San Gorgonio Pass Water Agency

DATE: October 10, 2022

TO: Board of Directors

FROM: Lance Eckhart, General Manager

BY: Lance Eckhart, General Manager

SUBJECT: AUTHORIZE A BUDGET OF $57,333 FOR THE AGENCY'S COST SHARE FOR THE ENGAGEMENT OF A RECYCLED WATER PROGRAM IMPLEMENTATION FACILITATOR IN PARTNERSHIP WITH THE CITY OF BEAUMONT AND THE BEAUMONT CHERRY VALLEY WATER DISTRICT

RECOMMENDATION

Staff recommends the Board of Directors authorize a budget expenditure of $57,333 for the Recycled Water Program Implementation Facilitator.

PREVIOUS CONSIDERATION

- Finance & Engineering Workshop – 8/15/2022: The Board discussed working with the City of Beaumont (City) and Beaumont Cherry Valley Water District (BCVWD) regarding a facilitated process for the local use of recycled water.

BACKGROUND

The City and BCVWD have been working towards developing a local recycled water program for many years. Recently the City and BCVWD requested that the Agency participate in a 3 x 2 Committee (i.e., three agencies along with two electeds from each organization) to foster collaboration to accelerate the program.

Recycled water is an important part of the regional supply water portfolio. Treated wastewater that is not returned back to local basins is a loss of an important source of a 100% dependable supply. This loss ultimately puts more pressure on future water imports.

ANALYSIS

The City, BCVWD, and Agency agreed to equally share costs (33.3%) associated with hiring a consultant to help facilitate and develop a local recycled water program. On August 26, 2022, the City took lead in issuing a Request for Qualifications (RFQ).

Staff from the three agencies met on September 26, 2022, to discuss the received proposals. Only one firm submitted a RFQ, T.R. Holliman & Associates. Staff determined that the proposing firm was well-qualified, and the fee proposal was reasonable.

The BCVWD Board approved the work and associated cost share on September 29, 2022 (staff report attached). The City awarded the RFQ contract and approved the associated cost share on October 4, 2022 (staff report attached).

Please refer to the attached City and BCVWD staff reports for additional information concerning the RFQ process, cost share, and background. A copy of the proposal from T.R. Holliman & Associates is attached.

FISCAL IMPACT

The fee proposal that accompanied the RFQ is $172,000. A one-third cost share is $57,333. The Agency did not anticipate participating in this project as part of the 2022-23 FY Budget, and these funds would be taken from General Fund reserves.

ACTION

Authorize the budget expenditure of $57,333 for the Recycled Water Program Implementation Facilitator.

ATTACHMENTS

- Recycled Water Program Implementation Facilitator – Staff Reports
    - City of Beaumont, October 4, 2022.
    - BCVWD, September 29, 2022
- Proposal for Recycled Water Program Implementation Facilitator – T.R. Holliman & Associates

Staff Report

TO: City Council

FROM: Elizabeth Gibbs, City Manager

DATE October 4, 2022

SUBJECT: **Award a Contract to T.R. Holliman & Associates to Provide Recycled Water Implementation Services**

Background and Analysis:

At a previous City Council meeting, Mayor White and Mayor Pro Tem Martinez were appointed to a sub-committee to represent the City of Beaumont on a 2x2 committee with two separate agencies, Beaumont Cherry Valley Water District, and the San Gorgonio Pass Water Agency.

Over the course of meetings with the two other agencies, it was agreed upon that the staff members of the three agencies would collaborate on a scope of services to retain a consultant to provide recycled water implementation services, the cost of which would be divided equally amongst the three agencies. The intent of the contract award is to provide an independent assessment, analysis, and recommendation for the future use of recycled water.

The City took the lead and, with the approval of the other two agencies, issued a Request for Qualifications on August 26, 2022, through PublicPurchase.com and the City's website. The other agencies assisted in notifying various qualified firms of the published Notice to Invite.

The scope of services included multiple task orders, including:

Initial individual facilitation meetings with each of the three agencies;
Data collection and review of 22 documents, studies, and correspondence;
Ongoing project facilitation meeting attendance and support;
The preparation of technical memos presenting recommended conceptual plan and associated options for recycled water implementation; and finally,
Prepare addendum for contract for additional services based upon conceptual plan for recycled water implementation.

Responses were due on September 19, 2022. A total of nine firms downloaded the bid packet; however, only one firm submitted a proposal.

Staff from the three agencies met to review the bid packet and cost proposal and agreed that although only one consultant responded, the firm was reputable and adequately able to perform the duties outlined in the scope of services.

City staff met with the Finance and Audit sub-committee to review the bid package and received approval to move forward to City Council.

Finally, should City Council award the contract, the consultant will present progress payment invoices to the City of Beaumont who will in-turn submit appropriate fair share invoices to the two respective agencies for reimbursement to the City.

Fiscal Impact:

The City's financial share of this contract shall not exceed $57,333, to be paid out of the Wastewater Treatment Fund contingency budget.

Recommended Action:

Award a Contract to T.R. Holliman & Associates in an amount not-to-exceed $149,600 to Provide Recycled Water Implementation Services and authorize the City Manager to approve any changes orders necessary up to $172,000.

Attachments:

A. Professional Services Agreement

Beaumont-Cherry Valley Water District
Regular Board Meeting
September 29, 2022

Item 5

STAFF REPORT

TO: Board of Directors

FROM: Dan Jaggers, General Manager

SUBJECT: **Authorize a Budget of $58,000 for the District's Cost Share for Engagement of a Recycled Water Program Implementation Facilitator in Partnership with the City of Beaumont and the San Gorgonio Pass Water Agency**

Staff Recommendation

Authorize the budget expenditure of $58,000 for the Recycled Water Program Implementation Facilitator.

Background

In 2019, the City of Beaumont (City) and the Beaumont-Cherry Valley Water District (District) through a 2x2 Committee, executed a Memorandum of Understanding to develop a recycled water use and purchase agreement. District staff has developed a draft Agreement for Purchase, which has been provided to the City of Beaumont for review. Recently, in an effort to ensure the best possible solution for the community, a 3x2 Committee (i.e. 3 Agency x 2 Elected) was created to include the San Gorgonio Pass Water Agency (SGPWA).

The 3x2 Committee consists of elected officials from the District, the City, and SGPWA and intends to coordinate a recycled water implementation program (Recycled Water Program) that maximizes the use of recycled water within the City and District service boundary. Use of recycled water would maximize the availability of high-quality local water resources and reduce the dependence on imported water.

The 3x2 Committee has identified the need for an Implementation Facilitator to provide all necessary services to assist in the review of possible options as provided well as recommendations for implementation of a Recycled Water Program that provides the best long-term strategy for recycled water use at lowest cost alternative to the partner agencies and the community serviced by the City, the District, and SGPWA.

Summary

On August 26, 2022, the 3x2 Committee released a Request for Qualifications (RFQ) for the Recycled Water Program Implementation Facilitator. The District, City, and SGPWA are working in partnership to select a consulting firm based on their qualified expertise to perform the Implementation Facilitator services. The expected tasks described in the RFQ are summarized below:

Task 1: Initial Facilitation Meeting with Three Partner Agencies
The Consultant is expected to attend three (3) separate meetings with each of the partner agencies (the City, District, and SGPWA) to gain understanding of each agency's vision for the implementation of the Recycled Water Program.

Task 2: Data Collection and Review
The Consultant will be engaged to collect and review data on the each of the agencies. This includes reports such as the District 2020 Urban Water Management Plan (UWMP) and Draft Non-Potable Water Master Plan, the SGPWA 2020 UWMP, and the City of Beaumont 2021 Wastewater Master Plan.

Task 3: Ongoing Project Facilitation Meeting Attendance and Support
The Consultant is expected to meet with the 3x2 Committee, coordinate with the three (3) agencies and staff, and present the advantages or disadvantages to separate alternatives for the Recycled Water Program.

Task 4: Preparation of Technical Memorandum Presenting Recommended Conceptual Plan and Associated Options for Recycled Water Implementation
The Consultant is expected to prepare a Technical Memorandum that will define elements of the Recycled Water Implementation Program Conceptual Plan based on input from the 3x2 Committee.

Task 5: Prepare Addendum for Contract for Additional Services Based upon Conceptual Plan for Recycled Water Implementation
The Consultant will be engaged to detail a scope of work for additional services based upon the approval of the Conceptual Plan for Recycled Water Implementation.

The 3x2 Committee has received one (1) proposal by the RFQ due date (September 19th, 2022). The proposal is currently under review by the City, the District and SGPWA. Each party in the 3x2 Committee will be responsible for their portion (33%) of the associated cost to complete the required tasks. District staff understands that the $100,000 is the estimated cost for an Implementation Facilitator for the Recycled Water Program. A summary of the not to exceed initial costs for Task 1 through 5 of the REQ. With additional possible costs to be determined are set forth is below:

Table 1: Cost Summary

Description	Cost
Proposed Cost	$173,000
BCVWD Portion (33%)	$57,333.34
Overall BCVWD Portion (Rounded)	**$58,000**

As stated above, the District will only be responsible for the District's share of the overall cost. The District has not included a contingency to account for any additional tasks or work.

Fiscal Impact

The fiscal impact to the District will be an amount not to exceed $58,000, as set forth in Table 1, above. Funding for this project will come from developer collected Capacity Charges (Facility Fees) for the completion of this work.

Report prepared by Evan Ward, Civil Engineering Assistant

T.R. HOLLIMAN
& ASSOCIATES

September 19, 2022

Mr. Jeff Hart, Director of Public Works
City of Beaumont
550 E. 6th Street
Beaumont, CA 92223

Subject: Proposal for Recycled Water Program Implementation Facilitator Services for the City of Beaumont

Dear Mr. Hart,

The T.R. Holliman and Associates, Inc. (TRHA) is pleased to submit this proposal to provide Recycled Water Program Implementation Facilitator Services to the City of Beaumont. We understand the importance of maximizing the use of recycled water in the City from a regulatory compliance perspective, but more importantly, to allow for continued development. We also understand that it the objective of the facilitator to assist the three agencies the City Beaumont (City), Beaumont-Cherry Valley Water District (BCVWD), and the San Gorgonio Pass Water Agency (SGPWA) in developing a mutually agreeable framework to form the basis of interagency agreements to maximize the benefit of recycled water in the City. To accomplish this, the City needs a team of professionals that are experienced in recycled water master planning, know how to assess wastewater demands, validate recycled water demands, familiar are with recycled water production, storage, groundwater recharge, and recycled water rate studies, and has worked with developing interagency agreements and multi-agency recycled water programs. TRHA has that experience and familiarity with local and state regulatory agencies and how to obtain funding and implement recycled water programs.

Selecting TRHA will provide the City with the following benefits:

Local Knowledgeable and Responsive Project Team

Founded in 2005, TRHA has carefully selected a team of specialists that will provide the City with personnel that are close to its operations and have the local experience needed to ensure that the interagency coordination is successfully completed on time and within budget. The principals of the TRHA team are located less than 60 minutes from the City. Our Project Manager, Tom Holliman, has over 40 years of professional experience including over two decades of local experience in the Inland Empire recently serving as Engineering and Operations Manager for the East Valley Water District in Highland, CA. He has also served as District Engineer for the San Gorgonio Pass Water Agency as part of Boyle Engineering, now AECOM from 2003 to 2005. TRHA also recently completed a recycled water implementation roadmap for the BCVWD and participated in the completion of the Urban Water Master Plan for the City of Banning. Mr. Holliman helped develop the purple color-coding system for recycled water systems while with the Irvine Ranch Water District is considered an expert in recycled water conversions.

Our Familiarity with Regional Agencies and Funding Options

TRHA has worked with numerous agencies and agency representatives that could play a role in the development of the City's Recycled Water Program, including the Regional Water Quality Control Board – Santa Ana Region and the State Water Resources Control Board Division of Drinking Water. The TRHA team has helped numerous communities obtain over $182M in funding needed to implement their recycled water plans.

Unique combination of Public and Private Recycled Water Planning Experience

For this project we have assembled a Project Team of experts with over 100 years of combined public/private agency experience in recycled water systems, wastewater engineering, and groundwater management. Our Project Manager, Tom Holliman, PE, will be joined by Mr. John Robinson, who has over 30 years of experience in recycled water systems and is also considered an expert in recycled water conversions, regulatory compliance, and has assisted clients in receiving multiple grants for recycled water projects.

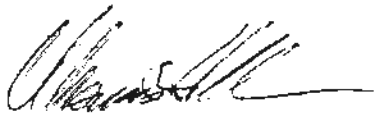
Acknowledgements

- We acknowledge that we have thoroughly examined and accept the Terms and Conditions of the City's contract, and when selected will enter into an Agreement with City as shown in the RFP. We take no exceptions to the terms of the sample agreement, and our proposal is valid for 120 days from the date of this letter. All required insurance coverages will be in place at the time a contract is executed.

- T.R. Holliman and Associates, Inc. will function as the Prime Consultant. John Robinson Consulting, Bachtel Wastewater Engineers, Tuckfield and Associates, and Ben Pak and Associates, will be subconsultants. We acknowledge that the City intends to contract with a single firm and not with multiple firms doing business as a joint venture. We recognize and accept that the provisions of the Agreement will apply to our subconsultants in the same manner as they will apply to T.R. Holliman and Associates, Inc., as the "Proposer."

We are confident that we can provide the Recycled Water Program Implementation Facilitator Services and achieve the City's desired outcomes. Should there be any questions, please feel free to contact me, Project Manager, and designated point of contact, at (909) 573-6802 or at trholliman@gmail.com. We have authorized Thomas R. Holliman to make legally binding commitments for T.R. Holliman and Associates, Inc.

Sincerely,
T.R Holliman and Associates, Inc.



Thomas R. Holliman, PE
President/Managing Engineer

This section is comprised of the Introduction and Information on TRHA. It includes a statement of our understanding of the objectives of the project and how the objectives will be accomplished. It also includes information on TRHA and our subconsultants. We understand that any proposed subconsultants would have to approved by the City.

Introduction and Information

The City of Beaumont was incorporated in November 1912. The City is located in the western portion of Riverside County and is bounded on the west by Calimesa and unincorporated areas, on the north by the unincorporated County areas (Cherry Valley), on the south by unincorporated County areas and the City of San Jacinto, and on the east by the City of Banning. The land area within the City's boundaries is approximately 26 square miles.

In November 1997, the City of Beaumont City Council adopted Ordinance 773 mandating the use of potable water for non-potable uses including cemeteries, golf courses, parks, street and highway landscaping, athletic fields, and other irrigation uses is a waste or an unreasonable use of water if recycled water is available.

The City of Beaumont provides wastewater collection, treatment and disposal for wastewater generated within the City plus the Highland Springs area of Cherry Valley. Wastewater flows by gravity to the City's wastewater treatment plant; however, there are nine (9) lift stations in the southeastern and western portions of the City that pump wastewater collected in these areas and to the treatment plant or collection system leading to the treatment plant.

The City of Beaumont Wastewater Treatment Plant No. 1 treats approximately 3.3 million gallons per day (MGD), see ***Figure 1***. The City is required to maintain 1.8 MGD flow into the Cooper Creek to maintain the habitat. The City is in the process of upgrading its WWTP from 4 MGD to 6 MGD and designing a pipeline to connect to the Inland Empire Brine Line (IEBL) in San Bernardino to discharge the brine that will be treated at the Orange County Sanitation District (OCSD) Treatment Plant.

Figure 1 – City of Beaumont Wastewater Treatment Plant

The WWTP was previously upgraded with the intent to produce recycled water to meet Title 22 requirements. A study completed in 2016 found seven (7) items that needed to be addressed before the plan could meet the requirements. Among these include the

construction of a coagulation system, modification of existing SCADA and alarms to provide adequate monitoring and diversion of non-compliant water, and the construction of a recycled water storage and distribution system

TRHA will focus on developing a list of potential actions that the three agencies can evaluate to develop a mutually agreeable plan of action to fully utilize recycled water in the region.

The current facility consists of the following components:

- Primary Treatment: Headworks Screening, Flow Metering, Influent Pumping
- Secondary Treatment: Extended Aeration Basins, Secondary Clarifiers
- Tertiary Treatment: Sand Filtration, UV Disinfection, Flow Metering, Cascade Aeration

The new WWTP proposed upgrades and expansion include installation of membrane (MBR) system and reverse osmosis (RO) system and will produce recycled water.

The City recognizes that there is a demand for recycled water for landscape irrigation during the summer months, but more limited demand during the winter months. In order to maximize the value of the recycled water from the treatment plant the City, in partnership with BCVWD and SGPWA, seek to find other strategies that will maximum the benefits of the recycled water and provide revenues to offset some of the cost of treatment and disposal.

In a 2007 letter from CDPH (now SWRCB DDW) to the City of Beaumont, the City was directed to upgrade the facility to meet Title 22 requirements for unrestricted use and perform validation testing on the UV disinfection system. In July 2016, the City completed a Title 22 Engineering Report which included the UV Validation Testing which was accepted by the SWRCB DDW with conditions. Some upgrades to the tertiary system were identified.

The City of Beaumont's effluent has a TDS concentration of about 400 mg/L which is more than the Regional Board's Maximum Benefit Water Quality Objectives for the Beaumont Basin. The recycled water from the City will have to be treated and/or "blended" with imported water or other waters to achieve the Maximum Benefit Water Quality Objectives.

The focus of the Recycled Water Program Implementation Facilitator will be identifying the potential for expanded recycled water use in the City and the distribution system additions needed to supply that demand. Further the analysis will evaluate the storage needs for continuous demand and the potential for groundwater recharge during winter months when production will exceed demand.

The focus of the Recycled Water Program is ensuring that all non-potable demands that can be served from the City's treatment plant have been identified.

TRHA will utilize a proven approach to complete the Recycled Water Use Analysis. The approach encompasses the following five steps:

1. Assessment of Available Recycled Water Supplies.
2. Assessment and Verification of Potential Recycled Water Demands.
3. Evaluation of Treatment Requirements for Potential Recycled Water Customers.
4. Development of Recycled Water Distribution System options, and
5. Potential for groundwater recharge including potential locations and quantities.

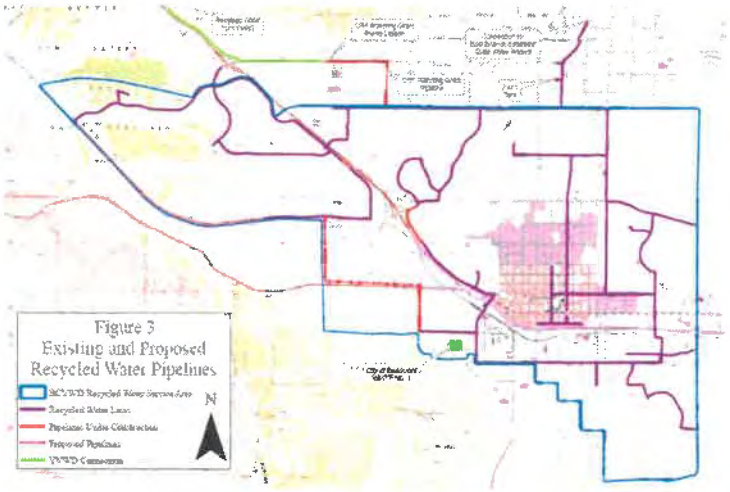


Figure 2 – Existing BCVWD Non-Potable

Firm Profile and Key Personnel Experience

Introduction to the TRHA Team

To provide the City with a team that will focus on integrity, intensity, and results, we have assembled a team of experts in recycled water planning, design, construction, operations, administration, permitting, and regulatory compliance. TRHA is comprised of four specialized firms with over 100 years of combined experience in recycled water:

- Thomas R. Holliman, PE,
  T.R. Holliman and Associates
- John Robinson
  John Robinson Consulting, Inc.
- Dave Bachtel, PE
  Bachtel Wastewater Engineers
- G. Clayton Tuckfield, PE
  Tuckfield and Associates
- Ben Pak
  Ben Pak and Associates

Instead of a pool of engineers with only limited specific recycled water experience, TRHA provides an expert panel that can bring their collective experience to bear on the City's Recycled Water Program. This "based in reality" approach will reflect both the economics and technical analysis needed for a successful recycled water program. We bring the collective experiences of dozens of agencies to ensure that the City's recycled water program is based on solid proven results.

Local Resources and Knowledge

T.R. Holliman and Associates, Inc. is a California S-Corporation established in 2005. We are registered Small Business Enterprise and Disadvantaged Business Enterprise.

TRHA's principal office is located in Highland, CA where we specialize in recycled water planning, design, construction management, and operations. TRHA maintains Professional Liability, General Liability, Automobile Liability, and Workman's Compensation insurance with a limit of $1,000,000 per occurrence or more depending on the specific insurance. All are currently in force.

TRHA's past success has been built on projects exclusively within Southern California. Because of the firm's long history of service to municipal water and wastewater business in Southern California, we recognize that the State of California has a heightened awareness of the environment and has implemented the necessary regulations to create a healthy balance between nature and industry. In response, we have developed and honed competencies in the environmental service sector to help our clients meet the rigorous regulations California has adopted. While providing these services, TRHA has worked extensively with regional regulatory agencies, including the Regional Water Quality Control Board – Santa Ana Region the State Water Resources Control Board Division of Drinking Water and Orange County Healthcare Agency.

Experience and Expertise in Recycled Water Master Planning and Use Analysis Studies

We have been performing recycled water services in Southern California for 40 years. Our proposed project staff was carefully selected due to their experience with master planning and recycled water use analysis.

From market assessments through feasibility studies to the development of comprehensive facility master plans, design and construction of recycled water infrastructure, our team offers unparalleled local experience in the development of recycled water projects.

Our team members have managed recycled water programs for City and Special Districts in Southern California give us a unique Consultant and Owner perspective.

We have successfully implemented numerous recycled feasibility and planning projects similar in complexity to the City's Recycled Water Program. While we have the technical expertise to perform all the requested services, a key factor that differentiates us from our competitors is the fact that our team members have also managed recycled water programs for cities, and Special Districts, giving us a clear understanding from both sides of the Project Consultant and Owner.

The Right People for the Project

TRHA and our clients have enjoyed success in the implementation and long-term

operation of recycled water projects as the result of following an approach that utilizes the right people for the right job.

We have the recycled water expertise to perform all the requested services as stated in the scope of work. Our expertise extends past the items detailed in the City's scope of work, allowing us to offer a comprehensive range of services during its Recycled Water Program.

A successful recycled program must create a base of verified customers who will use recycled water when it is available.

Our team is particularly skilled in the fields of recycled water planning, design, and construction. Brief highlights of TRHA's qualifications in the professional service areas impacting the City's Recycled Program are described in this section.

Developing Large-scale, Comprehensive Master Plans and Feasibility Studies

Our ability to assist our clients in successfully implementing their master plans and feasibility studies distinguishes us from our competitors. Our master plans and use studies do not collect dust on bookshelves. They are put into implementation by our clients because our plans identify recycled water demands and distribution options, arrive at the most cost-effective infrastructure solutions to serve those demands, and provide a phased approach to infrastructure implementation.

We are experienced in each integral phase of master planning efforts from review and analysis to funding and implementation. We are fully qualified to provide all the required professional services for the City's Recycled Water Implementation Program Facilitator.

TRHA has successfully completed several comprehensive master plans and onsite conversion projects throughout Southern California. These projects include recycled water for agencies such as:

- Orange County Water District (OCWD)
- Mesa Water District (Mesa Water)
- City of San Juan Capistrano (CSJC)
- Inland Empire Utilities Agency (IEUA)
- Long Beach Water Department (LBWD)
- Central Basin Municipal Water District (CBMWD)
- Castaic Lake Water Agency
- Rincon del Diablo Municipal Water District
- Cities of Fontana, Ontario, and Oxnard.

Our master plans have served as the framework for our clients' Capital Improvement Programs (CIPs). Clients have implemented our recommendations because they are designed to be practical, cost-effective, and address the key concerns of the involved stakeholders, as well as innovative engineering solutions.

Implementation of Recycled Water Systems

TRHA has the recycled water implementation experience to develop appropriate recycled water master planning solutions for the City. We have designed

numerous customer conversions from potable to recycled water. Our team has been involved in over 800 customer conversions from potable to recycled water. These include:

- 200 elementary schools
- 40 junior high schools
- 50 high schools
- 250 parks
- 14 homeowner associations
- three oil refineries
- the first commercial laundry in California
- paper mills
- power plants
- industrial facilities, and
- hundreds of other irrigation customers.

Our conversion resume also includes the first use of recycled water to control ground subsidence, and the first professional ice hockey rink to use recycled water in Ontario, CA.

Recycled Water Regulatory Issues

TRHA recognizes that the implementation of recycled water projects will need to comply with a variety of local, state, and federal regulations. We understand that assisting our clients in regulatory issues under tough permitting constraints has contributed to the success of our recycled water projects. Our extensive experience with the State Water Resources Control Board Division of Drinking Water (DDW), Regional Water Quality Control Board (RWQCB) and Orange County Healthcare Agency (OCHCA) have increased our understanding of the involved processes, enabling us to provide sound guidance to our clients.

TRHA's recent experience working with regulatory agencies includes coordinating with the DDW and the County of Los Angeles DPH to successfully implement over 400 recycled water customer retrofits for West Basin Municipal Water District, CBMWD, USGVMWD, and IEUA as well as working with DDW and OCHCA to convert The Enclave for Irvine Ranch Apartment Communities within Mesa Water service area on the GAP system as well as Royalty Carpets within Irvine Ranch Water District which was a 256 acre-foot per year demand and 2nd largest within IRWD to be removed from potable water to recycled water while obtaining $223,000 from Metropolitan Water District via their On-Site Recycled Water Retrofit Grant Program.

Recycled Water Funding

TRHA has helped numerous Southern California cities, municipalities, and special districts to obtain millions of dollars in funding needed to implement their recycled water plans. We can successfully obtain funding due to our frequent experience with regional recycled water projects. We recently procured $26.5M in funding for USGVMWD, where we assisted in State Revolving Fund (SRF) grant and loan application. Potential sources of funding include:

- State Water Resources Control Board – Proposition 1 (construction and construction management only)
- Department of Water Resources – Proposition 1 (planning, design,

construction, and construction management)
- Metropolitan Water District – Local Resource Project (recycled water sales)
- Metropolitan Water District – Recycled Water Customer Retrofit
- US Bureau of Reclamation – Title XVI (planning, design, construction, and construction management)
- US Army Corps of Engineers
- US EPA WIFIA Program

Although not part of the current scope, TRHA can evaluate financing opportunities, such as grants, loans, user fees and recycled water rate increase and provide a financial analysis based on the recommended maintenance level, operating expenses, and planning level cost. TRHA can identify outside funding sources based on the nature of the projects. Specific funding sources can be explored, such as State Revolving Fund (SRF), federal and state grant monies, stimulus funds, and local funding from MWD.

This section is comprised of our Approach. It includes a detailed description of the intended methodology to be utilized in addressing the project. It describes our perception of the work required and how our firm, personnel, and services will be utilized.

Approach

Assessment of Available Recycled Water Supplies

TRHA's first task will be to identify and evaluate the sources of recycled water supply to the City. In this case, this will consist of reviewing the recycled water supplied by the City's wastewater treatment plant from current capacity, through the planned expansion, and the ultimate capacity of the plant.

The recycled water will be distributed by the Beaumont Cherry Valley Water District (BCVWD) through their existing non-potable distribution system. BCVWD is currently pursing approval from the Regional Water Quality Control Board/State Water Resources Control Board Division of Drinking Water (RWQCB/DDW) to mix recycled water with the non-potable supplies.

BCVWD has an extensive network of about 30 miles of non-potable transmission pipelines within the City already constructed that can convey untreated SPW, groundwater, and recycled water. An extensive network of smaller distribution mains has been constructed by Tract developers to serve parks, medians, schools, and common areas in their respective developments. The system includes a 2-million-gallon non-potable water reservoir (2800 Zone Non-Potable Reservoir). There are about 300 existing landscape connections to the recycled water system receiving 1,650 acre-ft of water (year 2013 total). The existing recycled water system is currently pressurized with groundwater from Well 26. This is supplemented with potable water introduced into the non-potable water system through an air gap connection at the non-potable water storage tank (2800 Zone Non-Potable Water Tank). It is assumed that all the future recycled water customers will be served from this distribution system as shown in ***Figure 2***.

Assessment of Potential Recycled Water Customers

TRHA's second step in assisting to maximize the use of recycled water master is to develop potential recycled water demands. Proper identification of potential recycled water demands is the basis of developing a recycled water system. The success of recycled water systems is based on identification and verification of real customers that have a willingness to use recycled water.

TRHA understands that the potential recycled water customers within the City are likely to be categorized into the following three categories; the approaches to convert each of these customers are different:

- Landscape Irrigation, such as schools, parks, golf courses, street medians, and multi-family irrigation;
- Industrial/Commercial Process Water, such as cooling towers and water used in producing product such as concrete, carpet washing, chemical milling; and
- Agricultural.

TRHA's approach will be to first develop a recycled water customer database, identifying potential recycled water customers with demands greater than two acre-feet/year. The database will include not only the location and demand of customers, but also the use of the water and specific water quality requirements for each of the potential customers.

The primary source of information will come from the BCVWD's existing potable water billing database, focusing on the top potable water customers, with customers geocoded to the location of the service connection. We will estimate the potential recycled water usage based on existing potable water demands of customers and our experience regarding the percentage of potable water demands that can be successfully converted to recycled water.

Another potential recycled water use consists of converting industrial/commercial users from potable water to recycled water. The primary industrial/commercial uses would be industrial cooling both in the manufacturing process and for cooling towers. There may also be industrial users which could use recycled water for producing products such as concrete, carpet cleaning.

Development of Recycled Water Distribution System Modifications

TRHA's third step will be developing potential recycled water distribution system modifications. TRHA will develop preliminary layouts of pipelines to connect the largest number of potential recycled water customers. Pipeline sizing will be based on average flow calculations. A hydraulic model is not part of this scope of work. However, it is recommended that the BCVWD verify the pipeline sizing with their hydraulic model. The recommended recycled water system alternative will be selected based on the lowest cost while serving the most recycled water.

Based on our experience, the largest recycled water customers drive the creation of a recycled water system.

Storage Assessment for Continuous Supply

TRHA will evaluate the existing wastewater treatment plant, and the proposed expansion, to determine the storage capacity necessary to meet a continuous recycled water demand. Since the system will be providing water to landscape customers and potentially groundwater recharge, along with stream discharges, the ability to store recycled water during the diurnal production pattern will be necessary. Once the total demand on the system is developed both in the short term and long term the storage capacity needed at the plant can be determined.

Storage Assessment During Rainy Seasons (injections, spreading/ percolation)

One of the strategies to provide long term supply for the Beaumont Basin is groundwater recharge with storm water, State Water Project Water, and potentially recycled water. TRHA will evaluate the impact on storage requirements during the winter months if recycled water not used for irrigation or other beneficial uses can be percolated into the groundwater. TRHA will confer with BCVWD and the SGPWA to identify potential recharge rates and based on that data formulate storage recommendations.

Communication Strategy

While facilitating the discussions between three agencies TRHA will work closely with City staff as well as representatives from BCVWD and SGPWA. To maintain proper communication with City staff TRHA will provide:

- Monthly summaries of work with invoices
- Progress meetings at key deliverables to review the materials prior to the City review
- Finally, close-out presentations and delivery of all project materials.

Direct Injection vs. Surface Spreading

The BCVWD and the SGPWA both operate spreading grounds in the Beaumont Basin. Both agencies are planning to spread both stormwater and State Water Project Water. For the City to maximize wintertime recycled water production, the excess winter flows must be stored in the groundwater basin. With stormwater and State Water Project water competing for spreading basin, space the City might consider direct injection of recycled water into the basin. Aquifer Storage and Recovery (ASR) projects are currently planned for several areas in California.

Building Consensus

In order to be considered successful the Recycled Water Program will have to effectively meeting the objectives of the City of Beaumont, Beaumont Cherry Valley Water District, and the San Gorgonio Pass Water Agency. Although the stakeholders of each agency are the same. The strategic objectives of each agency are specific to their strategic mission. For the City, it is maintaining and enhancing the quality of life for the residents of the City. For Beaumont Cherry Valley Water District, it is providing safe and reliable water supply at a reasonable cost. For the San Gorgonio Pass Water Agency, it is to maintain and enhance local groundwater supplies.

To reach mutual agreement for a plan to move forward TRHA will assist the parties in:

- identifying their specific objectives
- identifying specific concerns
- evaluating what facilities, they may need to utilize the recycled water
- how those projects fit into their existing planning and budgets
- detail out responsibilities

The final plan may not include everything each agency wants, but it must meet enough of their individual objectives list for them to support the final combined plan.

The 1994 Nobel Memorial Prize in Economic Sciences winner John Nash developed a unique method for analyzing multi-party negotiations. Depicted in the movie, "A Beautiful Mind" starring Russell Crowe, Nash determined that if each party in the negotiations only focused on getting everything, they wanted no one would achieve their goals and everyone would lose because it would result in a stalemate. The only way for everyone to achieve, at least a majority of their desired outcomes, was to work to together. Through working to find common ground first, then asking the parties to rank their negotiable and non-negotiable

items, and then participating in meetings with open and honest discussions, TRHA can help develop a final plan that would be a win-win-win outcome and move the Recycled Water Program forward.

Within this section we introduce the TRHA team, and our team resume, which includes our experience and expertise in recycled water master planning and feasibility studies, references, and proposed project team.

Firm Profile and Key Personnel Experience

Introduction to the TRHA Team

To provide the City with a team that will focus on integrity, intensity, and results, we have assembled a team of experts in recycled water planning, design, construction, operations, administration, permitting, and regulatory compliance. TRHA is comprised of four specialized firms with over 100 years of combined experience in recycled water:

- Thomas R. Holliman, PE, (40+ years)
  T.R. Holliman and Associates
- John Robinson (30+ years)
  John Robinson Consulting, Inc.
- Dave Bachtel, PE (40+ years)
  Bachtel Wastewater Engineers
- G. Clayton Tuckfield, PE (25+ years)
  Tuckfield and Associates
- Ben Pak (25+ years)
  Ben Pak and Associates

TRHA provides an expert panel that can bring their collective experience to bear on the City's Recycled Water Program. This "realistic" approach will reflect both the economics and technical analysis needed for a successful recycled water use analysis. We bring the collective experiences of dozens of agencies to ensure that the City's recycled water use analysis reflects solid proven results.

Local Resources and Knowledge

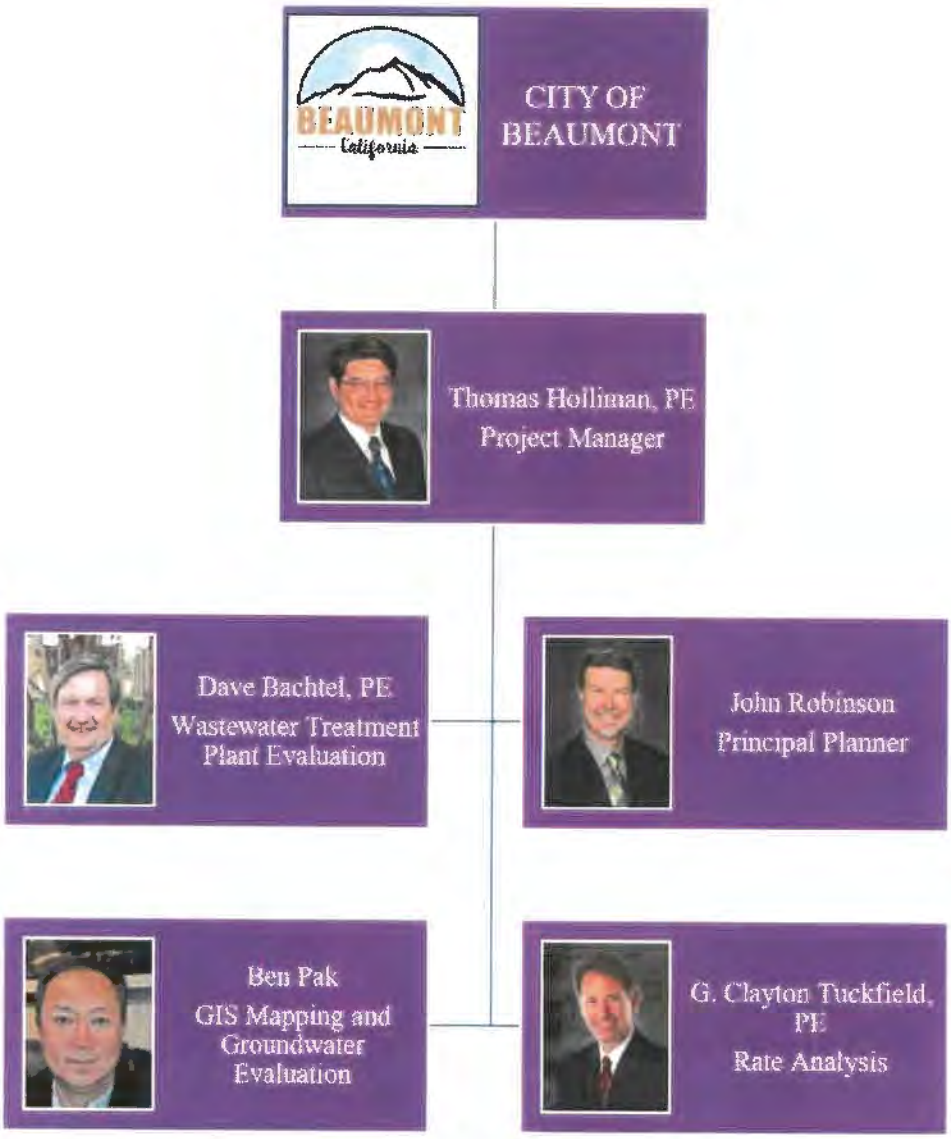
T.R. Holliman and Associates, Inc. is a California S-Corporation established in 2005. TRHA's principal office is located at **3543 Citrus Street, Highland, CA 92346** where we specialize in recycled water planning, design, construction management, and operations. TRHA maintains Professional Liability, General Liability, Automobile Liability, and Workman's Compensation insurance with a limit of $1,000,000 per occurrence or more depending on the specific insurance. All are currently in force.

TRHA's past success has been built on projects exclusively within Southern California. Because of the firm's long history of service to municipal water and wastewater business in Southern California, we recognize that the State of California has a heightened awareness of the environment and has implemented the necessary regulations to create a healthy balance between nature and industry. In response, we have developed and honed competencies in the environmental service sector to help our clients meet the rigorous regulations California has adopted. While providing these services, TRHA has worked extensively with regional regulatory agencies, including the Regional Water Quality Control Board – Santa Ana Region the State Water Resources Control Board Division of Drinking Water and Orange County Healthcare Agency.

California cities, municipalities, and special districts to obtain millions of dollars in funding needed to implement their recycled

The TRHA Team

We



believe the most important aspect of any project is creating a team that involves the right people. We are professionals who are practiced in performing the requested services, experienced in their proposed role, and willing and readily available to perform the work requested.

Short biographies for the TRHA team are located on the pages following the organizational chart included below. Full resumes are included in the appendices.

With a combined experience of over 100 years of recycled water experience both in the private sector and managing and building recycled water programs in the public sector we believe that we can provide the City with a Recycled Water Use Analysis.

Thomas Holliman, PE, Project Manager

Thomas Holliman was chosen as Project Manager because he has over forty (40) years of professional experience in the planning, design, and operations of major recycled water, potable water, and sewer facilities throughout Southern California. Mr. Holliman is a recognized expert in California for recycled water/non-potable systems. In addition to receiving several WateReuse Association awards for special projects of merit, Tom was instrumental in the development of the color "purple" as the identifier for non-potable systems which has become the national and international designation for recycled/non-potable facilities.

He previously served as Director of Engineering/Planning for the Long Beach Water Department, District Engineer/Assistant General Manager for the Water Replenishment District of Southern California, and recently Engineering and Operations Manager for the East Valley Water District. With Boyle Engineering, now AECOM, Mr. Holliman served as the District Engineer for the San Gorgonio Pass Water Agency. Mr. Holliman has also held senior technical and management positions in private consulting firms. He is accomplished in all facets of agency administrative functions from development of agency budgets, developing RFP's for major capital projects, and working closely with elected and appointed agency Board of Directors.

John Robinson, Principal Planner

John Robinson was chosen as Principal Planner due to his 20 years of environmental engineering experience focused exclusively on water reclamation and wastewater master planning projects and engineering for municipalities in California and Arizona. He has been involved in feasibility/master studies and planning, technology evaluation and recommendations, preparation of study and design reports, as well as process and mechanical design for new water reclamation and wastewater facilities and expansion of existing facilities. He has provided reclamation system computer hydraulic modeling and has been intimately involved with regulatory agencies with permitting jurisdiction over recycled water projects.

During his career he has completed over 550 recycled water customer conversions (i.e., water through the meter) as well as completed and additional 2,000 recycled water customer conversion assessments. He specializes in assisting clients with identifying and assessing customers, evaluating potential non-potable reuse system components as well as managed the customer development for all customer conversions; developed recycled water conversion plans worked with customers and developed conversion construction costs. John has developed and conducted training seminars for both client staff as well as end use customers. He is particularly adept at working closely with SWRCB DDW and OCHCA for coordination of site issues and approvals and understands how to make the regulatory approval process go smoothly.

Dave Bachtel, PE
Wastewater Treatment Plant Evaluation

Dave is President of Bachtel Wastewater Engineers where he is dedicated to providing high value eingineering based on 40 years in the industry to clients of all sizes. His extensive experience includes research, planning, engineering, construction, and operation experience with wastewater CIP projects Dave has been a Project Manager/ Biosolids lead for HDR Engineering and LEE & RO for 10 years and worked for 30 years in numerous positions at Los County Sanitation Districts where he most recently was Division Engineer responsible for wastewater treatment plant design.

Dave has participated in facilities planning, preliminary design, final design and engineering support for construction for more than 80 projects ranging from under $1 million to more than $150 million. He has been involved with research,operations, planning, procurement, design, value engineering, construction support, construction management, start-up and operation of pump stations, head works, odor control, primary treatment, secondary treatment, disingffections, solids processing facilities including sludge thickening, dewatering centrifuges, belt filter presses and plate and frame filter presses, anaerobic digestion, gas clean up, power generation, sludge dewatering, conveying storage, drying, combustion and composting, in addition to design of entire treatment plants. He is familiar with plant upgrades to tertiary and advanced treatment, including DDW Title 22 requirements.

He has been particularly effective in building consensus between operators and engineers for projects at large agencies such as Los Angeles County Sanitation Districts, Orange County Sanitation Districts and the City of Los Angeles, as well as small ones, such as Brawley and Holtville. He has extensive experience coordinating with funding agencies such as SRF and NADBank.

G. Clayton Tuckfield, PE
Recycled Water Rate Development

Clayton is President and Principal Consultant of Tuckfield & Associates where he provides utility rate and capacity charge consulting services. Clayton has managed or been directly involved in publicly owned utility financial services for over 30 years. Since 1985, Mr. Tuckfield has used innovative methods combined with time-tested strategies to assist municipalities and special districts in achieving their financial goals. Clients have included public utilities, state and county governments, municipalities, and public districts. Prior to forming Tuckfield & Associates, Clayton served Black & Veatch Corporation for 15 years in their Management Consulting Division. Mr. Tuckfield has worked with numerous cities and special districts in California and has authored papers and articles for AWWA (American Water Works Association) and California Special Districts Association (CSDA) and has conducted a webinar for CSDA regarding financing projects with USDA funding.

Ben Pak, GIS Mapping, Groundwater Evaluation

Ben Pak was chosen as Project Engineer for developing the hydraulic models for the Recycled Water Master Plan due to his experience with recycled water infrastructure and his overall expertise in master planning in the water and recycled water sectors. Mr. Pak has over 30 years of engineering experience in water, recycled water, wastewater, and groundwater recharge projects, involving the supervision and coordination of the planning, design, and construction of recycled water pipelines and facilities. He also has extensive experience in hydraulic modeling and planning and evaluating potable water, recycled water, and sewer systems.

Ben has been working with Tom and John for over 15 years on all aspects of recycled water development and implementation.

Relevant Project Experience

Our project experience can be found on the following pages. We have selected nine recycled water projects to illustrate the extent of our experience providing recycled water use analysis services. Per the City's request, we have provided client references for four of these projects.

Inland Empire Utilities Agency, Chino, CA

Reference
Sylvie Lee, Manager of Planning
Inland Empire Utilities Agency (IEUA)
6075 Kimball Avenue, Chino, CA 91708
(909) 993-1646

Project Team - John Robinson

Summary

The Project Team led by John Robinson developed IEUA's Recycled Water Implementation Plan. We developed the overall project approach and methodology, coordinated project tasks with IEUA, and provided the technical content of the report. As part of the approach, our team developed a 10-year implementation plan based on hydraulic modeling performed in InfoWater. The IEUA service area encompasses 242 square miles in the southwestern corner of San Bernardino County and is projected to develop significantly in the next 25 years. The Recycled Water Implementation Plan provides an overview of IEUA's recycled water supplies, existing and estimated recycled water demands, and a recommended regional backbone system to distribute recycled water throughout the service area.

The proposed backbone system is sized for build-out demand conditions and delivers recycled water to all IEUA's member agencies and selected based on life-cycle cost evaluations. The proposed system goal was to serve the maximum amount of potential recycled water customers while meeting the pressure criteria and selecting the most cost-effective alignments by avoiding significant utility conflicts where possible.

The number of recycled water customers in this area is estimated to increase from 100 to over 2,000 users in 25 years, resulting in a recycled water demand increase from 7,900 acre-feet/year to 93,000 acre-feet/year. The proposed system consists of seven pressure zones, 110 MG of reservoir storage, equalization storage at the five regional plants, 13 booster stations with a combined capacity of 145 mgd (nearly 15,000 hp) and 35 regional pipeline projects totaling 92 miles and ranging from 12 to 60 inches in diameter. The 10-year implementation plan includes a seven-phase program with capital costs of $200M. The capital cost of the CIP through build-out is $325M.

In addition to the implementation plan, the Project Team was selected to design four pipelines, pump station and reservoir projects. The design component was later expanded to six design projects and program management services, including development of a customer geodatabase. The project work required a strong client/consultant partnership to develop a plan for the system as well as detailed designs of several major backbone facilities, which were to run in heavily populated/developed

areas. Thorough knowledge of recycled water customer physical locations and their demands were also required. The IEUA service area includes the Cities of Rancho Cucamonga, Ontario, and Montclair, California.

Upper San Gabriel Valley Municipal Water District, El Monte, CA

Reference
Tom Love, General Manager
Upper San Gabriel Valley Municipal Water District
11310 Valley Blvd, El Monte, CA 91731
(626) 443-2297

Project Team - John Robinson

Summary

The Project Team led by John Robinson prepared a Recycled Water Master Plan for the CBMWD, the San Gabriel Valley Municipal Water District (SGVMWD), and the USGVMWD, covering an area of over 30 cities.

We updated the list of potential recycled water customers for CBMWD and created a list for the western half of the SGVMWD and USGVMWD service areas. The list of potential customers included many irrigation customers, but also expanded to include many industrial customers. After completing development of a potential customer list, our team developed several alternatives for potential pipeline routings to serve the customers.

Hydraulic modeling was used to size the required pipelines, pump stations, and reservoirs. Once the hydraulic model and proposed facilities were complete, the Project Team performed an economic evaluation to determine the cost effectiveness of the proposed facilities, as well as ranking and phasing the facilities with the highest potential rate of return. The economic evaluation included cost estimating, hydraulic modeling to evaluate the effect of not installing certain facilities, and development of recommended phasing. The project resulted in a phased recommendation for expanding the recycled water system, including interconnections among the three regional agencies.

Concept Development Plan for Advanced Water Reuse

In 2008, a Project Team led by John Robinson was tasked to produce a concept development plan by a partnership between the USGVMWD, the Water Replenishment District of Southern California, and the Los Angeles County Sanitation Districts. This plan will examine more recent regulatory requirements, updated effluent data and newer membrane technologies. The process train will be microfiltration (MF) or ultrafiltration followed by reverse osmosis and advanced oxidation. The plan will also provide a site master plan to produce 46,000 acre-feet/year of highly treated water for groundwater discharge. Water will be provided both to the Water Replenishment District and the USGVMWD for groundwater recharge to replace sources that are no longer available.

City of Industry Recycled Water Project – Phase IIB

In addition, we provided engineering design services for recycled water distribution facilities to serve existing landscape irrigation in the cities of West Covina, Walnut, and portions of Los Angeles County, with recycled water to substitute for other scarce, potable sources. Up to 3,700 acre-feet/year would be provided via 12.4 miles of 24-inch through 6-inch pipelines buried in existing streets.

City of Oxnard GREAT Program, Oxnard, CA

Reference
Daniel Rydberg, Public Works Director
City of Oxnard, CA
305 West Third Street – Third Floor
Oxnard, CA 93030
(805) 385-8280

Project Team – Tom Holliman

Summary

The Project Team led by Tom Holliman provided full technical and adminstrative support for the on-site recycled water conversions for the City of Oxnard's Groundwater Recovery Enhancement and Treatment (GREAT) Program. This work consisted of identifying commercial/industrial, landscape irrigation, schools, parks, and golf course irrigation conversion opportunities. After identifying the users TRHA conducted user interviews, mapped all the use sites, developed a master engineer's report for all the landscape irrigation sites, and individual reports for the schools, River Park Development, and the River Ridge Golf Course. Conversion plans were developed for all the parks and schools adjacent to the recycled water pipelines.

Numerous meetings and presentations were conducted with industrial/commercial users, school boards and operations staff. Preliminary cross connection testing was completed for the golf course and International Paper, and a unique protocol for testing was developed, and approved by the Health Department, for the River Park development to perform the cross-connection testing even though the system was already in operation and the potable water could not be turned off.

The project included full conversion design drawings for each site as well as a Master Engineers Report for all park sites. Individual Engineers Reports were prepared for each of the school sites, as the golf course and River Park Development. The project also included the Engineers Report for the International Paper Mill.

Castaic Lake Water Agency

Reference
Jason Yim, Principal Engineer
27234 Bouquet Canyon Rd, Santa Clarita, CA 91350
(661) 513-1277

Project Team – Tom Holliman

Recycled Water Program Development

TRHA completed multiple recycled water program assignments for the Castaic Lake Water Agency. These included:

Recycled Water Program Implementation Guidelines Engineering Road Map

The project consisted of developing Recycled Water Program Implementation Guidelines Engineering Road Map to assist CLWA in the implementation of new water reuse projects and addressing challenges to overcome, such as engineering, planning and construction, finance, public outreach, operations, regulatory compliance and health protection, organizational and institutional issues, and political constraints and opportunities. A final comprehensive Road Map was prepared that included reference materials, such as WateReuse reference guides and applicable regulatory agency documents, in addition to functional checklists for key challenges and issues outlining the required steps and components necessary for the recycled water program development.

Recycled Water Pre-Conversion Evaluation Project

This project focused preparing a pre-conversion feasibility study for four major retrofit sites. The project included gathering information from site investigations and evaluations in addition to identifying any fatal flaws to the conversion of any of the four sites from domestic water to recycled water. The report evaluated the impact of the proposed recycled water quality on the plant materials and provided recommendations for any necessary modifications to the irrigation systems and replacement of certain plants that may be significantly affected by recycled water.

Recycled Water Master Plan Update

This project included identifying the total potential recycled water demand through multiple potential landscaping, park, and school conversions. Recycled water system alternatives were produced with the outcome of all previous information that would develop a distribution system which would deliver recycled water to the various use sites with the most cost-effective model.

Per the City's request, we have provided references for four projects. The following projects are included to further demonstrate TRHA's experience with regional recycled water project.

Recycled Water Customer Development

West Basin Municipal Water District, CA

Project Team - John Robinson

Summary

TRHA is currently assisting West Basin Municipal Water District (WBMWD) in the customer development of several recycled water customers. TRHA is providing the following services:

- Performing site inventory assessment,
- Developing detailed retrofit plans,
- Coordinating with the appropriate regulatory agencies,
- Preparing the engineering report or industrial engineering report needed to obtain California Department of Public Health Approval,
- Performing preliminary and final cross connection testing,
- Preparing construction estimates for on-site retrofits,
- Providing construction oversight and coordinating with contractor customers and WBMWD, and

Recycled Water Master Plan

Central Basin Municipal Water District, CA

Project Team - John Robinson

Summary

TRHA prepared a Recycled Water Master Plan for the CBMWD, the San Gabriel Valley Municipal Water District (SGVMWD), and the USGVMWD, covering an area of over 30 cities.

We updated the list of potential recycled water customers for CBMWD and created a list for the western half of the SGVMWD and USGVMWD service areas. The list of potential customers included many irrigation customers, but also expanded to include many industrial customers. After completing development of a potential customer list, our team developed several alternatives for potential pipeline routings to serve the customers.

Hydraulic modeling was used to size the required pipelines, pump stations, and reservoirs. Once the hydraulic model and proposed facilities were complete, TRHA performed an economic evaluation to determine the cost effectiveness of the proposed facilities, as well as ranking and phasing the facilities with the highest potential rate of return. The economic evaluation included cost estimating, hydraulic modeling to evaluate the effect of not installing certain facilities, and development of recommended phasing. The project resulted in a phased recommendation for expanding the recycled water system, including interconnections among the three regional agencies.

Recycled Water Feasibility Study and Distribution System Design

City of Santa Paula, CA

Project Team - John Robinson

Summary

The Project Team led by John Robinson was hired by the City of Santa Paula to develop a facility planning report for a planned recycled water system. The purpose of this project is to reduce the City's demand on the groundwater basin, allowing the City to expand both within and beyond the City limits. This report was developed to identify the details such as pipeline alignments, reservoir storage volumes, pumping conditions, and operational conditions of the proposed system.

To determine the top potential recycled water users, our team reviewed water usage data and conducted site visits to determine connection points, special site conditions, and the feasibility of connecting the customers.

We walked the proposed pipeline alignments to determine constructability, limit impacts to residents, reduce utility conflicts, and increase access to potential recycled water customers. Based on this information our team recommended several modifications to the proposed pipeline alignment.

The Project Team reviewed plans of the wastewater treatment plant currently under construction and geotechnical reports. The recycled water demand and water availability was utilized in conjunction with other data to propose a reservoir size including volume, depth, radius, and freeboard. A hydraulic analysis was conducted of the proposed recycled water system to size the pump station and confirm pipeline sizing.

As part of this report our team identified potential funding sources, conducted a sensitivity analysis on customer connections per phase of the pipeline, and developed recommendations on recycled water rates, project payback, and financial incentives for construction. Financial analysis identified the customers that could be retrofitted and provided a project phasing plan.
The Project Team summarized this information into a report and reviewed the financial data with City of Santa Paula staff.

Recycled Water Master Plan

City of Upland, CA

Project Team - John Robinson

Summary

The Project Team led by John Robinson prepared a Recycled Water Master Plan for the City of Upland. We identified a list of potential recycled water customers and their demands, and used hydraulic modeling to size the required pipelines, pump stations, and reservoirs. Once the hydraulic model and proposed facilities were complete, our team performed an economic evaluation to

determine the cost effectiveness of the proposed satellite facilities, as well as ranking and phasing the satellite facilities with the highest potential rate of return.

The economic evaluation included cost estimating, hydraulic modeling to evaluate the effect of not installing certain facilities, and development of recommended phasing. The project resulted in a phased recommendation for expanding the recycled water system. The Project Team also developed a recycled water ordinance, recycled water design standards, and a guidebook to customer connections for the City.

Recycled Water Program Implementation

San Bernardino Municipal Water Department, San Bernardino, CA

Project Team – Tom Holliman

Summary

TRHA is currently supporting the City's Clean Water Factory Program by providing technical support and project management services. The Clean Water Factory Project will provide tertiary and advanced treatment to the secondary effluent currently being discharged by the City from their regional treatment plant. TRHA recently completed RFP's for Phase 2 - 5 MG Tertiary Treatment, and Phase 3 – 0.5 MGD Advanced Water Purification Plant. In addition to preparing the RFP's TRHA conducted the pre-proposal meeting, prepared addendum, reviewed the final proposals and recommendations for award. TRHA will provide direct support during the design phase for both projects. Total estimated design fee for both projects is approximately $4,000,000. The project will increase reliability and efficiency of the City's water system.

Recycled Water Program Implementation

Inland Empire Utilities Agency, Chino, CA

Project Team – Tom Holliman, John Robinson

Summary

TRHA served as the Recycled Water Coordinator/Program Manager for the implementation of IEUA's Three Year Recycled Water Business Plan. Work included identifying recycled water customers, developing site specific conversion plans, preparing engineer's reports, onsite recycled water supervisor training, interfacing with member agency staff, developing conversion cost estimates,

and monitoring recycled water demand. The largest users were the Cities of Chino, Chino Hills, Ontario, and the Cucamonga Valley Water District.

Scope of Work

TRHA is proposing the following scope of work to complete the Recycled Water Program Implementation Facilitator Services. It is based on the scope of work in the City of Beaumont's (City's) RFP and includes a detailed description of the intended methodology and work plan to be utilized in addressing the scope of work.

Per the City's request, a detailed Fee Proposal is included in a separate sealed envelope. It details cost per task and project staff discipline.

SECTION III – SCOPE OF SERVICES

A. General

The intent of the Request for Qualifications (RFQ) is to secure the services of qualified professional engineering consultants to act as a Recycled Water Program Implementation Facilitator who will work with the anticipated program partners which include the City of Beaumont, the Beaumont-Cherry Valley Water District, and the San Gorgonio Pass Water Agency. We understand that TRHA, when selected to provide professional consulting engineering services necessary to facilitate and manage the needs wants and vision of each of the three partner agencies, will collect and review available information and data and meet separately with partner agency Staff and 3x2 committee members.

Based upon those meetings, TRHA will prepare a technical memorandum detailing initial concepts of reasonable recycled water implementation options which may be available to the partner agencies and outlining the implementation options and associated program level schedules of completion of anticipated tasks and associated program level budget costs.

This work would then be used to define and negotiate a scope of services for addition by addendum to the proposed contract.

TRHA will be proactive and knowledgeable of all regulations required for project acceptance. TRHA will function as an advisor, advocate, and produce a product with the best interest intended for the project partners (City, BCVWD, and SGPWA) within the required schedule and budget.

All work and recommendations will be done in conformance with applicable Local, State, and Federal laws, as well as Beaumont Groundwater Basin Adjudication requirements and rules & regulations. All documents shall be prepared under the responsible direction and supervision of appropriate TRHA state licensed/registered professionals.

A. Detailed Scope of Service

The following Scope of Services is provided as a framework and is intended to identify the project partners (City, BCVWD, and SGPWA) expectations and requirements. Once the background materials are reviewed and preliminary concepts are developed, and initial meetings are conducted TRHA may propose to expand or reduce tasks or propose additional work to accomplish the goals of the three agencies.

Task 1 – Initial Facilitation Meeting with Three Partner Agencies

TRHA will attend three (3) separate meetings with each of the three partner agencies for a total of nine (9) meetings.

TRHA will meet with the City of Beaumont, Beaumont-Cherry Valley Water District, and San Gorgonio Pass Water Agency to gain an understanding of each agency's needs, desires, and vision for the effective implementation of recycled water in the City of Beaumont and Beaumont-Cherry Valley Water District's Sphere of Influences, as well as those sphere areas that coincide with the San Gorgonio Pass Water Agency's Sphere of Influence.

Task 2 – Data Collection and Review

TRHA will, as a minimum, collect, compile, and review the following minimum data sets and information:

- City of Beaumont Wastewater Master Plan, AKEL Engineering Group (2021)
- City of Beaumont Recycled Water Reuse Strategy Report, Hunt Thornton Resource Strategies, LWA, Todd Groundwater (2022)
- City of Beaumont Feasibility Study for WWTP Expansion & Salt Mitigation, Albert A. Webb and Associates and Aqua Engineering (2016)
- City of Beaumont Salt Mitigation Upgrade Project (WWTP plans and specifications) (2018)
- City of Beaumont Maximum Benefit Monitoring Program Annual Report(s) (latest edition) for the Beaumont and San Timoteo management Zones and reference information listed in said report(s)
- City of Beaumont NPDES Permit (existing and draft permits) Order No. RS-2015-0026, NPDES NO. CA01 05376 Waste Discharge Requirements and Master Reclamation Permit for the City of Beaumont Wastewater Treatment Plant Riverside County
- RWQCB SAR Resolution R8-2014-0005
- BCVWD Potable Water Master Plan (2016)
- BCVWD Non-potable Water Master Plan (2022) Draft
- BCVWD 2020 Urban Water Management Plan and Water Supply Contingency Plan (2021)
- BCVWD Geohydrologic Investigation Noble Creek Artificial Recharge Study (2002)
- BCVWD Noble Creek Recharge Facilities Phase I and II Project (plans and specifications, where available) (2006 and 2014)
- RCFC&WCD Beaumont MDP Line 16, Stage 50 Recharge Basin Feeder plans and specifications (2021)
- SGPWA Beaumont Avenue Recharge Facilities Project (plans and specifications) (2019)
- SGPWA 2020 Urban Water Management Plan
- Beaumont Basin Watermaster Information

(https://beaumontbasinwatermaster.org)

- Judgement Pursuant to Stipulation Adjudicating Groundwater Rights in the Beaumont Basin, February 4, 2004 (amended March 14, 2019)
- Beaumont Basin Watermaster Rules and Regulations, latest Amendments
- Resolutions of the Beaumont Basin Watermaster
- Annual Reports of the Beaumont Basin Watermaster
- Engineer Reports of the Beaumont Basin Watermaster
- Meeting Agendas for the Beaumont Basin Watermaster (as necessary)

TRHA expects that staff from the three agencies will provide the information listed above. TRHA will only review those documents listed above in the scope of Task 2.

Task 3– Ongoing Project Facilitation Meeting Attendance and Support

1. TRHA will meet with the 3x2 Committee; assume one meeting per month for a duration of 2.5 hours. Anticipate that City, BCVWD, and SGPWA Staff and consultants may be present to answer questions about their existing systems. TRHA will address recycled water questions from the City, BCVWD, and the 3x2 Committee. TRHA will coordinate with City, BCVWD, and SGPWA Staff and the 3x2 Committee for agenda topics. TRHA will prepare supporting documentation and presentation material in anticipation of each meeting. Based on the agenda items received, TRHA will provide a meeting agenda two working (2) working days prior to the meetings.
2. TRHA will prepare minutes of each meeting, including any Technical Memoranda, responding to questions from the 3x2 Committee or City, BCVWD, and SGPWA Staff. Meeting minutes will be provided to all attendees electronically within five (5) working days of each meeting.
3. TRHA will meet with the 3x2 Committee, BCVWD Staff, and City Staff (individual kick-off meetings) to understand the system operation, facilities, constraints, and the concerns of the participants.
4. At the first meeting of the 3x2 Committee TRHA will present options and alternatives along with advantages and disadvantages, potential risks and liabilities, and rough order of magnitude costs for the recycled water options. Include a schedule of implementation (time and steps) for each alternative. This would be based on TRHA's review of existing reports and the individual meetings with the 3x2 Committee and the Agency staffs.
5. TRHA will continue meeting with the 3x2 Committee refining alternatives, risks and liabilities, costs, etc. until a program of implementation has been

agreed to. Anticipated six (6) meetings of 2.5 hours.

6. TRHA will update the schedule of implementation and budgetary costs to reflect the adopted plan.
7. TRHA will assist the 3x2 Committee, BCVWD and City legal counsels to develop contract language for the purchase of recycled water and the equitable distribution of risk and liabilities.

Task 4 – Preparation of Technical Memorandum Presenting Recommended Conceptual Plan and Associated Options for Recycled Water Implementation

TRHA will prepare Technical Memorandum that will define elements of the Recycled Water Implementation program Conceptual Plan based on collaboration with the Project Team (City, BCVWD, and SGPWA). In order to define the final implementation program, a Conceptual Plan shall be developed as part of said work which would be intended to define recycled water implementation recommended option(s) and recommendation(s) based upon completion of Task's 1, 2 and 3 above.

Task 5 –Prepare Addendum for Contract for Additional Services Based upon Conceptual Plan for Recycled Water Implementation

- Develop a detailed scope of work based upon the approved Conceptual Plan for Recycled Water Implementation that will define elements of the Recycled Water Implementation program based on collaboration with the Project Team (City, BCVWD, and SGPWA).
- The proposed contract addendum for additional contract services will be set forth based on the general elements set forth under Section II – Proposal Elements and will include a cost proposal that identifies the original proposal fee schedule, and hourly billable costs for the itemized Scope of Services. All hourly fee schedules will be based on TRHA's current fee schedule rates and will be fixed for the duration of the contract. The costs proposal will clearly identify the estimated man-hours by classification and expenses required for each task, separated by team members, including all subcontractors and contractors required to complete the Scope of Services.

VALUE ADDED RELATED SERVICES

TRHA has identified additional related services that the City has not specifically identified in this RFP to accomplish the stated goals of this RFP. TRHA recognizes that the value-added related services may or may not be incorporated in the agreement.

VAS 1 – On-call Funding Assistance

We can assist the City in meeting with funding agencies, filling out funding

applications, and answering questions. This can speed the approval process and/or assist in obtaining additional funding.

VAS 2 – CEQA Clearance

TRHA has the capability to develop and assist with California Environmental Quality Act (CEQA) clearance. We have prepared Mitigated Negative Declarations for recycled water systems.

VAS 3 – Preliminary Design

TRHA has the capability to develop and perform a preliminary design on the recycled water facilities and customer conversions.

VAS 4 – Division of Drinking Water Engineering Reports

TRHA has the capability to develop the Engineering Reports that will be required for each industrial/commercial site.

VAS 5 – Pre-conversion and Post Conversion Cross Connection Testing

TRHA has AWWA and USC certified Cross Connection Control Program Specialists who can perform the pre-conversion and post conversion cross connection testing.

VAS 6 – Recycled Water Users Manuals and Onsite Supervisor Training

TRHA has the capability to develop recycled water user's manuals for the maintenance personnel at each site. In addition, TRHA can provide Onsite Supervisors Training courses for site personnel.

VAS 7 – Direct Injection vs. Surface Spreading

TRHA can initiate a meeting with the Regional Water Quality Control Board, BCVWD, and Pass Agency, regarding the potential for direct injection in the Beaumont Basin with ASR wells. This would include identifying additional treatment requirements, injection points, and planning level implementation schedule.

Thomas Holliman, PE – T.R. Holliman and Associates, Inc.

Project Manager

Summary

Thomas Holliman was chosen as Project Manager due to his more than 40 years of experience in recycled water planning, design, construction, and operations. Tom developed the first color-coding system for reclaimed and non-potable systems and the coordinated the creation of purple plastic pipe. He was a Principal Author and Team Leader for the development of the "Manual of Practice on How to Develop a New Water Reuse Program, WateReuse Association, 2009", and he the current Past President, Inland Empire Chapter, WateReuse Association, and Past Chairman of the AWWA CA/NV Section Recycled Water Committee.

Education

- BS, Civil Engineering, University of Southern California
- MBA, Business Administration, University of California, Irvine

Licenses

- Professional Engineer (Civil) – CA
- AWWA/USC Cross Connection Control Program Specialist

Years of Experience

- 40

He has received several WateReuse Awards including; WateReuse Special Project Award, 2015 – Use of Recycled Water for Making Hockey Ice at Citizens Business Bank Arena, Ontario, CA, WateReuse Association Special Award of Merit, and the California Water Awareness Program, 1997 Water Efficiency Award, Industrial Division for the use of Recycled Water for Ground Subsidence in Long Beach, CA, and WateReuse Association California Section Special Project of the Year of this project in 1992 for the first use of Recycled Water for Toilet and Urinal Flushing in a High-rise Office Towers.

He is President/Managing Engineer of T.R. Holliman and Associates, Inc. which provides planning and municipal engineering services. Mr. Holliman has also previously served as Assistant General Manager/District Engineer for the Water Replenishment District of Southern California (WRD), Director of Engineering and Planning/Chief Engineer for the Long Beach Water Department, and Engineering and Operations Manager for the East Valley Water District, Highland, CA, and Principal Engineer for the Irvine Ranch Water District.

Relevant Project Experience

Project Manager, Recycled Water System Management and Development, Castaic Lake Water Agency, Santa Clara, CA.

Completed multiple recycled water program assignments for the Castaic Lake Water Agency. These included a *Recycled Water Program Implementation Guidelines Engineering Road Map* which consisted of a road map to assist CLWA in the implementation of new water reuse projects and addressing challenges to overcome, such as engineering, planning and construction, finance, public outreach, operations, regulatory compliance and health protection, organizational and institutional issues, and political constraints and opportunities. A *Recycled Water Pre-Conversion Evaluation Project* which focused on the preparing a pre-conversion feasibility study for four major retrofit sites. The project included gathering information from site investigations and evaluations in addition to identifying any fatal flaws to the conversion of any of the four sites from domestic water to recycled water. The report evaluated the impact of the proposed recycled water

quality on the plant materials and provided recommendations for any necessary modifications to the irrigation systems and replacement of certain plants that may be significantly affected by recycled water. Finally, the work included a *Recycled Water Master Plan Update* that included identifying the total potential recycled water demand through multiple potential landscaping, park, and school conversions. Recycled water system alternatives were produced using all previous information that would develop a distribution system which would deliver recycled water to the various use sites with the most cost-effective way.

Project Manager, GREAT Project, Phase IB, City of Oxnard, CA

Provided full technical and adminstrative support for the on-site recycled water conversions for the City of Oxnard's Groundwater Recovery Enhancement and Treatment (GREAT) Program. This work consisted of identifying commercial/industrial, landscape irrigation, schools, parks, and golf course irrigation conversion opportunities. After identifying the users, conducted user interviews, mapped all the use sites, developed a Master Engineer's Report for all the landscape irrigation sites, and individual reports for the schools, River Park Development, and the River Ridge Golf Course. Conversion plans were developed for all the parks and schools adjacent to the recycled water pipelines.

Project Manager, Recycled Water Feasibility Study, City of Lompoc, CA

Developed a recycled water feasibility study to determine where there are opportunities for recycled water use by the City. The report determined what barriers existed to implementing a recycled water system, and developed a cost/benefit analysis. The study identified pertinent regulatory requirements, performed a market assessment of potential customers and demand estimates, analyzed recycled water supply availability and quality, prepared system alternatives, included cost/benefits for each option, and provided recommendations and further analysis needs.

Project Manager, Recycled Water System Coordination, Inland Empire Utilities Agency, Chino, CA

Recycled Water Coordinator/Program Manager for the implementation of IEUA's Three Year Recycled Water Business Plan. Work included identifying recycled water customers, developing site specific conversion plans, preparing engineer's reports, onsite recycled water supervisor training, interfacing with member agency staff, developing conversion cost estimates, and monitoring recycled water demand.

Project Manager, East Pomona Recycled Water Feasibility Study, City of Pomona, CA

Prepared of a recycled water retrofit feasibility study for eastern Pomona. This work included identifying all potential recycled water customers, developing alternative facility alignments, creating a hydraulic model of the proposed recycled water system, developing the preferred alternatives, preparing cost estimates for each alternative and combining all the information into a comprehensive report with recommendations.

John Robinson – John Robinson Consulting, Inc.

Principal Planner

Summary

John Robinson was chosen as Principal Planner due to his 16 years of environmental engineering experience focused exclusively on water reclamation and wastewater master planning projects and engineering for municipalities in California and Arizona. He has been involved in feasibility/master studies and planning, technology evaluation and recommendations, preparation of study and design reports, as well as process and mechanical design for new water reclamation and wastewater facilities and expansion of existing facilities. He has provided reclamation system computer hydraulic modeling and has been intimately involved with regulatory agencies with permitting jurisdiction over recycled water projects.

Education

- BS, Civil Engineering, California State University – Long Beach
- USC Cross Connection Control Program Specialist

Years of Experience

- 20

Relevant Project Experience

Project Manager, Recycled Water Implementation Plan and Recycled Water Program, Inland Empire Utilities Agency (IEUA), CA. Mr. Robinson led the development of IEUA's Recycled Water Implementation Plan. The TRIIA Team developed the overall project approach and methodology, coordinated project tasks with IEUA, and provided the technical content of the report. As part of the approach, a 10-year implementation plan was developed based on hydraulic modeling performed in InfoWater. After the completion of the Implementation Plan, he managed the design of 10 miles of recycled water pipelines, two pump stations, and two reservoirs.

Project Manager, Recycled Water Program - Whittier Narrows Water Recycling Project Phase IIA-Pipeline and Pump Station, Upper San Gabriel Valley Municipal Water District (USGVMWD), CA. Mr. Robinson oversaw the expansion of the USGVMWD's recycled water system. The facilities for the project include a pump station and reservoir at the Sanitation Districts of Los Angeles County's Whittier Narrows Water Reclamation Plant and approximately 18,000 linear feet of pipeline.

Technical Advisor, Recycled Water Demonstration Study, City of Anaheim, CA. Mr. Robinson provides oversight for the design of the water reclamation facility for the City of Anaheim. The City of Anaheim provides 75,000 acre-feet/year of potable water to approximately 350,000 people within a 50-square mile area. To augment City's water supply, a state-of-the-art, decentralized water recycling demonstration facility is to be built adjacent to City Hall. The facility will produce water that meets Title 22 water quality requirements of California DPH.

Technical Advisor, Recycled Water Facilities Planning Report, City of Santa Paula, CA. Mr. Robinson provides guidance during the development of a facilities planning report for a planned recycled water system. The purpose of this project is to reduce the City's demand on the groundwater basin, allowing the City to expand both within and beyond the City limits. This report was developed to identify the details such as pipeline alignments, reservoir storage volumes, pumping conditions, and operational conditions of the proposed system.

Dave Bachtel, PE – Bachtel Wastewater Engineers

Wastewater Treatment Plant Evaluation

Summary

Dave is President of Bachtel Wastewater Engineers where he provides high value engineering based on 40 years in the industry to clients of all sizes. Dave worked for 30 years with the Los County Sanitation Districts where he most recently was Division Engineer responsible for wastewater treatment plant design. Dave has participated in facilities planning, preliminary design, final design and engineering support for construction for more than 80 projects ranging from under $1 million to more than $150 million. He has been involved with research, operations, planning, procurement, design, value engineering, construction support, construction management, start-up and operation of pump stations, head works, odor control, primary treatment, secondary treatment, disinfection, solids processing facilities including sludge thickening, dewatering centrifuges, belt filter presses and plate and frame filter presses, anaerobic digestion, gas clean up, power generation, sludge dewatering, conveying storage, drying, combustion and composting, in addition to design of entire treatment plants. He is familiar with plant upgrades to tertiary and advanced treatment, including DDW Title 22 requirements.

Education

- Master of Science, Sanitary Engineering (MS Sanitary Engineering), Virginia Polytechnic Inst St U I
- Bachelor of Science, Environmental Technology (BS Environmental Technology), Cornell University

Licenses

- Professional Engineer (Civil) – CA
- American Academy of Environmental Engineers

Years of Experience

- 40 Years

Relevant Project Experience

Valenica Water Reclamation Plant Stage IV and Expansions, Santa Clarita, CA

Project Manager for expansion of Valencia Water Reclamation Plant (VWRP) from 7.5 mgd conventional tertiary treatment to 21.6 mgd nitrified/denitrified tertiary capacity in two phases of hydraulic expansion and two phases of solids processing capacity encompassing six contracts totaling $80 million. Facilities added included influent pump station expansion, primary sedimentation tanks, including sludge pumping, primary effluent flow equalization, process air compressors aeration tanks and final clarifiers incorporating the Modified Ludzack-Ettinger NDN process, return activated sludge pumping, pressure filtration, filter backwash equalization, chlorination, chlorine contact tanks, de-chlorination, dissolved air flotation of WAS, anaerobic digestion, digested sludge storage, plate and frame filter press digested sludge dewatering, filtrate nitrification utilizing return activated sludge, dewatered cake storage, digester gas pretreatment, power generation, steam boilers, and flood/erosion protection walls. Portions of the project were initially designed by a consultant for conventional activated sludge but required re-scoping and redesign because of changing effluent discharge requirements. As project manager, Dave oversaw consulting work and subsequent in-house re-design to maintain the capacity of the plant expansions and was liaison with SWRCB for loan funding. A major challenge was coordinating construction with the conversion of a second upstream treatment plant (Saugus) to NDN on the same tight schedule as the Valencia plant, all while treating existing flows and maintaining a minimum discharge to the adjacent river continuously. Other challenges included poor subsurface

soil conditions with high groundwater and the need to perform construction in a riverbed occupied by endangered fish species.

Wastewater Treatment Plant Improvements Project, Brawley, CA

Project/Design Manager from planning through start-up and process optimization for a $24,000,000 wastewater treatment plant upgrade from aeration ponds to full secondary treatment with nitrification for the 5.9 mgd WWTP. Project included influent flow equalization for partial combined sewer system with extremely high peak storm flows. Project included construction of three Biolac® aeration basins with circular clarifiers, compressor station, distribution structures and return sludge pumping and distribution, waste sludge pump station, sludge gravity thickener, centrifuge dewatering and Class A biosolids production in a Parkson Thermosystems® solar greenhouse dryer. The project was the San Diego Chapter of APWA Wastewater Project of the Year in 2012 and San Diego Chapter ASCE Wastewater Silver project of the Year, 2013.

Holtville Wastewater Treatment Plant Improvements, Holtville, CA

Project Manager for planning, detailed design and construction management for a 1 mgd wastewater treatment plant upgrade from trickling filters to extended aeration. Processes include headworks, Biolac ® extended aeration with floating aeration system, integral secondary clarifiers, sludge thickening, and drying beds. The facility preliminary and final design was performed in six months to meet a Cease and Desist Order. Funding was coordinated with several different sources.

Joint Outfall System 2010 Master Facilities Plan, Los Angeles County Sanitation Districts

Dave was a project manager for the design input to the master facilities planning for the Sanitation District's 400 MGD Joint Water Pollution Control Plant for its conversion from partial to full secondary treatment. He was responsible for the inlet works, grit chambers, advanced primary treatment, primary sludge collection, waste activated sludge thickening, blended sludge anaerobic digestion, sludge dewatering, dewatered cake storage and cake load-out. Duties included process evaluation, selection and sizing and facility lay-out. Responsibilities included creation of consensus with the Operations staff regarding process recommendations, developing an implementation plan and interfacing with the State Water Resources Control Board to procure State Revolving Loan Funds. A series of 18 contracts totaling over $400 million was developed to achieve implementation of full secondary treatment within the time allotted by a court approved consent decree. Subsequently, Dave directly managed detailed design and construction support for eight of those contracts. Five of the contracts were designed in-house and three by outside consultants which he managed.

G. Clayton Tuckfield, PE – Tuckfield & Associates

Recycled Water Rate Development

Summary

Clayton is President and Principal Consultant of Tuckfield & Associates where he provides utility rate and capacity charge consulting services. Clayton has managed or been directly involved in publicly owned utility financial services for over 30 years. Since 1985, Mr. Tuckfield has used innovative methods combined with time-tested strategies to assist municipalities and special districts in achieving their financial goals. Clients have included public utilities, state and county governments, municipalities, and public districts. Prior to forming Tuckfield & Associates, Clayton served Black & Veatch Corporation for nearly 15 years in their Management Consulting Division. Mr. Tuckfield has worked with numerous cities and special districts in California and has written papers and articles for AWWA (American Water Works Association) and California Special Districts Association (CSDA) and has conducted a webinar for CSDA regarding financing projects with USDA funding.

Education

- Master of Business, Finance (MBA), University of Kansas
- Bachelor of Mechanical Engineering (BSME), Kansas State University

Licenses

- Professional Engineer (Mechanical) – KS

Years of Experience

- 32 Years

Relevant Project Experience

Water Rate Study, City of Buena Park, CA

Tuckfield & Associates completed a water financial plan and rate study for the City of Buena Park in 2016 and was engaged again by the City for preparation of a financial plan for a revenue bond issue in 2017. The rate study scope of work included (1) preparing a long-range financial plan that includes assessment of current revenues to meet the current and future obligations of the water fund, establishing operating and capital reserve policies, and incorporating financing of the proposed capital improvement program (CIP) spending plan and (2) design of an appropriate rate structure that complies with Proposition 218.

Three financial plan alternatives were prepared and discussed with City Staff that funded the same CIP but with various combinations of cash, bond financing, and annual revenue increases. The cost of service and rate portion of the study included a review and justification of the City's current rate structure and rates and preparing two-tiered rate structure alternatives. The rate structures addressed the recent San Juan Capistrano court decision regarding conservation rates by preparing a new tiered rate structure to replace the current conservation rate structure while also developing a uniform volume rate structure for all customers. The rates were adopted by city council.

Recycled Water Rate Study, Mesa Water District, Costa Mesa, CA

Tuckfield & Associates performed a Recycled Water Rate Study for Mesa Water District in 2016. The study included several tasks to establish the cost of providing service to the water system and the recycled water system. The District's combined budget was reviewed and through discussions with District staff, the expenses and capital projects were separated and assigned to the water system and the recycled water system. A financial plan was developed for the recycled water

system identifying necessary revenue increases to meet recycled water obligations and policy required reserves. The financial plan was followed by a cost of service analysis that established cost responsibility from fixed and variable charges. Fixed costs were recovered from fixed charges based on the size of recycled meter installed on the customer premises and a uniform volume charge was established to recover the commodity cost. Rates were adopted by the District Board.

Water and Wastewater Rate Study, City of Loma Linda, CA

Tuckfield & Associates completed a water and wastewater rate study for the City of Loma Linda in 2014. The study identified a sewer fund budgeting problem that was causing an annual deficit that was not previously identified. The problem was discussed with City staff and the budget was corrected. This resulted in the need for higher wastewater rate increases than expected.

Several rate scenarios were discussed with city staff that evaluated the impact of budget constraints and the delay of capital improvements to future years. In both the water and sewer funds, the fund balances were below city policy target levels. Rate increases for both utilities included rebuilding fund balances, cure annual deficits, meet O&M escalation, pay for future debt service, and fund annual repair and replacement expenditures. Water and wastewater rates were adopted by the City Council.

Water and Wastewater Rate Study, City of Ventura, CA

Tuckfield & Associates completed water and wastewater rate studies for the City of Ventura that spanned 20-years, continuing a relationship with the city from 1990 to 2010. Mr. Tuckfield conducted the initial study and subsequent studies over that timeframe. During that period, the city managed to construct over $200 million in water and wastewater capital improvements, all while maintaining reasonable increases in water and wastewater rates. Mr. Tuckfield also developed water conservation rates using inverted rate blocks for residential customers while establishing separate rates for non-residential customers, including large industrial users.

Ben Pak, Ben Pak and Associates, Inc.

Project Engineer, GIS Mapping and Groundwater Evaluation

Education

- BS, Mechanical Engineering, Applied Ecology, University of California, San Diego

Years of Experience

- 30

Summary

Ben Pak was chosen for GIS Mapping and Groundwater Evaluation due to his experience with recycled water infrastructure and his overall expertise in master planning in the water and recycled water sectors. Mr. Pak has over 30 years of engineering experience in water, recycled water, wastewater, and groundwater recharge projects, involving the supervision and coordination of the planning, design, and construction of recycled water pipelines and facilities. He also has extensive experience in hydraulic modeling and planning and evaluating potable water, recycled water, and sewer systems.

Relevant Project Experience

Project Manager, Great Oaks Water System Hydraulic Model, Great Oaks Water Company, San Jose, CA.

Built and calibrated the hydraulic model that simulated Great Oaks Water Company's entire water system using the existing water GIS data. Allocated existing demands by geocoding billing data to street addresses or assessor parcel numbers; allocating demands to the closest junction or pipe. Established diurnal demand patterns based on field data. Performed Extended Period Simulations (EPS) on the final system verify performance.

Project Manager, Water and Sewer Model Updates, East Valley Water District, Highland, CA.

Managed water and sewer model for a master plan updates. Created and ran various scenarios for new development areas.

Project Engineer, East Pomona Recycled Water Feasibility Study, Inland Empire Utilities Agency, Chino, CA.

Created and calibrated a hydraulic model that simulated recycled water demands for the East Pomona service area and created network simulations to maximize recycled water use. Allocated existing demands by geocoding billing data to street addresses or assessor parcel numbers; allocating demands to the closest junction or pipe.

Project Engineer, Recycled Water System Management and Development, Inland Empire Utilities Agency, Chino, CA.

Completed and implemented the Water and Sewer Master Plan utilizing the computer modeling. Developed and implemented a recycled water customer database and GIS (Geographical Information System), which enhanced the management of customer and usage information. Managed the hydraulic models for future expansion and daily operations. Coordinated with the local water agencies and Southern California Metropolitan Water District to draft the regional Urban Water Management Plan of 2000 and 2005. Established potential recycled water customer site selection, proposed the alignment of recycled water pipelines, defined design criteria, and completed the initial planning and feasibility study.