROJECTS **VCS ENVIRONMENTAL**

MID BASIN CENTENNIAL PARK INJECTION WELL AND COMMUNITY PARK IMPROVEMENT PROJECT *SANTA ANA, CA*

Relevant Features

- **Evaluation of construction for underground injection wells**
- **1.5 miles of underground piping**
- **Environmental Impact Report CEQA Plus Document**

Reference
Ben Smith, PE
OCWD
(714) 378-3211

Year Completed 2019

Fee $150,000

Construction $30M

Dan Bott, CEQA/NEPA Director at VCS, prepared and managed the Environmental Impact Report CEQA Plus Document while at the Orange County Water District, which evaluated construction of four underground injection wells, 1.5 miles of underground piping, construction of two recreation buildings, reconstruction of a parking lot, construction of impervious sidewalk and skate park improvements. VCS was a subconsultant to Dan for this project. Key environmental issues included construction traffic impacts, noise impacts to sensitive land uses, school access conflicts, park use conflicts, parking impacts and coordination with United States Park Service, Santa Ana Unified School District, Orange County Flood Control District and various neighborhood community groups.

SAN JUAN HILLS GOLF CLUB *SAN JUAN CAPISTRANO, CA*

The San Juan Hills Golf Course has previously processed an Initial Study/Mitigated Negative Declaration for a four-phase project to upgrade its facilities. VCS assisted the Golf Course with implmentation of Phase 1 of the golf course to demolish two existing ponds and construct one large irrigation pond. VCS is assisting the Golf Course with the planning for the future phases of the golf course including relocation of the driving range and parking lot.

Relevant Features

- **Resource agency documentation to prove no jurisdiction**
- **CEQA/City Conditions of Approval Compliance**
- **Active recreational facility**

Reference
Roberto Brutocao
SunCoast Properties, Inc.
(949) 294-9400 x428

Year Completed On-Going

Fee $122,200 **Construction** $3.5M

CUCAMONGA CREEK WATERSHED REGIONAL WATER QUALITY PROJECT (MILL CREEK WETLANDS) *PRADO BASIN, CA*

The Cucamonga Creek Watershed Regional Water Quality Project (Mill Creek Wetlands) is a 52-acre natural wetland system that provides water quality, recreation, and habitat restoration benefits, located in the Prado Basin. The project is the result of a multi-agency partnership with the U.S. Army Corps of Engineers (USACE), City of Ontario, City of Chino, San Bernardino County Parks, Orange County Water District, and the Inland Empire Utilities Agency utilizing USACE land and City of Ontario grant funds along with private developer funds to create a $25 million facility. VCS was instrumental in project design and obtaining project approvals from the Corps and the City of Ontario. The project included the preparation of California Environmental Quality Act (CEQA) Mitigated Negative Declaration and the National Environmental Policy Act (NEPA) Environmental Assessment. Regulatory, permitting, monitoring and biology included:

- Jurisdictional Delineation and Habitat Mitigation and Monitoring Plan
- California Rapid Assessment Methodology (CRAM)
- Section 404 Nationwide Permit with USACE
- Section 401 Water Quality Certification with Regional Water Quality Control Board
- Section 1602 Streambed Alteration Agreement with California Department of Fish and Wildlife
- U.S. Fish and Wildlife Service Section 7 Consultation
- CDFG Section 2080.1 for threatened and endangered species
- Construction monitoring
- Migratory Bird Treaty Act Surveys
- Least Bell's vireo surveys
- Burrowing owl surveys

Relevant Features

- **Multi-agency coordination, including USACE ownership**
- **Regional water quality improvements**
- **Recreational setting**

Reference
Scott Murphy, AICP
City of Ontario
(909) 395-2419

Year Completed On-Going

Fee $450,000 **Construction** $25M

ATTACHMENT 1

SCHEDULE

ATTACHMENT 1

PROJECT **SCHEDULE**

TASK DESCRIPTION	MONTHS 1	2	3	4	5	6	7	8
Task 01 – Project Start-Up								
Task 02 – Existing Lake System Review and Project Analysis								
Task 03 – Project Survey								
Task 04 – Problem Identification and Solutions/Alternatives								
Task 05 – Environmental Review and Permitting								
Task 06 – Presentations / Public Outreach								
Task 07 – Construction Documents								
70% PS&E								
100% PS&E								
Final PS&E								
Task 08 – Engineering Specifications								
Task 09 – Construction Cost Estimate								

PACE

ATTACHMENT 1

ADDENDUM
ACKNOWLEDGEMENT

CITY OF COSTA MESA

CALIFORNIA 92628·1200 P.O. Box 1200

FROM THE OFFICE OF THE CITY ENGINEER

DATE: **MAY 14, 2021**

TO: **ALL PROSPECTIVE BIDDERS**

ADDENDUM NO. 1 – RFP TO PROVIDE PROFESSIONAL DESIGN SERVICES FOR THE RENOVATION OF THE ORNAMENTAL LAKES AT TEWINKLE PARK

This addendum, effective on this date, addresses the following items:

PROPOSAL DUE DATE: **NO CHANGE**

The attached Request for Proposal (RFP) dated May 14, 2021 SHALL replace in its entirety the previous RFP that was published / posted on PlanetBids on April 26, 2021.

Notable changes include, *but not limited to*, the following:

- **Non-mandatory job walk on May 19, 2021 at 9:30 a.m. (Page 1)**
- **Change of contact person (Page 1)**
- **TeWinkle Park drawings and plans (Page 2)**
- **United States Fish and Wildlife Service (USFWS) and permitting (Page 4)**

The contents of this addendum shall have precedence over all related provisions within the contract documents. It is the intent of the City to clarify the above-mentioned items to all bidders and should it be necessary to request clarification on these matters, please contact Seung Yang, City Engineer at (714) 754-5633.

Sincerely,

Seung Yang, P.E.
City Engineer

X

Addendum Acknowledgement - Andy Komor, MS, PE

ATTACHMENT 1

CITY OF COSTA MESA

CALIFORNIA 92628·1200 P.O. Box 1200

FROM THE OFFICE OF THE CITY ENGINEER

DATE: **MAY 21, 2021**

TO: **ALL PROSPECTIVE BIDDERS**

ADDENDUM NO. 2 – RFP TO PROVIDE PROFESSIONAL DESIGN SERVICES FOR THE RENOVATION OF THE ORNAMENTAL LAKES AT TEWINKLE PARK

This addendum, effective on this date, addresses the following items:

PROPOSAL DUE DATE: **THURSDAY, JUNE 3rd, 2021 at 4:00 PM**

Plans and specifications from a previous TeWinkle Park lakes project in 2004 can be downloaded on PlanetBids.

The contents of this addendum shall have precedence over all related provisions within the bid documents. It is the intent of the City to clarify the above-mentioned items to all bidders and should it be necessary to request clarification on these matters, please contact Seung Yang, City Engineer at (714) 754-5633.

Sincerely,

S. Yang

Seung Yang, P.E.
City Engineer

X

Addendum Acknowledgement - Andy Komor, MS, PE

ATTACHMENT 1

PACE
Advanced Water Engineering

17520 Newhope St, Ste 200
Fountain Valley,CA 92708
714.481.7300 | pacewater.com

ATTACHMENT 1

EXHIBIT C

FEE SCHEDULE

PACE
Advanced Water Engineering

ENGINEERING FEE ESTIMATE
PROJECT WORKSHEET

Project Data
Project Name: Tewinkle Park Lakes Renovation
Client: City of Costa Mesa
PACE Job Number: B836
Estimate Date: Revised 8-3-21

Total Fee Amount: **$120,425**

Task Number	Work Item Description	Estimated Manhours																	Man-Power Subtotal	Reimburs. Expenses	Total Task Costs
		PACE									VCS Environmental						Urbana	Birdseye	Huitt Zollars			
		Principal	Project Manager / Sr. I&C Specialist	Sr. Electrical Engineer/Sr. GIS Analyst	Project Engineer	Sr. CAD Designer	Graphic Designer	Project Coordinator	Assistant Designer	GPS Survey Unit (w/Operator)	Project Manager	Environmental Analyst	Project Coordinator	Biological Resources	Cultural Resources	Cultural / Historical Resources	Air Quality Analyst	Survey & ROW Mapping			
		$255	$210	$215	$160	$140	$110	$95	$80	$240	$225	$182	$117								
1	**Project Start-up and Project Management**	4	12		4			8											$4,940		**$4,940**
2	**Existing Lake System Review and Project Analysis**		8		16				16	4									$6,480		**$6,480**
4	**Problem Identification and Solutions/Alternatives**	12	24		36	32		4											$18,720		**$18,720**
5	**Environmental Review and Permitting - Subconsultant**																				
5.1	*CEQA Compliance*																				
5.1.1	Categorical Exemption/Pre-Screening Initial Study										45		20						$12,465		**$12,465**
5.1.2	Circulation Tasks and Reimbursables (Allowance, Billed at Cost)																		$0	$500	**$500**
5.3	Technical Studies																				
5.3.1	Biological Resources Memorandum													$ 4,000					$4,000		**$4,000**
5.3.2	Cultural/Historical Resources														$ 3,000				$3,000		**$3,000**
5.3.3	Air Quality/Energy/Greenhouse Gas/Noise																				
5.3.3.1	Air Quality/Greenhouse Gas Report																$ 1,200		$1,200		**$1,200**
5.3.3.2	Energy Memorandum																$ 600		$600		**$600**
5.3.3.3	Noise Report																$ 1,200		$1,200		**$1,200**
6	**Presentations / Public Outreach**	12	12				8	6											$7,030		**$7,030**
7	**Construction Documents**	16	60	32	80	100			40										$53,560		**$53,560**
8	**Engineering Specifications**		4		20			4											$4,420		**$4,420**
9	**Construction Cost Estimate**		4		8			2											$2,310		**$2,310**
BASE PROPOSAL TOTALS		**44**	**124**	**32**	**164**	**132**	**8**	**24**	**56**	**4**	**45**	**0**	**20**	**$4,000**	**$3,000**	**$0**	**$3,000**	**$0**	**$119,925**	**$500**	**$120,425**
FEE BY STAFF CLASSIFICATION		$11,220	$26,040	$6,880	$26,240	$18,480	$880	$2,280	$4,480	$960	$10,125	$0	$2,340	$4,000	$3,000	$0	$3,000	$0			

	OPTIONAL TASKS																				
3	**Project Survey**																				
3.1	Aerial Topographic Mapping																	$5,605	$5,605		**$5,605**
3.2	Design Survey (5 days)																	$12,700	$12,700		**$12,700**
5.3.4	Western Pond Turtle Survey													$5,000					$5,000		**$5,000**
5.3.5	Additional Regulatory Permitting													$25,000					$25,000		**$25,000**
OPTIONAL TASKS TOTALS		0	0	0	0	0	0	0	0	0	0	0	0	$30,000	$0	$0	$0	$18,305	$48,305	$0	$48,305

ATTACHMENT 1

EXHIBIT D

CITY COUNCIL POLICY 100-5

ATTACHMENT 1

CITY OF COSTA MESA, CALIFORNIA

COUNCIL POLICY

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
DRUG-FREE WORKPLACE	100-5	8-8-89	1 of 3

BACKGROUND

Under the Federal Drug-Free Workplace Act of 1988, passed as part of omnibus drug legislation enacted November 18, 1988, contractors and grantees of Federal funds must certify that they will provide drug-free workplaces. At the present time, the City of Costa Mesa, as a sub-grantee of Federal funds under a variety of programs, is required to abide by this Act. The City Council has expressed its support of the national effort to eradicate drug abuse through the creation of a Substance Abuse Committee, institution of a City-wide D.A.R.E. program in all local schools and other activities in support of a drug-free community. This policy is intended to extend that effort to contractors and grantees of the City of Costa Mesa in the elimination of dangerous drugs in the workplace.

PURPOSE

It is the purpose of this Policy to:

1. Clearly state the City of Costa Mesa's commitment to a drug-free society.

2. Set forth guidelines to ensure that public, private, and nonprofit organizations receiving funds from the City of Costa Mesa share the commitment to a drug-free workplace.

POLICY

The City Manager, under direction by the City Council, shall take the necessary steps to see that the following provisions are included in all contracts and agreements entered into by the City of Costa Mesa involving the disbursement of funds.

1. Contractor or Sub-grantee hereby certifies that it will provide a drug-free workplace by:

   A. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in Contractor's and/or sub-grantee's workplace, specifically the job site or location included in this contract, and specifying the actions that will be taken against the employees for violation of such prohibition;

   B. Establishing a Drug-Free Awareness Program to inform employees about:

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
DRUG-FREE WORKPLACE	100-5	8-8-89	2 of 3

1. The dangers of drug abuse in the workplace;

2. Contractor's and/or sub-grantee's policy of maintaining a drug-free workplace;

3. Any available drug counseling, rehabilitation and employee assistance programs; and

4. The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

C. Making it a requirement that each employee to be engaged in the performance of the contract be given a copy of the statement required by subparagraph A;

D. Notifying the employee in the statement required by subparagraph 1 A that, as a condition of employment under the contract, the employee will:

1. Abide by the terms of the statement; and

2. Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction;

E. Notifying the City of Costa Mesa within ten (10) days after receiving notice under subparagraph 1 D 2 from an employee or otherwise receiving the actual notice of such conviction;

F. Taking one of the following actions within thirty (30) days of receiving notice under subparagraph 1 D 2 with respect to an employee who is so convicted:

1. Taking appropriate personnel action against such an employee, up to and including termination; or

2. Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health agency, law enforcement, or other appropriate agency;

SUBJECT	POLICY NUMBER	EFFECTIVE DATE	PAGE
DRUG-FREE WORKPLACE	100-5	8-8-89	3 of 3

G. Making a good faith effort to maintain a drug-free workplace through implementation of subparagraphs 1 A through 1 F, inclusive.

2. Contractor and/or sub-grantee shall be deemed to be in violation of this Policy if the City of Costa Mesa determines that:

   a. Contractor and/or sub-grantee has made a false certification under paragraph 1 above;

   b. Contractor and/or sub-grantee has violated the certification by failing to carry out the requirements of subparagraphs 1 A through 1 G above;

   c. Such number of employees of Contractor and/or sub-grantee have been convicted of violations of criminal drug statutes for violations occurring in the workplace as to indicate that the contractor and/or sub-grantee has failed to make a good faith effort to provide a drug-free workplace.

3. Should any contractor and/or sub-grantee be deemed to be in violation of this Policy pursuant to the provisions of 2 A, B, and C, a suspension, termination or debarment proceeding subject to applicable Federal, State, and local laws shall be conducted. Upon issuance of any final decision under this section requiring debarment of a contractor and/or sub-grantee, the contractor and/or sub-grantee shall be ineligible for award of any contract, agreement or grant from the City of Costa Mesa for a period specified in the decision, not to exceed five (5) years. Upon issuance of any final decision recommending against debarment of the contractor and/or sub-grantee, the contractor and/or sub-grantee shall be eligible for compensation as provided by law.