



**HUMBOLDT COMMUNITY SERVICES DISTRICT
BOARD OF DIRECTORS
REGULAR SCHEDULED MEETING**

AGENDA

DATE: Tuesday, January 11, 2022

TIME: 5:00 p.m.

LOCATION: *In accordance with AB 361 and HCSD Resolution 2021-14, HCSD Board of Directors shall conduct the District's business via teleconference.*

The open session segment(s) of the meeting, including Public Participation, may be joined through the Zoom Website (<https://zoom.us>) by clicking on "Join A Meeting" and entering the following Meeting ID then follow the prompts for Passcode and audio. Access may also be achieved by telephone only by dialing 1-669-900-9128 followed by the Meeting ID and Passcode below:

Meeting ID: 882 7799 4693

Passcode: 162089

Participation protocol:

- *Please use the MUTE function when not speaking*
- *Please use the "RAISE HAND" feature when wishing to be acknowledged for participation. Raise Hand feature is located in the lower right portion of the screen via the "REACTIONS" icon.*
- *Please do not speak out of turn; wait for the Board President to call upon you to share.*

A. CALL TO ORDER AND ROLL CALL

B. CONSENT CALENDAR

1. Approval of January 11, 2022 Agenda *Pgs 1-2*
2. Approval of Minutes of the Regular Meeting of December 14, 2021 *Pgs 3-6*

C. REPORTS

1. General Manager
 - a) GM Report *Pgs 7-9*
2. Engineering
 - a) Engineering Update *Pg 11*
3. Superintendent
 - a) December Construction Operations Report *Pg 13*

4. Finance Department

- a) November 2021 Budget Report
- b) December 2021 Check Register

Pgs 15-24

Pgs 25-31

5. Legal Counsel

6. Director Reports

7. Other

D. PUBLIC PARTICIPATION **

**Members of the public will be given the opportunity to comment on items not on the agenda by way of a Zoom meeting. Please use the information set forth above to participate. The Board requests that speakers please state their name and where they are from, be clear, concise and limit their communications to 3 to 5 minutes. At the conclusion of all oral communications, the Board or staff may choose to briefly respond with information in response to comments; however, the Brown Act prohibits discussion of matters not on the published agenda. Matters requiring discussion, or action, will be placed on a future agenda.

E. NON-AGENDA

F. NEW BUSINESS

- 1. Consideration of Resolution 2022-01 Making Findings Pursuant to Government Code Section 54953, as Amended by Assembly Bill 361, and Authorizing the Continued Use of Virtual Meetings *Pgs 33-34*
- 2. Consideration of Entering into Agreements to SHN Engineering and GHD Engineering for On-Call Engineering Services *Pgs 35-183*
- 3. Consideration of Entering into an Agreement with NBS to Conduct a Water and Sewer Rate Study *Pgs 185-396*

G. OLD BUSINESS

H. ADJOURNMENT

Next Res: 2022-01

Next Ord: 2022-01

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact Brenda Franklin at (707) 443-4558, ext. 210. Notification 48 hours prior to the meeting will enable the District to make reasonable arrangements to ensure accessibility to this meeting (28 CFR 35.102 – 35.104 ADA Title II).

Pursuant to §54957.5(a) of the California Government Code, any public record writings relating to an agenda item for an open session of a regular meeting of the Board of Directors, not otherwise exempt from public disclosure, are available for public inspection upon request at the District offices located at 5055 Walnut Drive, Monday through Friday (holidays excepted) during regular business hours.

DRAFT – MINUTES OF THE REGULAR MEETING
OF THE BOARD OF DIRECTORS OF THE
HUMBOLDT COMMUNITY SERVICES DISTRICT

The Board of Directors of the Humboldt Community Services District met in Regular Session at 5:00 p.m. on Tuesday, December 14, 2021, via tele/video conference in accordance with AB 361 and HCSD Resolution 2021-12.

A. CALL TO ORDER AND ROLL CALL

Present upon roll call were Directors Benzonelli, Bongio, Gardiner, Hansen, and Matteoli. Staff in attendance: General Manager Williams (GM), Superintendent Latham, Finance Manager Montag (FM), Assistant Engineer Adams (AE).

B. CONSENT CALENDAR

1. Approval of December 14, 2021 Agenda
2. Approval of Minutes of the Regular Meeting of November 23, 2021

DIRECTOR HANSEN MOVED, DIRECTOR GARDINER SECONDED, TO ACCEPT AND APPROVE THE DECEMBER 14, 2021 CONSENT CALENDAR. MOTION CARRIED UPON THE FOLLOWING ROLL CALL VOTE:

AYES: BENZONELLI, BONGIO, GARDINER, HANSEN, MATTEOLI
NOES: NONE
ABSENT: NONE

C. REPORTS

1. General Manager

a) GM Report

- Rate Study: Two proposals were received by the December 3 deadline and are currently under review by City of Eureka and District staff. Staff is hopeful to present recommendations for contract award at the regular January 11, 2022 meeting.
- Grant Funding: Pre-applications for various projects totaling more than \$6 Million have been submitted to the CalOES. If approved, the District will then be invited to present detailed applications for consideration.
- Personnel: There are two staff members with significant longevity anniversaries this December – 10 years for Norma McClary, and 20 years for Chris Naughton. Interviews for the vacant Utility position in the Construction Department will occur December 16, and staff is hopeful the District will have a new member soon.

2. Engineering

DRAFT – MINUTES OF THE REGULAR MEETING
OF THE BOARD OF DIRECTORS OF THE
HUMBOLDT COMMUNITY SERVICES DISTRICT
Continued; December 14, 2021

a) Engineering Report

AE reviewed the December 10, 2021 report summarizing capital improvement projects currently underway, status of the District's Emergency Response Plan update as required by the U.S. EPA's American Water Infrastructure Act of 2018, and staff success with modifying one of its Federal Communications Commission transmission licenses in lieu of utilizing contracted out-sources as in the past.

3. Superintendent

a) November Construction Operations Report

Superintendent reviewed the department's standard activities summarized in his December 9, 2021 Memorandum without question.

b) November 2021 Operations/Maintenance Report

Superintendent reviewed the December 9, 2021 Memorandum summarizing the department's customary activities adding that during routine systematic sewer filming staff discovered a previously unknown massive root problem near the Sequoia SLS averting a potential overflow.

4. Finance Department

a) October 2021 Budget Statement

FM reviewed the report affirming the District is performing as planned.

b) November 2021 Check Register

FM reviewed the report affirming all transactions as anticipated.

E. PUBLIC PARTICIPATION

President Bongio invited the public to address the Board on any item not listed on the agenda or issues generally affecting District operations, which are within the jurisdiction of the Board.

Richard Marks, Northern Regional Compliance Manager for the Construction Industry Force Account Council (CIFAC) which monitors public works processes introduced himself advising he was interested in addressing Agenda Item F.2 later in the meeting.

F. NEW BUSINESS

1. Consideration of Resolution 2021-14 Making Findings Pursuant to Government Code Section 54953, as Amended by Assembly Bill 361, and Authorizing the Continued Use of Virtual Meetings

Discussion ensued reviewing the GM's previously submitted criteria for re-opening the District office and Board Room, the necessity of continued safeguarding of staff and Directors, the benefit to the general public to have access to virtual meetings.

Public Comment: Richard Marks shared that the entities he represents have implemented hybrid meetings wherein the Board or Commissioners have the option of appearing in person or virtually, while the public still participates virtually. The costs associated with a hybrid meeting are greater, and the logistics require staff intervention.

IT WAS THEN MOVED BY DIRECTOR BENZONELLI, SECONDED BY DIRECTOR HANSEN TO ADOPT RESOLUTION 2021-14 BY TITLE ONLY. MOTION CARRIED UPON THE FOLLOWING ROLL CALL VOTE:

AYES: BENZONELLI, BONGIO, GARDINER, HANSEN, MATTEOLI
NOES: NONE
ABSENT: NONE

2. Consideration of Resolution 2021-15 Opting-In to the California Uniform Construction Cost Accounting Act (CUPCCAA) as contained in Public Contract Code (PCC) Section 22000, et seq.

GM reviewed the benefits and recommendation for District participation affirming the only downside to the commitment is incorporating minor additional accounting practices.

Public Comment: Richard Marks affirmed his presence at the meeting is to recommend District adoption of the resolution.

IT WAS THEN MOVED BY DIRECTOR BENZONELLI, SECONDED BY DIRECTOR HANSEN TO ADOPT RESOLUTION 2021-15 AUTHORIZING ELECTION UNDER PUBLIC CONTRACT CODE SECTION 22030 TO BECOME SUBJECT TO UNIFORM PUBLIC CONSTRUCTION COST ACCOUNTING PROCEDURES. MOTION CARRIED UPON THE FOLLOWING ROLL CALL VOTE:

DRAFT – MINUTES OF THE REGULAR MEETING
OF THE BOARD OF DIRECTORS OF THE
HUMBOLDT COMMUNITY SERVICES DISTRICT
Continued; December 14, 2021

AYES: BENZONELLI, BONGIO, GARDINER, HANSEN, MATTEOLI
NOES: NONE
ABSENT: NONE

G. OLD BUSINESS

1. Consideration of Walnut Yard Fence Rehabilitation Project

GM reviewed the additional information as requested by the Board at the November 23rd meeting. Discussion addressed making post/fence repairs without installation of privacy slats to significantly reduce costs, the necessity of security upgrades to District grounds, time-line for planned security improvements and the possibility of accelerating implementation. By consensus, the Board concurred the GM should proceed with basic post/fence repair at this time and continue to plan for significant security improvements through the District Capital Improvement Program.

ADJOURNMENT

There being no further business, IT WAS MOVED BY DIRECTOR MATTEOLI, SECONDED BY DIRECTOR GARDINER, TO ADJOURN. MOTION CARRIED UPON THE FOLLOWING ROLL CALL VOTE:

AYES: BENZONELLI, BONGIO, GARDINER, HANSEN, MATTEOLI
NOES: NONE
ABSENT: NONE

THE BOARD ADJOURNED ITS REGULAR MEETING OF DECEMBER 14, 2021 AT 5:45 P.M.

Submitted, Board Secretary

Humboldt Community Services District

Dedicated to providing high quality, cost effective water and sewer service for our customers

MEMORANDUM

TO: Board of Directors
FROM: Terrence Williams, General Manager
DATE: January 7, 2022
SUBJECT: General Manager Report for January 11, 2022 Board Meeting

Happy New Year

First, I want to share a picture that was taken by the District Cross Connection Control Program Specialist, Brian McNeill on December 21, 2021 (Winter Solstice):



Figure 1: Spectacular sky on the morning of December 21, 2021 (Winter Solstice) at the District Office.

Grant Funding

In December, District staff submitted five separate pre-applications for grant funding for various projects through FEMA's Hazard Mitigation Grant Program totaling \$6.1M. In the State of California, these federal grants are administered by the California Governor's Office of Emergency Services (CalOES). After several meetings with CalOES staff, I am pleased to announce that all five projects' pre-applications were approved. The District has been invited to submit detailed applications for all five projects. Those detailed applications will be due March 10, 2022.

Mailing: Post Office Box 158 • Cutton, CA 95534 • tel (707) 443-4558 • fax (707) 443-1490
Physical Address: 5055 Walnut Drive, Eureka, CA 95503

General Manager's Report to the Board of Directors for January 11, 2022 Board Meeting

Personnel

Candidates were interviewed for the vacant Construction Utility Worker Position on December 16th. Based on the results of that process, District staff has identified an individual and extended an offer of employment. With any luck, the selected candidate will accept the District's offer and be joining the team.

Earthquake(s)

The North Coast has been jolted by some earthshaking lately. On December 20, just after noon there was a 6.2 magnitude earthquake just west of Petrolia. On January 5, around 6:30 pm there was a 4.6 magnitude with a similar epicenter. The December earthquake caused some significant damage around the County. District staff has been diligently inspecting District assets. At this time, no damage to District assets resulting from either of the earthquakes has been reported.

King Tide in King Salmon (as well as elsewhere in the District)

On Monday, January 3, 2022, areas of the District experienced an exceptionally high tide. This was the result of the anticipated King Tide coupled with a heavy onshore wind. The measured high tide at the North Spit was 9.73 feet which was over a foot higher than the predicted tide for that time. Hydraulics within the bay coupled with precipitation runoff would create an even higher tide in King Salmon. The image below shows the King Salmon Lift Station and surrounding flooded parking lot. The station's well was sandbagged in an attempt to keep the bay out. As a result of this extremely high tide, the King Salmon Lift Station ran both pumps continuously for over 8 hours before the flood waters subsided. In addition, crews utilized the Vac, making trips between King Salmon and the South Broadway Lift Station to help keep the bay at bay.



Figure 2: Flooding at the King Salmon Lift Station on January 3, 2022, as a result of King Tide coupled with storm surge.

Drought

On Tuesday, January 4, 2022, the State Water Resources Control Board adopted emergency regulations prohibiting wasteful water use statewide. Prohibited activities include; outdoor watering that results in excessive runoff into the street and sidewalks, using water for landscaping and irrigation during the 48 hours after storms that bring at least .25 inches (.63 centimeters) of rain, washing cars with hoses lacking shut-off nozzles, using potable water to wash driveways, sidewalks, buildings and patios and for street cleaning or to fill decorative fountains or lakes. The regulations include the ability to fine violators up to \$500 per day. More information about the "Conservation Emergency Regulations" can be found at the following website:

https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/regs/emergency_regulation.html

General Manager's Report to the Board of Directors for
January 11, 2022 Board Meeting

Kudos for a Job Well Done

During our December meeting, District Superintendent Tim Latham mentioned that staff had discovered significant root intrusion into the sewer system near a manhole on Sequoia that day. The crews were performing routine maintenance as part of the District's systematic sewer inspection and cleaning program. As part of this program, specialized sewer cleaning and camera equipment is used to identify problems in the collection system so they don't become emergencies. On December 14, 2021, a large obstruction was discovered that could have resulted in a blockage and significant sewer overflow. The following photo shows what was removed from the sewer system that day.



Figure 3: Root ball removed from sewer main near Sequoia discovered and removed on December 14, 2021.

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Humboldt Community Services District

Dedicated to providing high quality, cost effective water and sewer service for our customers

Engineering Memorandum

TO: Board of Directors
FROM: Benjamin Adams, Assistant Engineer
DATE: January 7, 2021
SUBJECT: Engineering Dept. Status Report for January 11, 2021 Board Meeting

Capital Improvement Projects

Blackberry SLS

District staff have initiated the Blackberry sewer lift station pump replacement project. The existing pumps were installed in 1982, with the impellers last replaced in 2008. An in-situ system head loss curve has been calculated for this station's force main. This curve as well as other observed operational parameters will be used to identify the appropriate and most efficient replacement pumps.

Sea Ave SLS

In 2019, District staff and a horizontal drilling contractor installed a new 6" pressure sewer force main between the Sea Avenue sewer lift station and the City of Eureka's Martin Slough Interceptor. The new force main alignment removes approximately 100 feet of head from the current alignment to the top of Sea Avenue, therefore the existing pumps are not suitable for reuse. An in-situ system head loss curve has been calculated for the new alignment. This curve and observed operational parameters will be used to identify the appropriate replacement pumps for the new force main connection to the MSI.

Emergency Response Plan

District staff has updated the Districts Emergency Response Plan (ERP) in accordance with the U.S. EPA's American Water Infrastructure Act of 2018 (AWIA) section 2013. The ERP has also been certified with the EPA.

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Humboldt Community Services District

Post Office Box 158 Cutten, CA 95534 (707) 443-4558 Fax (707) 443-1490

To: H.C.S.D. Board of Directors

Date: January 5, 2022

From: Tim Latham, District Superintendent 

Subject: December 2021 Construction Operations Report

General business for the month of December included water service line leak repairs on Lincoln Street, Country Lane and at the intersection of Lee and Brian Lanes, replacing leaking water meter stops on Crab Street and Excelsior Street, hydrant flow testing on Humboldt Hill Road, performing 2", 4" and 6" hot taps on a water main line on Alpha Street for a development project, concrete repairs on Moore Avenue due to a project, hot asphalt trench paving in the Myrtle town and Cutten areas, installing two sewer lateral line cleanouts on Moore Avenue and modifying a sewer lateral line connection to the main line on "E" Street for improved flow characteristics.

Other business included performing vehicle and equipment maintenance, corporation yard maintenance, water meter reading, customer service orders, exercising valves as part of the Valve Exercise Program and dismantling the temporary water piping at the Ridgewood pumphouse, which was to be used during the Ridgewood Temporary Water Storage Tank Project.

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HUMBOLDT COMMUNITY SERVICES DISTRICT
BUDGETARY STATEMENT OF REVENUES AND EXPENSES
FOR ENTIRE DISTRICT

November 2021

	Budgeted 2020-21	Current Month-to-Date	Actual Year-to-Date	Budgeted Year-to-Date	Y.T.D. Variance Actual to Budget	% Variance	Note
OPERATING REVENUE							
Metered Water Sales	5,200,000	407,974	2,335,301	2,166,667	168,634	7.8	
Water Charges - Pass Through	-	-	17,184	-	17,184	-	
Sewer Service Charges	5,015,000	436,613	2,173,427	2,089,583	83,844	4.0	
Sewer Service Charges - Pass Through	1,447,800	132,061	605,102	603,250	1,852	0.3	
Water & Sewer Construction Fees	32,000	308	14,697	13,333	1,364	10.2	
Account Fees	140,000	18,141	67,166	58,333	8,833	15.1	
Reimbursable Maintenance Fees	1,000	-	476	417	60	14.3	1
Miscellaneous	2,000	-	1,036	833	202	24.3	1
TOTAL OPERATING REVENUE	11,837,800	995,098	5,214,389	4,932,417	281,973	5.7	
NON-OPERATING REVENUE							
Capital Connection Fees	180,000	1,218	30,780	75,000	(44,220)	(59.0)	1
Interest/General	42,000	-	-	17,500	(17,500)	(100.0)	1
Discounts Earned	2,000	147	876	833	43	5.1	
Sales:Fixed Assets/Scrap Metal	15,700	-	152	6,542	(6,389)	(97.7)	1
Bad Debt Recovery	10,000	244	2,394	4,167	(1,773)	(42.5)	
Property Taxes & Assessments	490,000	-	-	204,167	(204,167)	(100.0)	1
Insurance Rebate	20,000	-	-	8,333	(8,333)	(100.0)	
Other Non-Operating Revenue	6,500	-	-	2,708	(2,708)	(100.0)	
TOTAL NON-OPERATING REVENUE	766,200	1,609	34,203	319,250	(285,047)	(89.3)	1
TOTAL DISTRICT REVENUE	12,604,000	996,707	5,248,593	5,251,667	(3,074)	(0.1)	
OPERATING EXPENSES							
Wages Direct	1,510,000	116,235	606,632	629,167	22,535	3.6	
Benefits: PERS	460,000	36,625	188,761	191,667	2,906	1.5	
Group Ins	1,210,000	88,998	461,445	504,167	42,721	8.5	
Workers Comp Ins	23,000	-	9,955	9,583	(372)	(3.9)	
FICA/Medicare	117,000	8,941	46,613	48,750	2,137	4.4	
Misc Benefits	600	20	180	250	70	28.0	
Total Wages and Benefits	3,320,600	250,819	1,313,586	1,383,583	69,997		
Less: wages & ben charged to Capital Proj.	(166,000)	(7,418)	(77,279)	(69,167)	8,112	(11.7)	
Total Operating Wages and benefits	3,154,600	243,401	1,236,308	1,314,417	78,109		
Water Purchase HBMWD	1,075,000	89,306	455,114	447,917	(7,198)	(1.6)	
Water Purchase Eureka	810,000	68,701	354,454	337,500	(16,954)	(5.0)	
Sewage Treatment Operations & Maint.	1,465,000	122,104	610,520	610,417	(103)	(0.0)	
Water/Sewer Analysis	20,000	595	3,674	8,333	4,659	55.9	
Supplies/ Construction	134,000	22,451	68,863	55,833	(13,030)	(23.3)	2
Supplies/ Office-Administration	19,000	1,837	5,814	7,917	2,103	26.6	
Supplies/ Engineering	2,500	-	-	1,042	1,042	100.0	
Supplies/ Maintenance	97,500	25,949	51,345	40,625	(10,720)	(26.4)	2
Invoicing	52,476	5,713	24,672	21,865	(2,807)	(12.8)	3
Temporary Labor	25,600	3,491	8,478	10,667	2,188	20.5	
Repairs & Maintenance/Trucks	55,000	873	22,699	22,917	218	1.0	
Equipment Rental	5,000	-	-	2,083	2,083	100.0	
Building & Grounds Maintenance	32,000	2,694	12,795	13,333	538	4.0	
Electrical Power	295,800	20,788	119,348	123,250	3,902	3.2	
Street Lights	65,000	5,163	29,577	27,083	(2,493)	(9.2)	
Telephone	19,000	912	6,233	7,917	1,683	21.3	
Postage	3,000	-	-	1,250	1,250	100.0	
Freight	500	22	45	208	164	78.6	
Chemicals	12,000	580	3,623	5,000	1,377	27.5	
Liability Insurance	65,000	-	58,474	27,083	(31,390)	(115.9)	4

HUMBOLDT COMMUNITY SERVICES DISTRICT
BUDGETARY STATEMENT OF REVENUES AND EXPENSES
FOR ENTIRE DISTRICT

November 2021

	Budgeted 2020-21	Current Month-to-Date	Actual Year-to-Date	Budgeted Year-to-Date	Y.T.D. Variance Actual to Budget	% Variance	Note
Legal	30,000	32	2,103	12,500	10,398	83.2	
Accounting	15,000	-	2,321	6,250	3,929	62.9	
Engineering	1,000	526	526	417	(109)	(26.1)	9
Other Professional Services	38,000	-	700	15,833	15,133	95.6	
Bank Service Charges	35,000	1,822	12,544	14,583	2,039	14.0	3
Transportation	60,000	4,100	23,096	25,000	1,904	7.6	
Office Equip. Maintenance	14,000	149	1,114	5,833	4,719	80.9	
Computer Software Maintenance	45,000	114	26,364	18,750	(7,614)	(40.6)	5
Memberships & Subscriptions	22,300	-	22,434	9,292	(13,143)	(141.4)	6
Bad Debts & Minimum Balance Writeoff	200,000	-	72	83,333	83,262	99.9	
Conference & Continuing Ed	20,000	433	433	8,333	7,901	94.8	
Certifications	5,400	-	370	2,250	1,880	83.6	
State/County & LAFCO Fees and Charges	50,000	-	4,994	20,833	15,839	76.0	
Hydraulic Water Model Maintenance	6,000	-	-	2,500	2,500	100.0	
Human Resources	20,000	1,360	3,315	8,333	5,019	60.2	
Miscellaneous	9,000	266	3,319	3,750	431	11.5	
Director's Fees	16,000	1,050	4,700	6,667	1,967	29.5	
TOTAL OPERATING EXPENSES	7,994,676	624,432	3,180,438	3,331,115	150,677	4.5	
LONG TERM DEBT PAYMENTS							
Safe Drinking Water Bond	177,429	-	88,715	73,929	(14,786)	(20.0)	7
2012 CIP & Refi.	227,100	-	113,550	94,625	(18,925)	(20.0)	7
Davis-Grunsky Loan	5,912	-	-	2,463	2,463	100.0	7
VacCon Truck Loan	117,441	-	117,441	48,934	(68,507)	(140.0)	7
2014 Wastewater Revenue Bonds	487,575	138,786	138,786	203,156	64,370	31.7	7
TOTAL LONG TERM DEBT PAYMENTS	1,015,457	138,786	458,492	423,107	(35,385)	(8.4)	7
CAPITALIZED EXPENDITURES							
Vehicles, Rolling Stock & Equipment	58,000	396	1,555	24,167	22,611	93.6	
Building, Yard & Paving Improvements	170,000	-	7,395	70,833	63,438	89.6	
Capital Improvements Water	1,260,000	29,060	642,510	525,000	(117,510)	(22.4)	8
Capital Improvements Sewer	275,000	519	3,264	114,583	111,319	97.2	
Engineering & Studies	100,000	-	116	41,667	41,551	99.7	9
District Design Standards	-	-	1,036	-	(1,036)	-	
TOTAL CAPITAL EXPENDITURES	1,863,000	29,974	655,876	776,250	120,374	15.5	
OTHER							
City of Eureka Projects: Treatment Plant	1,336,000	-	-	556,667	556,667	100.0	
TOTAL City of Eureka Projects	1,336,000	-	-	556,667	556,667	100.0	
Interfund Transfers In	-	-	-	-	-	-	
Interfund Transfers Out	-	-	-	-	-	-	
BUDGET SURPLUS (DEFICIT)	394,867	203,515	953,786	164,528	789,258	(479.7)	

HUMBOLDT COMMUNITY SERVICES DISTRICT
SUMMARY BUDGETARY STATEMENT OF REVENUE AND EXPENSES
FOR ENTIRE DISTRICT

November 2021

	Budgeted 2020-21	Current Month-to-Date	Actual Year-to-Date	Budgeted Year-to Date	Y.T.D. Variance Actual to Budget	% Variance
OPERATING REVENUE & EXPENSES						
TOTAL OPERATING REVENUE	11,837,800	995,098	5,214,389	4,932,417	281,973	5.7
TOTAL OPERATING EXPENSES	(7,994,676)	(624,432)	(3,180,438)	(3,331,115)	150,677	4.5
NET SURPLUS/(DEFICIT) FROM OPERATIONS	3,843,124	370,666	2,033,951	1,601,302	432,649	27.0
NON-OPERATING REVENUE & EXPENSES						
TOTAL NON-OPERATING REVENUE	766,200	1,609	34,203	319,250	(285,047)	(89.3)
TOTAL LONG TERM DEBT SERVICE	(1,015,457)	(138,786)	(458,492)	(423,107)	(35,385)	(8.4)
SURPLUS/(DEFICIT) BEFORE CAPITAL EXPENDITURES	3,593,867	233,489	1,609,662	1,497,445	182,987	12.2
HCSD CAPITAL IMPROVEMENT EXPENDITURES	(1,863,000)	(29,974)	(655,876)	(776,250)	120,374	15.5
CITY of EUREKA PROJECT REIMBURSEMENT	(1,336,000)	-	-	(556,667)	556,667	100.0
NEW DEBT ISSUE						
NET INTERFUND TRANSFERS IN/OUT		-	-			
BUDGET SURPLUS (DEFICIT)	<u>394,867</u>	<u>203,515</u>	<u>953,786</u>	<u>164,528</u>	<u>789,258</u>	<u>(479.7)</u>

HUMBOLDT COMMUNITY SERVICES DISTRICT
BUDGETARY STATEMENT OF REVENUES AND EXPENSES
Water Fund

November 2021

	Budgeted 2020-21	Current Month-to-Date	Actual Year-to-Date	Budgeted Year-to-Date	Y.T.D. Variance Actual to Budget	% Variance
OPERATING REVENUE						
Metered Water Sales	5,200,000	407,974	2,335,301	2,166,667	168,634	7.8
Water Pass Through	-	-	17,184	-	17,184	-
Water Construction Fees	20,000	308	9,997	8,333	1,664	20.0
Account Fees	79,800	10,341	38,285	33,250	5,035	15.1
Inspection Fees	-	-	-	-	-	-
Reimbursable Maintenance Fees	800	-	476	333	143	42.9
Miscellaneous	1,000	-	590	417	174	41.7
TOTAL OPERATING REVENUE	5,301,600	418,623	2,401,834	2,209,000	192,834	8.7
NON-OPERATING REVENUE						
Water Capital Connection Fees	90,000	1,218	18,815	37,500	(18,685)	(49.8)
Interest/General	32,966	-	-	13,736	(13,736)	(100.0)
Discounts Earned	1,280	84	499	533	(34)	(6.4)
Sales:Fixed Assets/Scrap Metal	8,844	-	87	3,685	(3,598)	(97.6)
Bad Debt Recovery	5,700	139	1,365	2,375	(1,010)	(42.5)
FW/MR Assessment	140,000	-	-	58,333	(58,333)	(100.0)
Other Non-Operating Revenue	2,200	-	-	917	(917)	(100.0)
TOTAL NON-OPERATING REVENUE	280,990	1,441	20,766	117,079	(96,313)	(82.3)
TOTAL DISTRICT REVENUE	5,582,590	420,064	2,422,599	2,326,079	96,520	4.1
OPERATING EXPENSES						
Wages Direct	709,700	53,966	290,819	295,708	4,890	1.7
Wages & Benefits: Allocated	593,250	58,625	237,426	247,188	9,761	3.9
Benefits: PERS	165,600	7,857	41,639	69,000	27,361	39.7
Group Ins	375,100	26,005	142,699	156,292	13,593	8.7
Workers Comp Ins	12,420	-	4,980	5,175	195	3.8
FICA/Medicare	54,990	4,114	22,174	22,913	738	3.2
Misc Benefits	-	-	-	-	-	-
Total Wages and Benefits	1,911,060	150,567	739,737	796,275	56,538	7.1
Less: wages & ben charged to Capital Proj.	(122,840)	(6,275)	(65,340)	(51,183)	14,157	(27.7)
Total Operating Wages and benefits	1,788,220	144,291	674,397	745,092	70,694	9.5
Water Purchase HBMWD	1,075,000	89,306	455,114	447,917	(7,198)	(1.6)
Water Purchase Eureka	810,000	68,701	354,454	337,500	(16,954)	(5.0)
Water Analysis	15,000	595	3,674	6,250	2,576	41.2
Supplies/ Construction	99,160	21,080	54,992	41,317	(13,675)	(33.1)
Supplies/Office-Administration	5,700	190	2,392	2,375	(17)	(0.7)
Supplies/ Engineering	1,425	-	-	594	594	100.0
Supplies/ Maintenance	48,750	747	17,683	20,313	2,630	12.9
Temporary Labor	11,544	1,990	4,833	4,810	(23)	(0.5)
Repairs & Maintenance/Trucks	30,800	497	12,298	12,833	536	4.2
Equipment Rental	3,700	-	-	1,542	1,542	100.0
Building & Grounds Maintenance	1,920	382	1,959	800	(1,159)	(144.8)
Electrical Power	162,690	12,654	74,488	67,788	(6,700)	(9.9)
Telephone	6,080	-	-	2,533	2,533	100.0
Postage	1,290	-	-	538	538	100.0
Freight	285	13	25	119	93	78.6
Chemicals	12,000	580	3,623	5,000	1,377	27.5
Engineering	390	526	526	163	(363)	(223.4)
Other Professional Services	7,600	-	-	3,167	3,167	100.0
Transportation	34,200	2,337	13,165	14,250	1,085	7.6
Office Equip. Maintenance	2,100	-	243	875	632	72.2
Computer Software Maintenance	21,600	-	14,702	9,000	(5,702)	(63.4)
Memberships & Subscriptions	1,338	-	1,275	558	(717)	(128.6)
Bad Debts & Minimum Balance Writeoff	114,000	42	41	47,500	47,459	99.9
Conference & Continuing Ed	7,000	-	-	2,917	2,917	100.0
Certifications	1,620	-	200	675	475	70.4
State/County & LAFCO Fees and Charges	17,000	-	2,847	7,083	4,237	59.8
Hydraulic Water Model Maintenance	6,000	-	-	2,500	2,500	100.0

HUMBOLDT COMMUNITY SERVICES DISTRICT
BUDGETARY STATEMENT OF REVENUES AND EXPENSES
Water Fund

November 2021

	Budgeted 2020-21	Current Month-to-Date	Actual Year-to-Date	Budgeted Year-to-Date	Y.T.D. Variance Actual to Budget	% Variance
Human Resources	7,800	-	-	3,250	3,250	100.0
Miscellaneous	1,980	-	114	825	711	86.2
General & Admin Expense Allocation	217,981	9,777	87,773	90,825	3,053	3.4
TOTAL OPERATING EXPENSES	4,514,173	353,707	1,780,816	1,880,905	100,089	5.3
LONG TERM DEBT PAYMENTS						
Safe Drinking Water Bond	177,429	-	88,715	73,929	(14,786)	(20.0)
2012 CIP & Refi.	49,500	-	24,750	20,625	(4,125)	(20.0)
Davis-Grunsky Loan	5,912	-	-	2,463	2,463	100.0
TOTAL LONG TERM DEBT PAYMENTS	232,841	-	113,465	97,017	(16,448)	(17.0)
CAPITALIZED EXPENDITURES						
Vehicles/Rolling Stock/Capital Equipment	-	-	-	-	-	-
Building & Yard Improvements	-	-	-	-	-	-
Capital Improvements Water	1,260,000	29,060	642,510	525,000	(117,510)	(22.4)
Engineering & Studies	-	-	116	-	(116)	-
TOTAL CAPITAL EXPENDITURES	1,260,000	29,060	642,626	525,000	(117,626)	(22.4)
INTERFUND TRANSFERS IN	-	-	-	-	-	-
BUDGET SURPLUS (DEFICIT)	(424,424)	37,297	(114,308)	(176,843)	62,536	35.4

HUMBOLDT COMMUNITY SERVICES DISTRICT
BUDGETARY STATEMENT OF REVENUES AND EXPENSES
Sewer Fund

November 2021

	Budgeted 2020-21	Current Month-to-Date	Actual Year-to-Date	Budgeted Year-to-Date	Y.T.D. Variance Actual to Budget	% Variance
OPERATING REVENUE						
Sewer Service Charges	5,015,000	436,613	2,173,427	2,089,583	83,844	4.0
Sewer Service Charges - Pass Through	1,447,800	132,061	605,102	603,250	1,852	0.3
Sewer Construction Fees	12,000	-	4,700	5,000	(300)	(6.0)
Account Fees	60,200	7,801	28,882	25,083	3,798	15.1
Inspection Fees	-	-	-	-	-	-
Reimbursable Maintenance Fees	200	-	-	83	(83)	(100.0)
Miscellaneous	1,000	-	445	417	29	6.9
TOTAL OPERATING REVENUE	6,536,200	576,475	2,812,556	2,723,417	89,139	3.3
NON-OPERATING REVENUE						
Sewer Capital Connection Fees	90,000	-	11,965	37,500	(25,535)	(68.1)
Interest/General	9,034	-	-	3,764	(3,764)	(100.0)
Discounts Earned	720	63	377	300	77	25.6
Sales: Fixed Assets/Scrap Metal	6,856	-	66	2,857	(2,791)	(97.7)
Bad Debt Recovery	4,300	105	1,029	1,792	(762)	(42.5)
Other Non-Operating Revenue	4,300	-	-	1,792	(1,792)	(100.0)
TOTAL NON-OPERATING REVENUE	115,210	168	13,437	48,004	(34,567)	(72.0)
TOTAL DISTRICT REVENUE	6,651,410	576,643	2,825,993	2,771,421	54,572	2.0
OPERATING EXPENSES						
Wages Direct	437,900	35,755	186,060	182,458	(3,602)	(2.0)
Wages & Benefits: Allocated	593,250	58,625	237,426	247,188	9,761	3.9
Benefits: PERS	105,800	5,012	27,632	44,083	16,452	37.3
Group Ins	229,900	19,344	96,689	95,792	(897)	(0.9)
Workers Comp Ins	7,590	-	3,758	3,163	(595)	(18.8)
FICA/Medicare	35,100	2,725	14,182	14,625	443	3.0
Misc Benefits	-	-	-	-	-	-
Total Wages and Benefits	1,409,540	121,461	565,747	587,308	21,561	3.7
Less: wages & ben charged to Capital Proj.	(43,160)	(1,143)	(3,889)	(17,983)	(14,095)	78.4
Total Operating Wages and benefits	1,366,380	120,318	561,858	569,325	7,467	1.3
Sewage Treatment: Operating & Maint.	1,465,000	122,104	610,520	610,417	(103)	(0.0)
Sewer Analysis	5,000	-	-	2,083	2,083	100.0
Supplies/ Construction	34,840	1,372	13,871	14,517	645	4.4
Supplies/ Office-Administration	5,700	143	1,804	2,375	571	24.0
Supplies/ Engineering	1,075	-	-	448	448	100.0
Supplies/ Maintenance	48,750	25,202	33,662	20,313	(13,350)	(65.7)
Temporary Labor	4,056	1,501	3,646	1,690	(1,956)	(115.7)
Repairs & Maintenance/Trucks	24,200	375	10,401	10,083	(318)	(3.2)
Equipment Rental	1,300	-	-	542	542	100.0
Building & Grounds Maintenance	1,600	288	1,478	667	(811)	(121.6)
Electrical Power	70,992	4,161	20,529	29,580	9,051	30.6
Telephone	3,040	-	-	1,267	1,267	100.0
Postage	960	-	-	400	400	100.0
Freight	215	10	19	90	70	78.6
Legal	-	-	-	-	-	-
Engineering	100	-	-	42	42	100.0
Other Professional Services	7,600	-	-	3,167	3,167	100.0
Transportation	25,800	1,763	9,931	10,750	819	7.6
Office Equip. Maintenance	1,540	-	184	642	458	71.4

HUMBOLDT COMMUNITY SERVICES DISTRICT
BUDGETARY STATEMENT OF REVENUES AND EXPENSES
Sewer Fund

November 2021

	Budgeted 2020-21	Current Month-to-Date	Actual Year-to-Date	Budgeted Year-to-Date	Y.T.D. Variance Actual to Budget	% Variance
Computer Software Maintenance	16,200	-	11,091	6,750	(4,341)	(64.3)
Memberships & Subscriptions	892	-	962	372	(590)	(158.7)
Bad Debts & Minimum Balance Writeoff	86,000	31	31	35,833	35,802	99.9
Conference & Continuing Ed	8,800	-	-	3,667	3,667	100.0
Certifications	1,242	-	-	518	518	100.0
State/County & LAFCO Fees and Charges	9,000	-	2,147	3,750	1,603	42.7
Human Resources	5,800	-	-	2,417	2,417	100.0
Miscellaneous	1,440	-	85	600	515	85.8
General & Admin Expense Allocation	217,981	9,777	87,773	90,825	3,053	3.4
TOTAL OPERATING EXPENSES	3,415,503	287,045	1,369,993	1,423,126	53,133	3.7
LONG TERM DEBT PAYMENTS						
2014 Wastewater Revenue Bonds	487,575	138,786	138,786	203,156	64,370	31.7
2012 CIP & Refi.	177,600	-	88,800	74,000	(14,800)	(20.0)
VacCon Truck Loan	117,441	-	117,441	48,934	(68,507)	(140.0)
Debt Service: Allocated	-	-	-	-	-	-
TOTAL LONG TERM DEBT PAYMENTS	782,616	138,786	345,027	326,090	(18,937)	(5.8)
CAPITALIZED EXPENDITURES						
Vehicles/Rolling Stock/Capital Equipment	-	-	-	-	-	-
Building, Yard & Paving Improvements	-	-	-	-	-	-
Capital Improvements Sewer	275,000	1,143	3,889	114,583	110,695	96.6
Engineering & Studies	-	-	-	-	-	-
TOTAL CAPITAL EXPENDITURES	275,000	1,143	3,889	114,583	110,695	96.6
OTHER						
City of Eureka Projects:						
Treatment Plant	1,336,000	-	-	556,667	556,667	100.0
Martin Slough	-	-	-	-	-	-
TOTAL OTHER	1,336,000	-	-	556,667	556,667	100.0
BUDGET SURPLUS (DEFICIT)	842,291	149,668	1,107,084	350,955	756,129	(215.4)

HUMBOLDT COMMUNITY SERVICES DISTRICT
BUDGETARY STATEMENT OF REVENUES AND EXPENSES
General Fund

November 2021

	Budgeted 2020-21	Current Month-to-Date	Actual Year-to-Date	Budgeted Year-to-Date	Y.T.D. Variance Actual to Budget	% Variance
OPERATING REVENUE						
Interest (will be allocated to w/s @ y/e)	-	-	-	-	-	-
Miscellaneous	-	-	-	-	-	-
TOTAL OPERATING REVENUE	-	-	-	-	-	-
NON-OPERATING REVENUE						
Property Taxes	350,000	-	-	145,833	(145,833)	(100.0)
Insurance Rebate	20,000	-	-	8,333	(8,333)	(100.0)
Miscellaneous Income	-	-	-	-	-	-
TOTAL NON-OPERATING REVENUE	370,000	-	-	154,167	(154,167)	(100.0)
TOTAL DISTRICT REVENUE	370,000	-	-	154,167	(154,167)	(100.0)
OPERATING EXPENSES						
Wages Direct	362,400	26,515	129,753	151,000	21,247	14.1
Benefits: PERS	188,600	23,755	119,490	78,583	(40,907)	(52.1)
Group Ins	605,000	43,649	222,058	252,083	30,026	11.9
Workers Comp Ins	2,990	-	1,217	1,246	29	2.3
FICA/Medicare	26,910	2,102	10,257	11,213	956	8.5
Misc Benefits	600	20	180	250	70	28.0
Total Wages and Benefits	1,186,500	96,041	482,955	494,375	11,420	2.3
Less: wages & ben charged to Capital Proj.	-	-	(8,050)	-	8,050	-
Less: Allocated to Water and Sewer Funds	(1,186,500)	(117,249)	(474,853)	(494,375)	(19,522)	3.9
Total Unallocated Wages and Benefits	-	(21,209)	52	-	(52)	-
Supplies/ Construction	-	-	-	-	-	-
Supplies/ Administration	6,400	1,504	1,618	2,667	1,049	39.3
Supplies/ Engineering	-	-	-	-	-	-
Supplies/ Maintenance	-	-	-	-	-	-
Invoicing	52,476	5,713	24,672	21,865	(2,807)	(12.8)
Web Payment Portal	-	-	-	-	-	-
Temporary Labor	10,000	-	-	4,167	4,167	100.0
Repairs & Maintenance/Trucks	-	-	-	-	-	-
Equipment Rental	-	-	-	-	-	-
Building & Grounds Maintenance	28,480	2,024	9,358	11,867	2,508	21.1
Electrical Power	62,118	3,973	24,331	25,883	1,551	6.0
Street Lights	65,000	5,163	29,577	27,083	(2,493)	(9.2)
Telephone	9,880	912	6,233	4,117	(2,117)	(51.4)
Postage	750	-	-	313	313	100.0
Freight	-	-	-	-	-	-
Liability Insurance	65,000	-	58,474	27,083	(31,390)	(115.9)
Legal Services	30,000	32	2,103	12,500	10,398	83.2
Accounting	15,000	-	2,321	6,250	3,929	62.9
Engineering	510	-	-	213	213	100.0
Other Professional Services	22,800	-	700	9,500	8,800	92.6
Bank Service Charges	35,000	1,822	12,544	14,583	2,039	14.0
Transportation	-	-	-	-	-	-
Office Equip. Maintenance	10,360	149	687	4,317	3,630	84.1
Computer Software Maintenance	7,200	114	570	3,000	2,430	81.0
Memberships & Subscriptions	20,070	-	20,198	8,363	(11,836)	(141.5)
Bad Debts & Minimum Balance Writeoff	-	(73)	-	-	-	-
Conference & Continuing Ed	4,200	433	433	1,750	1,317	75.3
Certifications	2,538	-	170	1,058	888	83.9

HUMBOLDT COMMUNITY SERVICES DISTRICT
BUDGETARY STATEMENT OF REVENUES AND EXPENSES
General Fund

November 2021

	Budgeted 2020-21	Current Month-to-Date	Actual Year-to-Date	Budgeted Year-to-Date	Y.T.D. Variance Actual to Budget	% Variance
State/County & LAFCO Fees and Charges	24,000	-	-	10,000	10,000	100.0
Elections Expense	-	-	-	-	-	-
Human Resources	6,400	1,360	3,315	2,667	(648)	(24.3)
Miscellaneous	5,580	266	3,119	2,325	(794)	(34.1)
Director's Fees	16,000	1,050	4,700	6,667	1,967	29.5
General & Admin Expense Allocation	(434,762)	(19,554)	(175,545)	(181,151)	(5,605)	3.1
TOTAL OPERATING EXPENSES	65,000	(16,321)	29,629	27,083	(2,546)	(9.4)
LONG TERM DEBT PAYMENTS						
2014 PGE Energy Efficiency Loan	-	-	-	-	-	-
2012 CIP & Refi	-	-	-	-	-	-
Less: Allocated to Water & Sewer Funds	-	-	-	-	-	-
TOTAL LONG TERM DEBT PAYMENTS	-	-	-	-	-	-
CAPITALIZED EXPENDITURES						
Vehicles/Rolling Stock/Capital Equipment	58,000	396	1,555	24,167	22,611	93.6
Building, Yard & Paving Improvements	170,000	-	7,395	70,833	63,438	89.6
Engineering & Studies	100,000	-	-	41,667	41,667	100.0
District Design Standards	-	-	1,036	-	(1,036)	-
TOTAL CAPITAL EXPENDITURES	328,000	396	9,986	136,667	126,681	
INTERFUND TRANSFER OUT		-	-	-		
BUDGET SURPLUS (DEFICIT)	(23,000)	15,925	(39,615)	(9,583)	(30,031)	313.4

**Humboldt Community Services District
Notes
November 2021**

Note 1 - Non Operating and Miscellaneous Revenue

Most non-operating and Miscellaneous income occurs occasionally throughout the year, or at the very end of the fiscal year.

Note 2 - Supplies - Construction and Supplies - Maintenance

Supplies for construction and maintenance were higher than expected primarily due to two unexpected necessary expenditures: Hot asphalt paving was an unplanned construction expense due to a large water main break on Lucia Ave, and the Pine Hill pump was an unplanned maintenance expense due to pump failure.

Note 3 - Invoicing and Bank Service Charges

Invoicing costs have increased in the current fiscal year due in part to a 7.25% increase in postage prices, as well as additional services allowing District ratepayers to easily view their bills online. These cost increases have been partially offset by reductions in payment processing fees, as shown in the Bank Service Charges expense line, as are expected to be fully offset by the end of the fiscal year.

Note 4 - Liability Insurance

Insurance premiums are paid on an annual basis. There are two primary insurance premiums which are both paid annually, at different times of the year. The total annual expense is expected to be in line with budgeted amount.

Note 5 - Computer Software Maintenance

Annual software maintenance fee for the District's utility billing software was paid in July, which is the majority of the budgeted expense for the year. Remaining budgeted software maintenance expenses will occur throughout the year are expected to be in line with budget amount.

Note 6 - Memberships & Subscriptions

Annual dues to ACWA paid in October. Very little additional expenses expected to Memberships & Dues for remainder of FY.

Note 7 - Loan Payments

Loan payments occur periodically throughout the year. Payments for the full year will match budgeted amount for the full year.

Note 8 - Capital Improvements - Water

Primary expenditure for Water improvements has been Ridgewood tank project. Expected upcoming expenditures for AMR system will commence in upcoming months.

Note 9 - Engineering

Engineering Expense - a/c 6810 - Operating Expense	Nov 2021	YTD
Water Fund		
Compaction Testing		
SHN Consulting Engineers	526	526
Total posted to 6810	526	526
Engineering & Studies - a/c 9040 - Capital Improvement Projects		
Non Engineering Costs Posted to 9040		
Eitzen Annexation	-	116
Grand Total posted to 9040	-	116

Accounts Payable

Checks by Date - Detail by Check Date

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Humboldt Community Services District
 5055 Walnut Drive – Eureka CA 95503
 PO Box 158 – Cutten CA 95534 (707) 443-4558

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
54943	UB*01942	MICHAEL CAFFERATA	12/10/2021	
		Refund Check		8.56
		Refund Check		28.88
		Refund Check		5.74
		Refund Check		24.69
Total for Check Number 54943:				67.87
54944	UB*01943	DYLAN MELIA	12/10/2021	
		Refund Check		35.02
		Refund Check		21.23
		Refund Check		40.97
		Refund Check		8.13
Total for Check Number 54944:				105.35
54945	A072 3665	Accurate Drug Testing Services DOT Physical/DT	12/10/2021	
Total for Check Number 54945:				90.00
54946	C410 Nov 2021 Nov 2021	City of Eureka: SW General 79% Humboldt Hill 21%	12/10/2021	
Total for Check Number 54946:				122,104.00
54947	C450 INV02072	City of Eureka: Water Test Microbiological Testing - October	12/10/2021	
Total for Check Number 54947:				595.00
54948	E485 108166/3 108359/3 108561/3 108812/3 109143/3 109581/3 11302021	Cooney Parris and Rieke Corp Broom angle lg Unit #1/Tools/Cut-off whl/Square 7" rafter Rain Gear WP/Protectr camp dry Yard/Hose nozzl 7 pat hvywt CM wet/dry 12 gal/Utility lighter surestrt/Freshn 2440 Redwood/Concrete mix 60# quickcrete Discount Earned - November	12/10/2021	
Total for Check Number 54948:				220.08
54949	E558 235432 236105 237992 237994	NAPA Auto Parts of Eureka Unit #3/Windshield wipers 2.5 Blue def Purple Power car wash Purple Power car wash	12/10/2021	
Total for Check Number 54949:				71.59

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
54950	E890 26353216 26384506	Express Employment Professionals Temporary Worker/Maintenance Sep 21-Dec 21 Temporary Worker/Maintenance Sep 21-Dec 21/	12/10/2021	997.44 1,246.80
Total for Check Number 54950:				2,244.24
54951	F010 91500071	Farmer Brothers Co Med Rst 2.0/(2)Fr Rst 2.0/Creamer Shaker	12/10/2021	280.56
Total for Check Number 54951:				280.56
54952	H010 11302021 S012153799.001 S012167646.001 S012175735.001 S012176321.001 S012177754.001 S012190035.001 S012195823.001 S012195823.001 S012195981.001 S012201827.001 S012208795.001	Keenan Supply Discount Earned - November Christian Ln Wtr Mn Rplc/4" Hymax grip Christian Ln Wtr Mn Rplc/Romac SS1 section r Christian Ln Wtr Mn Rplc/Clow gate vlv/L Acc Yard Restock/6 C153 DI Mjxfing Christian Ln Wtr Mn Rplc/Clow F6102 gate valv Yard Restock/RR FF Gskt/6 Hole Hydr Gskt/IPS Yard Restock/B24-61D Water steel checker plate Christian Ln Wtr Mn Rplc/B24-61D Water steel Christian Ln Wtr Mn Rplc/B24 21x19 Concrete Vernon St Main Break/Yard Restock/Hymax 2 fl Meter washers/Rubber meter gaskets	12/10/2021	-137.37 293.31 246.92 3,749.98 331.69 1,075.39 469.28 244.56 244.56 128.48 686.13 33.76
Total for Check Number 54952:				7,366.69
54953	H410 14640000	Humboldt Bay Municipal Water D Water Purchased - November	12/10/2021	89,305.83
Total for Check Number 54953:				89,305.83
54954	J800 130781	Johnson's Mobile Rentals LLC Rental fencing for the Ridgewood Temporary Wa	12/10/2021	252.78
Total for Check Number 54954:				252.78
54955	L200 60900641205 60900641350	Les Schwab Tire Center of Calif Inc. Roller Trailer/Tire Unit #1/Flat repair	12/10/2021	320.72 40.30
Total for Check Number 54955:				361.02
54956	M230 M220243 M220426 M220650	Mendes Supply Co PSCQcarbaccid 30 gal/Drum deposit PSCQcarbaccid 30 gal/Drum deposit Credit/Drum deposit (2)	12/10/2021	318.27 321.93 -60.00
Total for Check Number 54956:				580.20
54957	M450 515831221 515874453 515923804 515969727	Mission Linen Uniforms/Mats Uniforms/Mats Uniforms/Mats Uniforms/Mats	12/10/2021	220.61 379.32 224.01 380.00
Total for Check Number 54957:				1,203.94
54958	M780 0165668-IN	Municipal Maintenance Equipmen Unit #13/Vac Con/Reducer 1" male to 3/4" fema	12/10/2021	107.10

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
			Total for Check Number 54958:	107.10
54959	P006 1356210	PACE Supply Corp. Parts for the Park Street SMR per Quote # 13562	12/10/2021	8,809.52
			Total for Check Number 54959:	8,809.52
54960	P430 000046 000188 000657 000673 001123 003862 11302021	Pierson Building Center Emerald snap button 12-188R Tools/Bulk fasteners Unit #1/Tools/Painters tool 6in1/1 1/2" Putty kni Asst Eng Office/BP cat-6 25' patch cord PVC insert adptr 1" 2364 Home Dr/Sidewalk Repair Discount Earned - November	12/10/2021	6.52 13.73 15.25 16.38 0.64 21.84 -3.41
			Total for Check Number 54960:	70.95
54961	P557 2G50206	Rexel USA Inc. Small truck shop lights/3" oct cvr flt blk/L 2 32	12/10/2021	209.23
			Total for Check Number 54961:	209.23
54962	P785 15028	Powell Landscape Materials Concrete for projects on Home Drive	12/10/2021	163.86
			Total for Check Number 54962:	163.86
54963	S808 09007347	Statewide Traffic Safety and Signs Flags for traffic control signs	12/10/2021	35.89
			Total for Check Number 54963:	35.89
54964	T920 11262021	Tina Tunzi Holiday Window Painting	12/10/2021	25.00
			Total for Check Number 54964:	25.00
54965	U410	United Way of Humboldt PR Batch 00001.12.2021 UNITED WAY PR Batch 00001.12.2021 UNITED WAY	12/10/2021 PR Batch 00001.12.2021 UNI PR Batch 00001.12.2021 UNI	1.54 2.46
			Total for Check Number 54965:	4.00
54966	U570 MMK4A70SK1E6B	The UPS Store Freight to ship handheld #3/3 for routine manten	12/10/2021	22.33
			Total for Check Number 54966:	22.33
54967	U575 SR 4711	UpTruck Fleet Center Unit#4/Crane parts/Pin block/Hitch pin	12/10/2021	133.55
			Total for Check Number 54967:	133.55
54968	V700 INV 21-484120 INV 21-486484	Valley Pacific Petroleum Services Inc Fuel Tack oil sprayer/Propane	12/10/2021	4,100.27 23.82
			Total for Check Number 54968:	4,124.09
54969	W090 Job# 108-21	Wahlund Construction Inc Hot asphalt paving on Lucia Avenue due to wate	12/10/2021	17,625.19

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
			Total for Check Number 54969:	17,625.19
54970	W208 1032	Watt's Cleaning Services Cleaning services for November 2021	12/10/2021	950.00
			Total for Check Number 54970:	950.00
54971	W730 102069	Wienhoff Drug Testing Inc 2022 Consortium Membership (12EE)	12/10/2021	960.00
			Total for Check Number 54971:	960.00
			Total for 12/10/2021:	258,089.86
55001	B722 023747-000	Kristin Brown Refund of overpayment	12/21/2021	571.00
			Total for Check Number 55001:	571.00
			Total for 12/21/2021:	571.00
54972	A072 3714	Accurate Drug Testing Services DOT Physical/CN	12/22/2021	90.00
			Total for Check Number 54972:	90.00
54973	A160	ACWA-JPIA	12/22/2021	
	0678421	dLife/AD&D Plan - Employees		382.58
	0678421	eMedical Plan - Board Members		12,562.52
	0678421	cVision Plan - Employees		312.60
	0678421	bDental Plan - Employees		1,659.68
	0678421	gVision Plan - Board Members		78.15
	0678421	hLife/AD&D Plan -Board Members		29.99
	0678421	iMedical Plan -Retired Members		19,369.99
	0678421	jDental Plan - Retired Members		1,126.80
	0678421	kVision Plan - Retired Members		328.23
	0678421	ICOBRA - Medical		1,195.69
	0678421	mCOBRA - Dental		33.72
	0678421	nCOBRA - Vision		15.63
	0678421	aMedical Plan - Employees		52,789.73
	0678421	fDental Plan - Board Members		448.76
			Total for Check Number 54973:	90,334.07
54974	A360 166200	AFLAC Supplemental Health Premium - November	12/22/2021	276.84
			Total for Check Number 54974:	276.84
54975	C036	Corporate Payment Systems	12/22/2021	
	244309913194008	TL/Microsoft		84.00
	244310613140813	TW/Automation Direct: Micro EA 3 Series Tou		336.19
	244310613140813	TW/Automation Direct: Programming Cable 6 f		4.31
	244310613140813	TW/Automation Direct: Comm Cable 6.6 ft		22.08
	244921513237174	TW/NCEES: TK CBT-PE Civil Exam 1 of 3		394.83
	244921513237174	TW/NCEES: TK PE Civil Exam Prep/Registrati		37.95
	244921613130000	TW/Lost Coast-Recruitment Advg 11/10-12/1/21		200.00
	246880713180170	TW/Lost French Man: TK/BA Lunch/Travel SC		33.00

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
	246921613141001	TW/Craigs List - Recruitment Advg 11/10-12/9/		20.00
	246921613141002	TW/Amazon: CS530 Plantronics Headset		390.10
	249064113221345	TL/DRI Crash Plan		29.97
Total for Check Number 54975:				1,552.43
54976	C180	Canon Solutions America Inc.	12/22/2021	
	4038118878	Use Tax Recovery Fee/OfficeCop		5.58
	4038118878	Office/Color Copies WXD03492-Color		136.35
	4038118878	Office/Black Copies WXD03492-Black		7.37
Total for Check Number 54976:				149.30
54977	C301	Chris Cringle's Saw & Chain	12/22/2021	
	21457	Repairs to chainsaw for the Construction Depart		103.16
Total for Check Number 54977:				103.16
54978	C430	City of Eureka: WA	12/22/2021	
	11302021	Water Purchased - November		68,701.00
Total for Check Number 54978:				68,701.00
54979	C670	CWEA - Oakland	12/22/2021	
	3890	Annual Elec/Inst Certification Renewal/TL		91.00
	3890	Annual Col/Sys Maint 2 Certification Renewal/I		96.00
	3890	Annual Membership 02.28.22-02.27.23/TL		192.00
Total for Check Number 54979:				379.00
54980	D730	Dept of Water Resources	12/22/2021	
	2001D50049	Principal Davis-Grunsky		5,283.04
	2001D50049	Interest Davis-Grunsky		349.97
	2001D50049DI	Deferred Interest DavisGrunsky		139.11
Total for Check Number 54980:				5,772.12
54981	E890	Express Employment Professionals	12/22/2021	
	26426904	Temporary Worker/Maintenance Sep 21-Dec 21/		748.08
	26449777	Temporary Worker/Maintenance Sep 21-Dec 21/		1,246.80
Total for Check Number 54981:				1,994.88
54982	F049	Fastenal Company	12/22/2021	
	CAEUR119268	XL TG Orange nitrile gloves/AA Btry/XL Or nit		172.33
	CAEUR119268	General purpose pipe thread sealant		17.21
	CAEUR119370	AAA AA D 9V Btry/Blk chisel mrkr/12oz Hand		45.66
Total for Check Number 54982:				235.20
54983	F050	Fastenal Industrial	12/22/2021	
	CAEUR119269	1" NPT 3000 lb forged steel threaded full couplin		6.41
	CAEUR119369	Wht multifold hand towel		38.56
	CAEUR119369	4" 17 PSI plastic gripper end of pipe plug		295.57
Total for Check Number 54983:				340.54
54984	H045	Harper and Associates Engineering Inc.	12/22/2021	
	ENG-7551	Warranty inspection services for the Walnut 1 M		7,983.50
Total for Check Number 54984:				7,983.50

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
54985	H360	Humboldt No. 1 Fire Protection Di	12/22/2021	
	2021-22 BA	014-182-010-000 Hoover St Lift Sta		12.00
	2021-22 BA	019-114-017-000 Bailey St Lift Sta		12.00
	2021-22 BA	300-011-007-000 District Yard		144.00
	2021-22 BA	300-011-009-000 District Yard		12.00
	2021-22 BA	300-011-010-000 District Yard		12.00
	2021-22 BA	300-011-012-000 Lentell Tank site		12.00
	2021-22 BA	301-041-003-000 End of Calif (Old Well)		12.00
	2021-22 BA	301-121-006-000 End of Meyers (Old Well)		12.00
	2021-22 BA	300-011-017-000 District Yard		12.00
	2021-22 BA	303-022-031-000 Access Rd Beechwood Tank		12.00
	2021-22 BA	305-131-026-000 S Broadway Lift Sta CSA3		12.00
	2021-22 BA	305-131-039-000 So Bay Well Site		12.00
	2021-22 BA	306-181-045-000 Donna Dr Pump Sta		12.00
	2021-22 BA	306-221-002-000 Fields Landing Lift Sta		12.00
	2021-22 BA	306-381-048-000 Humb Hill Tank Site		12.00
	2021-22 BA	306-391-007-000 Princeton Well Site		12.00
	2021-22 BA	307-041-008-000 Donna Dr Tank Site		12.00
	2021-22 BA	403-051-026-000 Lower Pigeon Pt Tank		12.00
	2021-22 BA	403-161-034-000 Cummings Rd Booster PS		12.00
	2021-22 BA	302-181-028-000 Elk River Rd (Mtr Sta)		12.00
	2021-22 BA	014-182-003-000 Hoover St Lift Sta		12.00
			Total for Check Number 54985:	384.00
54986	H810	Humboldt Waste Management Auth	12/22/2021	
	333739	Solid Waste		8.00
	334970	Solid Waste		28.70
			Total for Check Number 54986:	36.70
54987	I525	Infosend	12/22/2021	
	202849	UB/Process and Mail/Bills - November		4,828.44
			Total for Check Number 54987:	4,828.44
54988	M340	Mercer Fraser Co	12/22/2021	
	1069109	Cold Mix		697.22
			Total for Check Number 54988:	697.22
54989	M560	The Mitchell Law Firm LLP	12/22/2021	
	49118	Legal Services - November 2021		32.00
			Total for Check Number 54989:	32.00
54990	N430	Nilsen Feed and Grain Co.	12/22/2021	
	030900/1	Rice straw		12.01
			Total for Check Number 54990:	12.01
54991	P190	Pacific Paper Co	12/22/2021	
	173772	Storage boxes/Sharpie fine blk/Uni-ball fine blk/		115.62
	174138	Alliance rubber bands size 64 1# box/Elite Imagi		217.75
			Total for Check Number 54991:	333.37
54992	R100	Rainbow Body Shop	12/22/2021	
	012666	Unit #16/Repairs per Estimate # 13119		3,211.12
			Total for Check Number 54992:	3,211.12

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
54993	R250 27764281	Recology Humboldt County Garbage Service - November	12/22/2021	488.26
Total for Check Number 54993:				488.26
54994	T285 4429	Thomas R. Bess Hot asphalt for trench paving in the Ridgewood/4	12/22/2021	252.14
Total for Check Number 54994:				252.14
54995	T810 33503	Tony Gosselin Tire Service Unit #10/(4) drive tires	12/22/2021	1,938.55
Total for Check Number 54995:				1,938.55
54996	U410	United Way of Humboldt PR Batch 00004.12.2021 UNITED WAY PR Batch 00004.12.2021 UNITED WAY PR Batch 00004.12.2021 UNITED WAY	12/22/2021 PR Batch 00004.12.2021 UNI PR Batch 00004.12.2021 UNI PR Batch 00004.12.2021 UNI	0.41 2.41 1.18
Total for Check Number 54996:				4.00
54997	U730 779394	USA Bluebook Grease chopper/Debris baskets 6" 8"	12/22/2021	690.52
Total for Check Number 54997:				690.52
54998	W090 1272101	Wahlund Construction Inc Legal A/C pipe disposal per Quote dated 9/9/202	12/22/2021	2,070.00
Total for Check Number 54998:				2,070.00
55002	S910 WD-0192052	SWRCB Annual WDR permit fee- WDID 1SSO11419	12/22/2021	3,326.00
Total for Check Number 55002:				3,326.00
Total for 12/22/2021:				196,216.37
Report Total (58 checks):				454,877.23

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Humboldt Community Services District

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AGENDA REPORT

For HCSD Board of Directors Regular Meeting of: January 11 2022

AGENDA ITEM: F.1

TITLE: Consideration of Resolution 2022-01 Making Findings Pursuant to Government Code Section 54953, as Amended by Assembly Bill 361, and Authorizing the Continued Use of Virtual Meetings

PRESENTED BY: Terrence Williams, General Manager

Recommendation:

Motion to adopt Resolution 2022-01 by title only. Roll-call vote.

Summary:

The Governor's Executive Order N-08-21 provided modification to the Brown Act authorizing public teleconference meetings during the COVID-19 Emergency without the requirement of personal appearance. On September 16, 2021, Governor Newsom signed Assembly Bills (AB) 339 and 361 into law which was followed by Executive Order N-15-21 on September 20, 2021 stipulating the sunset of Executive Order N-08-21 as of September 30, 2021.

As presented at the October 12, 2021 regular meeting, and subsequently at each first meeting of the month, provisions of AB 361 officially modify the Brown Act to enable public agencies to move immediately to relaxed teleconference meetings under a declared state of emergency. Each month the March 20, 2020 state of emergency remains in effect, the Board is required to pass a resolution every thirty (30) days until lifted, affirming the following:

1. The Board has considered the circumstances of the state of emergency
2. Any of the following circumstances exist:
 - a. The state of emergency continues to directly impact the ability of the members to meet safely in person.
 - b. State or local officials continue to impose or recommend measures to promote social distancing.

Resolution 2022-01 before you, affirms the foregoing conditions allowing the District to proceed with virtual meetings for the next thirty (30) days while the current state of emergency remains in effect and/or the County's recommendations for social distancing remain in effect.

Fiscal Impact: None

RESOLUTION NO. 2022-01

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE HUMBOLDT COMMUNITY SERVICES DISTRICT MAKING FINDINGS PURSUANT TO GOVERNMENT CODE SECTION 54953, AS AMENDED BY ASSEMBLY BILL 361, AND AUTHORIZING THE CONTINUED USE OF VIRTUAL MEETINGS

WHEREAS, as a result of the COVID-19 pandemic, the Governor issued Executive Order Nos. N-08-21, N-25-20 and N-29-20, which suspended certain provisions of the Ralph M. Brown Act to allow legislative bodies to conduct public meetings without strict compliance with the teleconferencing provisions of the Brown Act;

WHEREAS, Assembly Bill 361, which was signed into law on September 20, 2021, amended Government Code section 54953, to provide relief from the teleconferencing provisions of the Brown Act under certain circumstances provided the legislative body makes certain findings;

WHEREAS, as a result of the COVID-19 pandemic, the Governor proclaimed a state of emergency on March 4, 2020, in accordance with the section 8625 of the California Emergency Services Act, and the state of emergency remains in effect;

WHEREAS, as a result of the COVID-19 pandemic, the Humboldt County Health Officer has imposed and has recommended measures to promote social distancing as more particularly set forth in his August 6, 2021, Order, among other prior orders and guidance;

NOW, THEREFORE, the Board of Directors does hereby find and resolve as follows:

1. That the Board has reconsidered the circumstances of the previously declared and existing state of emergency arising from the COVID-19 pandemic;
2. That the state of emergency continues to directly impact the ability of the members of the Board to meet safely in person, and further that local officials continue to impose or recommend measures to promote social distancing;
3. That the Board may continue to conduct public meetings in accordance with Government Code section 54953(e);
4. That the Board will reconsider the above findings within 30-days of this Resolution.

PASSED AND ADOPTED on the 11th day of January 2022 by the following vote:

AYES:
NAYS:
ABSENT:
ABSTAIN:
ATTEST:

Alan Bongio, Board President

Attest: Brenda K. Franklin
Board Secretary

Humboldt Community Services District

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AGENDA REPORT

For HCSD Board of Directors Regular Meeting of: January 11, 2022

AGENDA ITEM: F.2 (New Business)

TITLE: Consideration of Awarding On-Call Engineering Services Contracts

PRESENTED BY: Terrence Williams, General Manager

Recommendation:

Discussion followed by motion to award On-Call Engineering Services Contracts to GHD and SHN

Summary:

Periodically, the District requires contract engineering assistance. Sometimes this assistance is for bidding and managing large projects, sometimes for grant writing, sometimes for design review and sometimes for environmental monitoring, and permitting assistance among other activities. Through a recent Request for Qualifications (RFQ) process, the District received two Statements of Qualifications (SOQs) for On-Call Engineering Services. The RFQ is available for review on the Districts website (https://humboldtcsd.org/sites/default/files/20211110_RFQ_ConsultingServicesHCSD_1.pdf).

The first SOQ received was from GHD. GHD is a global professional services company that employs over 10,000 people with 200 offices across five continents including one in Eureka, CA (formerly Winzler and Kelly). GHD specializes in municipal engineering and environmental planning for cities, counties and special districts. Winzler and Kelly has served the District on many projects over the years dating back to at least the early 1960s. GHD maintains records of those project in the form of design drawings, specifications and record drawings to this day.

The second SOQ received was from SHN. SHN is a small business enterprise serving Northern California and Southern Oregon. Headquartered in Eureka, CA, SHN employs about 125 people across seven offices between Willits, CA and Coos Bay OR. SHN provides engineering, geologic and environmental services to communities, businesses and individuals in our region. SHN has worked on projects for the District since 1993.

Based on a thorough review of the SOQs using the performance rubric presented on pages 7&8 of the RFQ; both firms are qualified to represent the District, each scoring over 90 out of 100 points on average across all reviewers. Considering that both firms were found to be competent and qualified and the long history that each firm has of serving the District, and that each firm has unique expertise and experience, staff's recommendation is to award an On-Call Engineering Services Contract to both SHN and GHD for the calendar year of 2022.

Fiscal Impact:

None; this On-Call Services Contract will allow staff to access assistance for projects already approved and budgeted for in the Capital Improvement Plan.

Attachments: GHD & SHN RFQ Responses



RFQ Bid No. 2021-15

On-Call Consulting Services

Humboldt Community Services District

December 13, 2021





Brenda Franklin
Humboldt Community Services District
5055 Walnut Drive
Cutten, CA 95534

RE: Humboldt Community Services District On-Call Consulting Services Request for Qualifications

Dear Ms Franklin,

GHD Inc. (GHD) is pleased to submit five (5) hard copies of our team's Statement of Qualifications (SOQ) for the Humboldt Community Services District (HCSD or District) On-call Consulting Services Request for Proposals. At GHD, we have an unparalleled track record in delivering critical infrastructure and resiliency projects including securing funding for our clients from a variety of sources. We welcome the opportunity to bring the same professional and responsive service to HCSD.

Project Understanding. GHD has been involved in water resources planning in the Eureka/ Humboldt Area for decades and has gained an understanding of the permitting, implementation, and funding challenges that entities like HCSD face. Per HCSD, the District takes pride in providing quality water, sewage collection, and street lighting services to its customers.

The District has an extensive customer service department including field crews, which are dedicated to providing efficient, friendly service. As a small organization with limited staff and funding HCSD has expressed the need for professional services through this Request for Qualifications (RFQ) to address aging infrastructure, support change and plan for a resilient water future. On-call support is needed for grant and funding applications, planning and permitting, and design projects for implementation in the areas of water, stormwater, wastewater, street lighting, and energy.

The GHD Team. We have assembled a strong team of experts and professionals to provide all requested services listed in the RFQ. GHD's in-house capabilities include grant funding, project planning, multi-disciplinary design, cost estimating, environmental compliance, permitting, development services, construction management, inspection, and contract administration. GHD has over 60 professionals in our Eureka office available to HCSD in all aspects of project delivery, plus additional staff in California and globally.

Project Approach. We have thoughtfully assembled our team to deliver a variety of project types. Our approach is founded on three key factors:

1. A committed and responsive Contract Manager, Rebecca Crow, PE. Rebecca has been delivering infrastructure projects in Humboldt County for over 20 years. She will be the primary point of contact and will be supported by Assistant Contract Manager Michelle Davidson, as well as multiple discipline specific Project Managers as presented in our SOQ. They will ensure that each task order is appropriately staffed and moves forward according to the scope, schedule, and budget;
2. An exceptional team of professionals with the expertise and capacity to successfully complete each task order; and
3. A strategy that addresses risks and challenges that may arise, like availability of funding, rising construction costs, climate change, and environmental issues.

GHD's Commitment. The GHD Team is fully committed to performing all the services listed in the RFQ. We understand HCSD's needs and the scope of work, and our goal is to provide HCSD with quality services. GHD's core values of safety, teamwork, respect, and integrity guide our company and our employee's actions. We engage subconsultants who maintain these same values. Our team has never failed to complete work for which a contract was issued. We have no pending civil or criminal actions and have never been disqualified or debarred from working for any public entity.

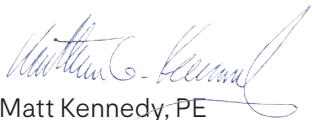
Our Proposal includes the following information requested in the RFQ, as well as additional information:

- Cover Letter
- Section 1: GHD Qualifications
- Section 2: Understanding and Management of Requested Consulting Services
- Section 3: Value and Fee Schedule
- Section 4: Other Requirements
- Appendix A: Key Team Member Resumes

GHD's principal place of business and the location of the office proposing/sponsoring the work relative to this proposal is: GHD Inc., 718 Third Street, Eureka, CA 95501. Supporting offices include Santa Rosa, Redding, San Francisco, Emeryville, Concord, Irvine, Portland (Oregon) and Phoenix (Arizona).

Matt Kennedy is authorized to represent GHD and is approved to contractually bind the firm. This proposal addresses all terms and conditions of the RFQ. Thank you very much for the opportunity to present our team, qualifications, and approach to providing On-Call Consulting Services for HCSD. GHD is excited to work with HCSD, and we look forward to the opportunity to discuss your needs and GHD's capabilities with you. If you have any questions regarding our SOQ, please contact Matt Kennedy at +1 707-540-3376.

Regards, GHD



Matt Kennedy, PE
Principal
+1 707 540 9687
matt.kennedy@ghd.com



Jeremy Svehla, PE
Project Director Engineer
+1 707 407 7206
jeremy.svehla@ghd.com



Rebecca Crow, PE
Contract Manager
+1 707 497 9294
rebecca.crow@ghd.com

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01

Cover Sheet

Humboldt Community Services District

Dedicated to providing high quality, cost effective water and sewer service for our customers

On-Call Consulting Services List
Bid No. 2021-15

Name of Person, Business or Organization:	GHD Inc.
Type of Entity: (e.g. Sole Proprietorship, Partnership, Corporation, Non-Profit, Public Agency)	Corporation
Federal Tax ID Number:	98-0425935
Contact Person - Name	Matthew Kennedy
Contact Person - Address	P.O. Box 7967, Santa Rosa, CA 95407
Contact Person - Phone Number	+1 707 540 9687
Contact Person - Email Address	Matt.Kennedy@ghd.com

By signing this Cover Sheet I hereby attest that: I have read and understand all the terms listed in the RFQ; have read and understand all terms listed in this SOQ; I am authorized to bind the listed entity into this agreement; and that should this SOQ be accepted, I am authorized and able to secure the resources required to deliver against all terms listed within the RFQ as published by the Humboldt Community Services District, including any amendments or addenda thereto except as explicitly noted or revised in my submitted SOQ.



Signature of Authorized Representative

Matthew Kennedy

Printed Name of Authorized Representative

December 13, 2021

Date

Mailing: Post Office Box 158 • Cutten, CA 95534 • tel (707) 443-4558 • fax (707) 443-0818

Physical Address: 5055 Walnut Drive, Eureka, CA 95503

02

Qualifications of the Offeror



→ Organizational Chart



🔑 Key Personnel/Project Managers

Contract Manager/ Primary Client Contact
🔑 Rebecca Crow, PE

Authorized Representative
🔑 Matt Kennedy, PE, TE, ENV SP

Project Director
🔑 Jeremy Svehla, PE

Assistant Contract Manager
🔑 Michelle Davidson

Key Personnel

Public Works/ Engineering

Funding Management

- 🔑 Rebecca Crow, PE (Grants Specialist)
- 🔑 Jeremy Svehla, PE
- Linda Costa-Franklin (Reimbursement Lead/QA/QC)
- Nicole Garza, CDT (Coordinator)
- Crystal Prairie (Contract Specialist)

Civil Engineering

- 🔑 Luke Halonen, PE
- 🔑 Michelle Davidson
- 🔑 Holly Cinkutis, PE, LEED AP
- 🔑 Matt Kennedy, PE, TE, ENV SP
- Casey Raines, PE, PACP, MACP
- Brett Vivyan, PE, QSD/QSP
- Nathan Stevens, PE

Energy/ Electrical Engineering

- 🔑 Rick Guggiana, EE, LEED AP
- 🔑 Jordan King, PE

Mechanical Engineering

- Dan Reiter, PE, LEED AP
- Terry Wong, PE, LEED AP

Structural Engineering

- 🔑 Brian Crowell, PE, SE
- 🔑 Craig Camp (Directional Drilling)
- Stephanie Gould, PE

Corrosion Engineering

- 🔑 Jeff Knauer, PE, ME, NACE CP Specialist

Construction Management

- 🔑 Nathan Sanger, PE
- 🔑 Patrick Sullivan, PE
- Jeff Bline, PE, QSD/QSP
- Steven Pearl, EIT

Development Services

GIS/Spatial Science/LiDAR

- 🔑 Amber Shows
- Julia Clark
- Zach Powers
- Harrison Hummel

Landscape Architecture

- Jonathan Linkus, AICP, LEED AP

Environmental Services

CEQA/NEPA and Permitting

- 🔑 Andrea Hilton
- Kerry McNamee
- Misha Schwarz, PWS, CPSS, CAC, I/A/M
- Brian Bacciarini

Wetland and Biological Services

- 🔑 Kelsey McDonald
- Elizabeth Meisman
- Dana Rose

Hydrogeology

- Ryan Crawford, PG

HAZMAT

- Scott Harris, CAC, CDPH I/A/M
- Matt Tolley
- Amy Monier

Land Surveying

- 🔑 Brian Howard, PLS
- Richard Maddock, PLS

* Our core Project Team will have the support of over 10,000 staff in 200 offices through GHD's globally connected network and seamless organization structure.

B

→ Firm Description

For more than 90 years the professionals at GHD have improved lives and protected and enhanced the environment by championing healthy, safe, and dynamic communities through the services we provide. We know that to deliver on this commitment we must earn the role of trusted advisor to our clients and partner with them to create solutions that will serve the public's interests through the projects we help implement. Balancing economic, environmental, operational, and social interests is becoming ever more important as a measure of success and requires not only a broad range of technical expertise, but also a comprehensive understanding of governance and funding processes.

GHD has developed a staff of professionals with this understanding and unique expertise through its dedication to serving municipalities through our local offices. GHD has offices located around the world and therefore has many projects underway. With a pool of 10,000 staff in over 200 offices worldwide, GHD is well equipped to meet the District's needs.

The GHD office in Eureka was founded more than 70 years ago as Winzler & Kelly. Our local GHD staff are invested in providing quality services to the District as this is where we work, live, and come for recreation and entertainment. Our proposal focuses on providing local and California staff to support the District, however GHD has a global network of professionals with a wide range of expertise that can be used as needed to improve the breadth of services provided to the District.

90+ years in operation
135+ countries served
200+ offices worldwide
1.5^B USD revenue 2020
5 global markets
10^K people
50+ service lines

↳ Providing engineering, environmental, advisory, architecture, digital and construction services

Municipal Services

GHD specializes in municipal engineering and environmental planning for cities, counties, and special districts. We serve as the on-call consultant for more than 40 agencies in California. Because of this, we understand the difference between public sector design requirements and private development. We believe that the best projects not only provide the technical solutions, but also satisfy environmental requirements, public needs, funding limitations, regulatory requirements, and political realities of the community. GHD brings a proven track record of project delivery. We are project advocates and engage project stakeholders in active dialogue to advance the project goals. We work together with our clients, transforming visions into reality.

We are proud of our long tradition of effective relationships with repeat municipal clients, and approximately 75 percent of our work comes from repeat clients. This track record illustrates our in-depth knowledge of municipal engineering, as well as our willingness to listen and respond to individual client's needs. It also speaks to our clients' confidence in our ability to deliver a project through planning, implementation, and to completion.

We rank #11
 in the ENR
 + Top 150
 Global Design
 Firms 2021



C

→ Key Personnel

GHD has been active in the design and development of many high visibility quality engineering projects for more than 70 years in the Eureka area. We are a recognized leader in the design of multidiscipline infrastructure projects, with a particular focus on municipal infrastructure and environmental planning services for public agencies. We are sensitive to public and agency interests and offer strong project management to keep projects on schedule and budget. GHD's "total project" expertise and service-oriented approach will be vital to the execution of work required for this On-call Consulting Services contract.

Team Member Qualifications

We have organized this section by project roles. GHD is proposing a single point of contact and project managers/key staff for the District to select from for various project types. Summaries of the key staff have been included in this section and full resumes for these staff can be found in Appendix A.

Staffing and Availability

Because of the expertise and depth of our staff, we have a unique ability to quickly staff District projects with qualified personnel. GHD provides the largest capacity and resources available to the District of Eureka in the area, however, we will not take on projects that we cannot staff with qualified and available professionals. Therefore, should a project arise that we're not able to provide a high level of service for, we will notify the District as soon as possible so that the District may contact another consultant.

For this On-call Consulting Services contract, we have identified our project staff based on qualifications and ability to serve HCSD.

All team members have the demonstrated ability to work in a collaborative team environment that will serve as an extension of District staff. We recognize the need for a cohesive team approach that is consistent with the District's goals. In addition to the staff listed in this section, GHD has the ability to call on international professionals across the globe for various expertise to bring innovative solutions to the District and enhance our capability on complex technical issues.

Other Services

During our time providing on-call engineering services for municipalities, we have learned the importance of flexibility and responsiveness. At times, GHD may be required to enlist the services of additional subconsultants to augment the strength and efficiency of our current team. These subconsultants could include surveyors, geotechnical engineers, or specialty construction inspectors. Our experience with on-call engineering has shown us that in nearly all situations, GHD is fully staffed and capable of providing the required number of services to our clients in a timely fashion. In the event that we do require immediate, outside assistance, GHD will contract with appropriate subconsultants, but only after receiving approval from the District.



GHD's Eureka Office



Rebecca Crow, PE | Contracts Manager, Primary Point of Contact, Funding Management

Ms. Crow has 23 years of experience in a broad range of environmental management and planning services: water and wastewater planning, water recycling, watershed and water quality modeling, regulatory compliance, funding assistance, and grant and contract management. She is adept at preparing applications for state and federal grant and loan programs and has secured over \$80 million dollars in grant funds for North Coast communities in the last 10 years.

Rebecca can provide assistance to the District with regard to grant funding and financing for various projects, providing as-needed assistance with grant applications and compliance so that critical improvements can be successfully completed.

KEY ATTRIBUTES

- Local team, geographically proximate to the District
- Funding Expert: Adept at preparing applications for numerous state and federal grant and loan programs



Michelle Davidson, PE | Assistant Contract Manager, Civil Engineer

Michelle is a staff engineer currently focused on civil and structural design, construction management, and grant writing and management. Michelle is an organized detailed oriented person who can support the District as a Project Manager. She is adept at managing project scope, schedule, and budget and coordinating with sub-consultants as well as contractors. Michelle is familiar with the needs of project funders, and can support the technical aspects of funding applications.

KEY ATTRIBUTES

- Local team, geographically proximate to the District
- Clear communication skills to effectively work with District staff and sub-consultants. Construction management experience to assist in clear implementation of design information



Jeremy Svehla, PE, QSD/P | Project Director, Funding Management

Mr. Svehla is a professional engineer with over 16 years of experience in water resources engineering, encompassing a broad range of engineering design, project management, and construction management for large-scale wetland improvements, stream habitat restoration, and flood control projects, especially within the Coastal Zone of California. His skills range from geomorphic assessments, to pipeline and open channel hydraulic analyses, to hydrologic and stormwater runoff analyses, site development, surveying, and stream monitoring. Jeremy will support the District in the Role of Project Director to ensure projects meet the District's needs and as a back up contact for projects.

KEY ATTRIBUTES

- Local team, geographically proximate to the District
- Experienced with nexus of project implementation and local permit requirements, bringing this experience to the future development of District Projects



Matthew Kennedy, PE, TE, ENV SP | Authorized Representative, Civil Engineer

Matt Kennedy is a licensed Civil and Traffic Engineer with 18 years of public sector project delivery experience. He is adept in the design and management of a broad range of civil infrastructure and multidisciplinary facility projects, including water, wastewater, recycled water, trenchless construction, grading, roadways, storm drainage and LID, and sustainable civil site design. His experience also includes a broad range of planning, modeling and analysis capabilities including master planning, feasibility studies, hydraulic analysis, and process design. One of Matt's first projects at GHD was and update of HCSD's water system hydraulic model.

KEY ATTRIBUTES

- Familiar with the District Infrastructure
 - Experienced with planning and implementation of large scale infrastructure projects
-

**Luke Halonen, PE | Civil Engineer**

Mr. Halonen is a licensed civil engineer with eight years of experience in project management, water and wastewater system design, site design, stormwater management, and construction management of utility infrastructure projects. His professional area of focus is hydraulic design of utility infrastructure including design of associated site improvements. Luke's experience includes water transmission, distribution, storage, and booster pump stations, stormwater conveyance and Low Impact Development (LID) stormwater treatment systems, and sanitary sewer conveyance systems including lift stations, site design and grading, and pedestrian facilities. He is adept at hydraulic modeling and analyses of utility infrastructure using Bentley and EPA software and similar, and design and construction plans development using Civil 3D and AutoCAD.

KEY ATTRIBUTES

- Understands how overall design affects site design to address potential conflicts during the design phase
 - Prepares designs to minimize the potential for design changes during construction
-

**Holly Cinkutis, PE, LEED AP | Civil Engineer**

Holly Cinkutis is a licensed civil engineer with over 15 years of experience in the municipal/public works sectors of the civil engineering industry with focus in water and wastewater infrastructure planning, design and construction. Her experience began as a project engineer and progressed to project manager and acting engineer for multiple water and wastewater service providers and public works entities. Holly's experience includes managing the design and construction of annual water and sewer replacement, lining, and rehabilitation projects.

KEY ATTRIBUTES

- Understands the needs of rural water systems to be able to access goods and services
 - Solid design engineers who listens to the needs of clients to improve system performance after construction
-

**Rick Guggiana, EE, LEED AP | Energy, Electrical Engineer**

Rick is versed in water treatment, storage, and pumping systems, wastewater collection and treatment systems, pumping controls, Supervisory Control and Data Acquisition (SCADA) systems, low and medium- voltage power generation, microgrids, and electrical distribution. Rick will provide support to design projects that integrate with the District's existing systems.

KEY ATTRIBUTES

- Provides strong experience in electrical and controls design to support the District's integration of future project into the existing system
- Can provide insights on a range of projects from a single pump station to complex systems



Jordan King, PE | Energy, Electrical Engineer

Mr. King is a professional civil engineer specializing in energy efficiency, renewable energy, and sustainable infrastructure projects. He is experienced in the assessment, design, and implementation of these systems throughout Humboldt County, as well as a skilled tradesman and licensed general building contractor. He's served as lead design engineer, project manager, and construction manager on numerous solar photovoltaic projects funded by Proposition 39 for school Districts in Humboldt. He has consulted on a variety of projects, including solar photovoltaic, cogeneration, infrastructure development, green building design, restoration, environmental remediation systems, hazardous waste management, stormwater pollution prevention compliance, and housing subdivisions. Most recently Jordan oversaw the preparation of a design build package for the McKinleyville CSD Solar Microgrid servicing the Wastewater Treatment system.

KEY ATTRIBUTES

- Maintains focus on both energy efficiency as well as new renewable energy source potential
- Familiarity with PG&E grid and system connection requirements



Brian Crowell, PE, SE | Structural Engineer

Mr. Crowell has 19 years of structural engineering evaluation and design experience with new building construction and retrofits, retaining walls, wharves and piers, equipment anchorage, concrete tanks and structures, timber structures, and steel buildings throughout northern California, serving as one of GHD's senior structural designers. In this role, he interacts with owner representatives, architects, and regulators while collaborating with the design team to provide cost-effective, detailed structural designs.

KEY ATTRIBUTES

- Interacts with owner representatives, regulators while collaborating with the design team to provide cost-effective, detailed structural designs.



Craig Camp | Structural Engineer

Craig has nearly 40 years of experience in underground construction. His expertise encompasses all phases of trenchless construction methods including conceptual design reviews, preliminary design reports based on anticipated ground conditions, production estimates, specification reviews, drawing reviews, geotechnical baseline reports (GBR) reviews, project cost estimating, and resolution of project issues. For this project, Craig will review the existing site requirements, geotechnical information, and design and oversee the trenchless pipeline options.

KEY ATTRIBUTES

- Involved in over 100 trenchless construction projects, installing over 250,000 feet of pipelines.
- Located in California



Jeff Knauer, PE, NACE CP | Corrosion Engineer

Mr. Knauer has extensive experience with corrosion risk assessment and mitigation design for municipal, private, and federal infrastructure. He has served as the corrosion engineer for condition assessment and rehabilitation projects throughout the Western United States and the Pacific Islands. Jeff is licensed in civil engineering, mechanical engineering, and is a Certified NACE CP Specialist. He also has experience with the design of corrosion control solutions in challenging environments and is an accomplished task leader for large-scale corrosion assessment and rehabilitation projects and provides expert witness services.

KEY ATTRIBUTES

- Understands corrosion issues in Northern California coastal climates
- Can provide the District with Specifications and Details to protect infrastructure for District led projects



Nathan Sanger, PE | Construction Management Lead

Manages civil engineering design, working with architects, environmental compliance, and investigation and remediation projects (as well as groundwater and air sampling data collection/analysis, and fate and transport analysis/modeling). Nathan has experience and expertise encompassing stormwater modeling and analysis, detention basin design, Municipal Separate Storm Sewer System (MS4) and National Pollutant Discharge Elimination System (NPDES) permitting, Americans with Disabilities Act (ADA) path of travel planning and analysis, grading and solar plans, trail design, utility mapping, and pipe bursting. As a civil engineer, Nathan's projects typically concern stormwater system design and site development, with a great working relationships built by serving local municipalities (Eureka, Arcata, Fortuna, and Rio Dell) and districts (Briceland CSD), tribes (Yurok, Hoopa), schools (Freshwater, Blue Lake, Jacoby Creek, Kneeland, Redwood Coast Montessori, Big Lagoon, and South Bay) and community entities or small businesses (Mad River Lumber, Humboldt Creamery, Mad River Youth Soccer League).

KEY ATTRIBUTES

- Brings experience working with local Contractors including Mercer Fraser, McCullough, and Wahlund
- Is a strong advocate for the client while balancing Contractor constraints



Patrick Sullivan, PE | Construction Management

Mr. Sullivan is a California Licensed Civil Engineer with over 20 years of experience as a design engineer and project manager, working with a wide range of clients, such as private landowners, special districts, Tribes, municipalities, and non-profit organizations, from project conception to completion. These two decades have broadly involved stream/wetland restoration design, hydrologic run-off analyses, open channel and pipeline hydraulic design, water treatment/ distribution design, erosion and sediment control, bridge/culvert design, and construction management/oversight for all related projects.

KEY ATTRIBUTES

- Spent significant time conducting construction management for the City of Eureka's system, and understands the constraints the HCSD is likely to come up against in pipeline replacement projects
- Understands the schedule needs of construction



Brian Howard, PLS | Land Surveying

Mr. Howard manages the firm's Northern California surveying projects and supervises surveyors, scheduling field, and office personnel. Throughout his career, he has performed surveying and right-of-way engineering on a full range of surveying work. Brian has extensive experience with topographic, boundary, and construction surveying, as well as expertise with geodetic and photogrammetric control, hydrographic surveying, aids to navigation, optical tooling, machine alignment, movement, and settlement surveys. He has surveyed in all types of environments from the highly industrial settings of chemical plants, steel mills, and oil refineries to remote areas staking slide repairs and establishing boundary lines in the vast majority of California's counties from Orange and Riverside, to Modoc and Siskiyou.

KEY ATTRIBUTES

- Can quickly assess property and easement considerations for utility projects.
- Conducts similar projects in the area and can be available to HCSD as needed with notice



Amber Shows | GIS, Spatial Science, LiDar

Ms. Shows is a spatial sciences professional with 15 years of experience in Geographic Information Systems, mobile mapping (GPS), asset inventory, and watershed and environmental management. She has experience with managing spatial and non-spatial data, mobile mapping and surveying on private and public lands, building and maintaining geodatabases, remote sensing and analysis, preparation of grant proposals, regulatory agency coordination, and field work ranging from aquatic to public utility.

KEY ATTRIBUTES

- Local to area for 14 years and long term involvement in multiple local projects
- Leads a team of over 8 people who can provide multiple data collection, mapping, analysis, and other spatial tools to HCSD



Andrea Hilton | CEQA, NEPA, and Permitting

Ms. Hilton is an environmental planner with 17 years of experience and an extensive technical background in hydrology and streamflow management, with an emphasis on management for special-status anadromous fish species. Her professional experience has focused on planning, implementing, and monitoring ecosystem restoration projects; collaborative resource management planning and negotiation; and regulatory oversight. Andrea frequently conducts regulatory permitting and California Environmental Quality Act (CEQA) for a wide variety of projects, including public access facilities, trails, and public infrastructure improvements, among others. She has prepared project permits, technical studies, and CEQA documents for numerous trail and rail trail projects, including an extension of the Eureka Waterfront Trail in the Elk River estuary.

KEY ATTRIBUTES

- Frequently conducts regulatory permitting and CEQA for a wide variety of projects, including public access facilities, trails, and public infrastructure improvements, among others
- Understands the ecological value and anthropogenic nature of the diverse features within the HCSD watersheds



Kelsey McDonald | Wetland and Biological Services

Specializing in field botany, field mapping, wildlife ecology, Geographic Information Systems (GIS), and environmental regulatory compliance, Kelsey is a CNPS Certified Consulting Botanist who has conducted and coordinated botanical and biological surveys along the North Coast. Additionally, Kelsey has a thorough understanding of CEQA compliance founded upon experience conducting biological reconnaissance and preparing CEQA documents. Kelsey is supported by a team of biologists who can provide expertise in all areas of biological services.

KEY ATTRIBUTES

- Experience in environmental science and resource management in Northern California, which includes seven years of field experience in Humboldt County
- Local team that can assess sites as needed and in seasonally appropriate times



→ Experience

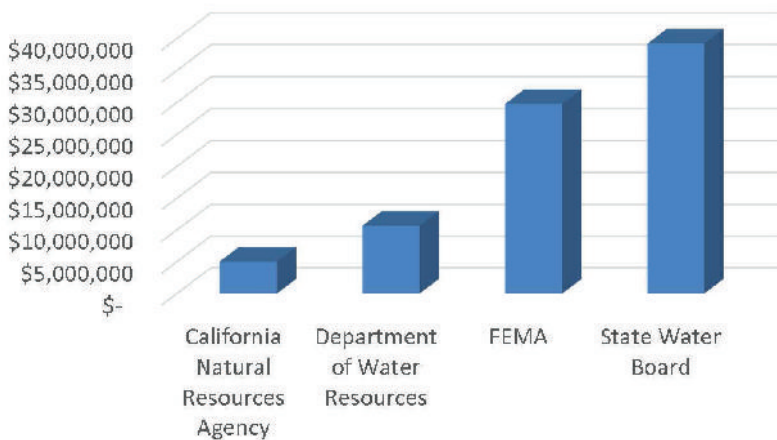
GHD Capabilities Available to Support all District Needs

HCSD has the potential need for a wide variety of public works, engineering, surveying, development services, and environmental services. Oftentimes these needs can be forecasted as is the case with the District’s, Capital Improvement Plan, and other strategic plans and long-term improvement and compliance plans. However, there are times when emergency situations arise such as weather-related issues, earthquakes, acute infrastructure failure, and environmental, and social issues. GHD has the capabilities to collaborate with HCSD staff to help achieve long-term program objectives as well as to address emergencies.

The following briefly highlights some of GHD’s capabilities.

Project Funding & Management

Stable project funding streams support the District’s goals and promote prosperity in the community. Funding comes from the District’s existing revenue streams including fees associated with water and wastewater service and property taxes and assessments. GHD has extensive experience securing grant and loan funding, administering projects in compliance with grant and loan requirements, and preparing audit-ready documentation. GHD can work with the District to cover upfront costs of funding application development for future projects. Key team members Rebecca Crow, Jeremy Svehla, Linda Costa-Franklin, and others have successfully assisted in obtaining over \$84 million in project funding for public agencies in Humboldt, Del Norte and Mendocino Counties over the last 10 years as shown in the Figure below.



Water Storage, Distribution, and Management

The District manages a well-developed potable water system relying significantly on water from the Humboldt Bay Municipal Water District (both directly and through a connection with the City of Eureka). Approximately 25% of the District’s water is supplied through wells located in the Humboldt Hill area. The State Water Resources Control Board through the Division of Drinking Water oversees drinking water regulations, permitting, and performance. The existing system requires regular repairs and replacements of the aging infrastructure, as well as improvements to maintain reliability.

The District’s CIP includes planning for upgrades to water storage tanks which have not been recently rehabilitated. The CIP also include multiple pump station upgrades, which provide an opportunity to add renewable energy and improve system efficiency. The District maintains a complex water distribution system, in addition to pump stations, there may be opportunities to improve the intertie with the City of Eureka, including upsizing pipelines. Key staff Jeff Knauer has worked on multiple local corrosion projects and can support the District in implementing successful recoating projects through specifications and other design concepts. GHD’s local expertise with the Humboldt Bay Municipal Water District and familiarity with local infrastructure, along with additional company expertise, including Luke Halonen, Michelle Davidson, Nathan Stevens, and Patrick Sullivan to address long-term planning and design projects as well as emergency response.

Wastewater Collection



One of the main infrastructure systems the District provides is wastewater management. The District maintains 28 lift stations, and conducts annual maintenance on the stations as well as tracking the condition of the many miles of collection system piping. Whether

it is the upgrade of a single pump station or pipeline, or development of wastewater management strategies that

adapt to future sea levels, the District can draw upon GHD to provide the expertise. In recent years, engineers Luke Halonen, Michelle Davidson, Brian Crowell, and others have provided expertise for local pump station upgrades, new wastewater mains, structural upgrades, and condition assessments.

State and Regional Board Permitting and Compliance

The State Water Resources Control Board through the Regional Board oversees drinking water and wastewater system regulations, permitting, and performance. GHD has extensive experience working on the technical evaluation of system performance relative to requirements and the negotiation of rational and achievable compliance plans. GHD's local and global expertise can assist the District throughout the collection, treatment, and disposal system for existing and future developments.

Climate Adaptation and Coastal & Waterfront Engineering

The HCSD service area includes many coastal properties built on a long stretch of Humboldt Bay. Humboldt Bay is projected to have the highest rates of sea level rise along the west coast due to vertical ground subsidence. Sea level rise can degrade the effectiveness of stormwater and wastewater collection systems, increase inflow and infiltration into piping, affect buildings and transportation system, and affect other infrastructure and public service systems. Climate change can increase the severity and frequency of storms and when coupled with sea level rise this can lead to increased coastal erosion. As these combined conditions worsen, so do the effects, and the District should prepare in advance to adapt to these changing conditions.

GHD continues to lead the region in developing innovative approaches to sea level rise adaptation planning that incorporate multi-scenario planning to determine adaptation thresholds based on varying rates of changes, impacts of wind and waves, change in geomorphology, and other factors.

GHD has extensive capabilities in coastal and waterfront engineering including planning, permitting, design, and construction oversight of erosion protection, seawall evaluations and design, protection against sea level rise, ramps, and other facilities. Team members including Jeremy Svehla, Brett Vivyan, and Rebecca Crow, among others, will support the District in the evaluation of options to protect grey infrastructure while maximizing opportunities to protect and expand naturally resilient areas.



Stormwater Management/SWPPP Compliance

Stormwater management has become a more

significant issue over recent years from a RWQCB permitting aspect as well as a practical water management perspective. While the District does not manage the local stormwater compliance program the District's infrastructure interfaces with local utilities and drainage ways. Flooding in the Field Landing and King Salmon areas can impact sewer inflow and infiltration significantly. Construction and other projects can also require special permitting and compliance. Team members Jeremy Svehla, Luke Halonen, Holly Cinkuntis, Brett Vivyan, Patrick Sullivan and Amber Shows work together to address stormwater issues from both a practical and regulatory perspective and in consideration of climate change for the benefit of communities.



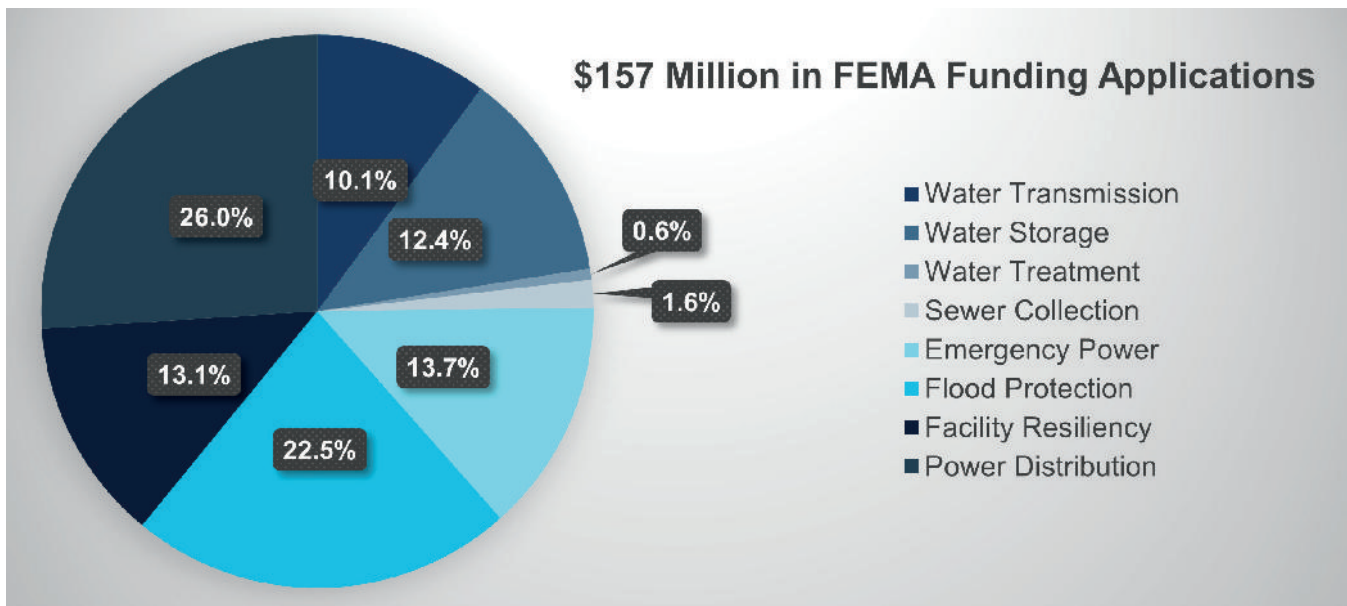
Construction Inspection and Management

Replacement, upgrade, and improvement projects often require construction and GHD can provide inspection and management that meets the inspection and documentation of funding program and prevailing wage requirements. GHD can review submittals, change orders, progress pay estimates, inspection reports, test reports, wage

reports, and other project documentation. Our inspection services include construction observation as well as specialty inspections such as structural requirements, and commissioning of new electrical and mechanical systems. Our services can augment District staff, provide third party inspections of designs by others, and provide inspections of projects GHD designs for the District to provide turn-key services. GHD has a history of providing construction management and inspection services by key staff members, including Nathan Sanger, Patrick Sullivan, Steven Pearl, and construction inspector Jeff Bline.

FEMA/OES Disaster Response and Recovery

The HCSD addresses routine threats from natural and man-made hazards, including earthquakes, floods, severe weather, fires, sea level rise, tsunamis, and hazardous materials, which can cause acute significant public



safety and public service issues as well as environmental damage within the District. The District participated in the County’s 2019 update to the Local Hazard Mitigation Plan, which includes 11 action items related to improving the resilience of the water and sewer systems. The District understands the need to recover as quickly as possible to protect the public and restore services. GHD has extensive expertise in working with local agencies, Cal OES, and FEMA on funding both pre-disaster mitigation projects as well as post-disaster repair projects. Eligibility for state and federal disaster declaration funding in part depends on properly documenting emergency project scope and costs during the initial debris removal and emergency protective measures phase. When disaster strikes the Eureka area, GHD can help the District stabilize and recover quickly. Team members Rebecca Crow, Matt Kennedy, Michelle Davidson, Jeremy Svehla, Nathan Sanger, structural engineer Brian Crowell, and others can support the District when needed with the background understanding to efficient recover. As seen above, GHD has assisted communities applying for over \$157 million in FEMA Hazard Mitigation Funds.

Mechanical and Electrical Engineering

The District owns and operates a series of buildings as well as and pump stations with mechanical and electrical equipment and SCADA control systems. It is understood that the District is addressing many of the needed SCADA upgrades and had a good in house staff for support. As needed, GHD can work with local staff and architects on the evaluation of system needs and performance requirements and then develop options considering performance, cost, flexibility, compatibility, and life-cycle issues. Working with staff we can then design systems meeting District needs. GHD also provides audit services to identify improved system efficiencies to reduce GHG emissions and electricity costs. Team member Rick

Guggiana, with over 25 years of experience in water and wastewater electrical systems and well as engineer Jordan King provide the District with the expertise needed to address existing and future systems.

Structural Engineering

Structural engineering work for the District may be something as simple as the design of a foundation for a new light system to the structural retrofit of a building. With much existing infrastructure, a lot of the work may be upgrades or expansions. GHD’s structural engineers are available to provide services from building retrofits to withstand earthquakes to waterfront bulkhead analysis and upgrades to accommodate sea level rise. Our structural engineering capabilities allow GHD to provide complete project services for analysis and design projects as well as focused structural designs. Team members Brian Crowell and Stephanie Gould out of the Eureka GHD Office bring municipal structural engineering experience to the District.

Geotechnical and Soil Sciences

Nearly all structure related projects require the consideration of supporting soils. For HCSD, this varies from bay muds and unconsolidated fills to firm soils. There are applications where full geotechnical analysis is needed to evaluate slope stability and GHD will often partner with specialty geotechnical firms on unique projects to provide analysis and recommendations for higher risk projects. GHD has strong working relationships with several firm who conduct work in the ear to support projects as needed

Site Development Design

The planning and design of the development of a project site is a critical part of realizing the benefits of a project. The District has a number of potential development

projects to provide public facilities and economic opportunities. It is not simply the function of the structures on the site, but equally important how the site itself works. The consideration of the site includes placement of structures, vehicular and pedestrian traffic circulation, ADA parking and path of travel, deliveries and maintenance needs, site drainage, landscaping, utilities, and other site amenities. Site development also includes consideration of the parcel boundaries, encumbering easements and rights of way, existing uses or structures, possible site contamination, and other factors. Our goal is to make the best use of the site possible and to work with District Staff, as well as the project stakeholders to create the best approach to development. GHD also has the capability to develop 3-D conceptual visuals of proposed changes to facilitate improved community understanding of site changes and impacts. Team members Amber Shows and Zach Powers, in addition to Aerial Drone expert Harrison Hummel, can collect site data for quick visualizations. GHD engineers can use both drone and survey data to support the District site development design needs.

Capital Improvement Planning

Longer range planning and prioritizing are part of allocating funding and scheduling important projects. The District maintains a Capital Improvement Plan based on evaluations of needs for each department, funding available, and capacity to deliver projects amongst other criteria. GHD can assist the District in developing planning level solutions and budgets for updating the Capital Improvement Plan. By engaging GHD in the Capital Improvement Planning process, we can help the District identify sources of funds early and actively seek grant funds to meet project implementation timelines. Team members Rebecca Crow, Michelle Davidson, Jeremy Svehla, Brian Crowell, Jordan King, among others can support the District as needed in capital improvement planning.

GIS & Graphic Visualization

GHD can support the District in analysis and data management and has a background in and can provide support in Asset Management planning, high-accuracy GPS data collection, and system integration. In addition, geographic data can be used in the preparation of graphic visualizations, enhancing the context and relatability of the graphic. Graphic visualizations can range from static photo representations, both oblique and plan-view, of the before and after of potential and realized projects to more involved animated Google Earth based fly-bys of larger potential and realized project areas. GHD has expertise available for extensive graphic visualization tools to generate meaningful representations, to portray options or project proposals to the public, key stakeholders, and District decision makers. Team member Julia Clark leads

GHD's spatial analysis service line in the US West and local staff Amber Shows, Zach Powers, and Harrison Hummel all provide value to the District in the experience and knowledge we can bring to the District.

Landscape Architecture and Design

Landscape architecture can enhance the quality of public spaces by the thoughtful integration of spatial environments, community needs, user behaviors, and aesthetics, including proper selection of plant materials, site furnishings, and outdoor structures. Landscape architects analyze complex site, social, cultural, and ecological information, and generate concepts to enhance outdoor spaces and build civic identity. Team member Jonathan Linkus is a licensed landscape architect and works closely with our designers on practical applications for the interface between infrastructure and the environment.

CEQA/NEPA

GHD understands the environmental assessment, compliance and permitting process, and the importance of identifying the appropriate level of state and federal documentation based on the project and the issues. We integrate the CEQA, NEPA, and permit documentation efforts with planning and predesign activities. This early involvement is necessary because there are environmentally sensitive areas in many parts of Eureka including wetlands, riparian areas, creeks, sloughs, freshwater wetlands, coastal salt marsh, shorebird roosting habitat, and mudflats. The GHD team has an in-depth understanding of the species and sensitive habitats present within the District. We will manage our team's approach on each project to avoid and/or minimize impacts to these resources whenever possible, through an iterative process based on feedback from our engagement with regulatory agencies. We like to refer to this approach as "mitigation by design," which is in effect a combination of appropriate site sensitive design, low impact development techniques, environmental enhancements, and working through technical options that provide the intended design intent while minimizing environmental impacts. This integrated environmental and design approach reduces the need for mitigation and increases the likelihood of expediting permit approvals. GHD bring a local team of CEQA experts which includes Andrea Hilton, Kerry McNamee Misha Schwarz and others who understand the data and legal framework of CEQA and NEPA.



Environmental and Coastal Permitting

GHD has extensive experience successfully permitting local projects by working with the Coastal Commission, Caltrans, Humboldt Bay

Harbor, Recreation and Conservation District, North Coast Railroad Authority, U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and other regulatory agencies. Early consultation and coordination with the resource agencies is crucial to the successful implementation of what can otherwise be a long and tedious process. We have achieved our greatest success when bringing the resource agencies into the process early in the design stage and during development of a project's CEQA document, mitigation measures, and permit applications. This does three things:

It starts the consultation process early, paralleling the CEQA process when applicable. This provides the client a head start on the path to approval, as well as budgetary and schedule efficiency

It provides agencies the opportunity to express any issues and recommend potential solutions during the process. This allows us to identify and clear any potential obstacles early along the way by developing mitigation measures that not only consider the District's project objectives,

We rank #21 in the ENR Top 200 Environmental Firms

↓

- #18 Water treatment/supply
- #11 Hazardous waste
- #09 Environmental science
- #10 Consulting/studies



but also anticipates the agencies' expectations for impact avoidance and mitigation

Early engagement illustrates a willingness to walk with the agencies along this path, giving them a sense of inclusion in the project planning process and being part of a team

GHD's team will coordinate with and will build on their past success, experience, and trust with the regulatory agencies to ensure that future District projects are permitted in a timely fashion and with the District's best interests at heart. Team members Andrea Hilton, Misha

Schwarz, and Jeremy Svehla have experience working with federal, state, and local permit agencies to implement projects.

Special Environmental Studies

The CEQA, NEPA, and permitting process may require special environmental studies including wetland delineations, biological studies, and sensitive species surveys. GHD's team of plant and animal scientists along with our soil scientists will prepare the necessary evaluations at the appropriate level of detail to support the project development and permitting process. The special studies are used during the design process to help mitigate by design by first avoiding potential impact areas and then minimizing unavoidable impacts. Team members Misha Schwarz, Ken Mierzwa, Kelsey McDonald, and Genevieve Rozhon will lead our special studies team and commonly work with GHD engineers to ensure potential areas of

affect are appropriately sized and to coordinate on avoidance of impacts as feasible.



Contaminated Soils & Groundwater

Although storage of fuels and other hazardous materials has improved significantly over the years and many sites have been cleaned up and closed, soil and groundwater contamination still exist. The development of District owned property may require Phase I and Phase II environmental site investigations and remediation activities for previous activities that contaminated the site. GHD has local and regional staff experienced in site investigation as well as a broad range of passive and active remediation strategies. We can bring this expertise to District projects to clean sites and prepare them for District use. Team member Scott Harris leads our Industrial Hygiene Group and has a deep bench of technical professionals including Amy Monier to draw on as needed to address potential District issues.

Lead, Asbestos and Mold

Many older structures contain asbestos-based materials or were coated with lead-based paint. Lead-based paint and asbestos containing building materials were in common use until at least the late 1970s. Structures that date back to this era could contain levels of lead and/or asbestos that warrants special handling during demolition or remodeling. Relatively simple sampling and analysis can be used to determine the required course of action, and older structures should be assumed suspect until shown otherwise. In addition, mold is common on the north coast and it can be caused by simple atmospheric dampness or through pipe leaks, roof leaks, saturated soils, poor site grading, and other situations. Mold can be a dangerous

toxin depending on the species and the mold should be remediated and the cause identified and repaired. The issue of mold in public buildings, including within the ventilation systems, has become increasingly important and the EPA has prepared special guidelines for schools and commercial buildings. GHD's environmental staff, including team member Scott Harris, have expertise in these areas and are available to help the District address existing conditions.

Land Surveying

Many District projects require surveying services which can be provided by GHD's Licensed Land Surveyors. To support District projects, GHD can provide topographic and bathymetric mapping using conventional survey methods as well as GPS and LIDAR methods. Additionally,

we provide a full range of drone (UAV) capabilities for rapid data collection and remote sensing. GHD can also support District staff with ALTA surveys, boundary surveys, right-of-way and parcel determination, record map and legal description plat preparation, map checking, record of survey, subdivision maps, and lot line adjustments. Team member, Brian Howard (Professional Land Surveyor) and Harrison Hummel (Aerial Drone Expert) has experience in these areas and are available to support the District.





Community Microgrids

McKinleyville Community Services District Wastewater Treatment Plant Microgrid

McKinleyville, CA

Located at the McKinleyville Community Services District's Wastewater Management Facility, the Microgrid project offsets 100 percent of the facility's annual electricity use, using onsite solar photovoltaic energy generation, battery energy storage, and a microgrid management system, to provide community benefits, including financial savings, grid resiliency and increased reliability, and carbon emissions reductions. The project is being implemented using the Design/Build Energy Services Contracting (ESCO) methodology authorized under Government Code 4217, with contractor guaranteed energy cost savings over the expected useful life of the project.

The microgrid project combines a 580 kW photovoltaic array, battery energy storage system, 500 kW diesel generator, along with a 480V net energy metering interconnection to Pacific Gas and

Electric, all controlled by Microgrid Management System software. Funded in part through a \$4 million grant/loan from the California State Water Resources Control Board (SWRCB) Clean Water State Revolving Fund, the system allows the District to operate independently of the local utility (Pacific Gas & Electric).

GHD's scope included:

Funding support, environmental assessments, conceptual design, Contract and bid package development and support for the Design/ Build ESCO implementation Design oversight during project implementation.

Key Team Members

- Jordan King, Senior Project Engineer, Construction Manager
- Rebecca Crow, Funding
- Luke Halonen, Civil Engineer
- Rick Guggiana, Senior Electrical Engineer
- Brian Crowell, Structural Engineer
- Terry Wong, Mechanical Engineering
- Misha Schwarz, Senior Project Scientist
- Andrea Hilton, Environmental Planner
- Amber Shows, GIS Analyst
- Scott Harris, Senior Scientist
- Kelsey McDonald, Botanist
- Elizabeth Meisman, Wildlife Biologist
- Linda Costa-Franklin, Grant Manager

Client/Reference

Pat Kaspari, General Manager
 1656 Sutter Road, McKinleyville, CA
 707 839 3251 | pkaspari@mckinleyvillecsd.com

Blue Lake Rancheria Low-Carbon Community Microgrid

Blue Lake Rancheria, CA

The Blue Lake Rancheria low-carbon community microgrid was a collaboration with Humboldt State University's Schatz Energy Research Center, Siemens, Idaho National Laboratory, GHD, and additional partners. The microgrid uses decentralized energy resources and intelligent software to provide reliable, uninterrupted power to the Rancheria's residents, tribal government offices, economic enterprises, and Red Cross safety shelter-in-place facilities located across a 100-acre site. Funded in part through a \$5 million

grant from the California Energy Commission's Electric Program Investment Charge (EPIC) program, the system allows the Rancheria to operate independently of the local utility (Pacific Gas & Electric) power grid. The microgrid combines a 500kW photovoltaic array, 500kWh battery energy storage system, 1000kW diesel generator, and 175kW biomass fuel cell system, along with a 12kV connection to Pacific Gas and Electric, all managed and controlled with Siemens Spectrum Power Microgrid Management System (MGMS) software.

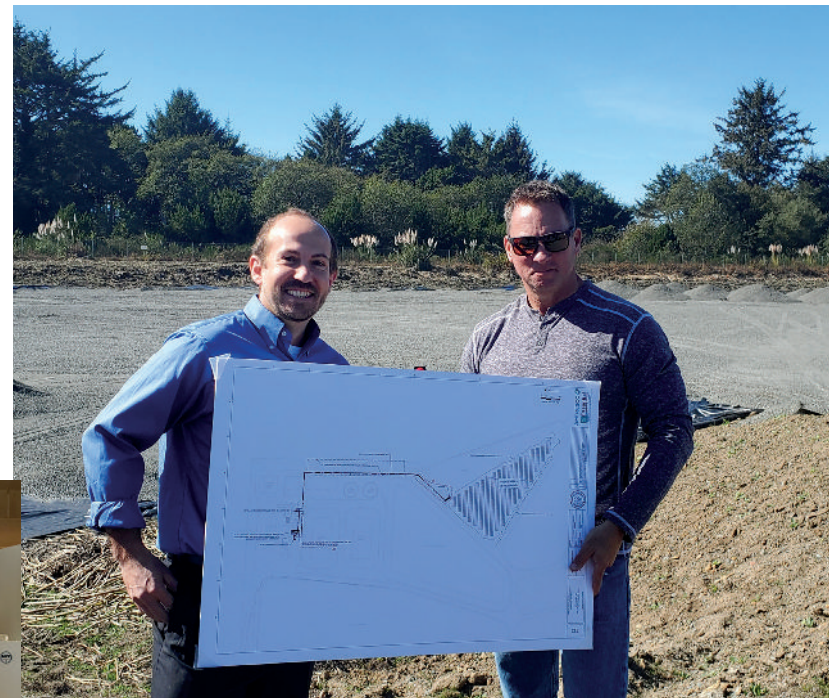
GHD's scope included preparation of electrical plans and specifications for the project's improvements. The design included a lineup of 15kV metal-clad switchgear, consisting of utility metering compartment, main breaker, potential transformers, and battery compartment. This switchgear serves as the utility service entrance and point of demarcation between the microgrid and the utility distribution system. SEL 700G relays allow synchronization across the main breaker when the islanded microgrid is reconnected to the utility. A padmount transformer was added to interface the 480-volt PV and battery energy storage system bus to the 12.47kV site distribution. The casino's automatic transfer switch was modified so that the facility's 1000kW diesel generator will backfeed the microgrid during an outage or can be synchronized to the battery energy storage system to charge the batteries if the PV system is not available.

Key Team Members

Jordan King, Senior Project Engineer
 Rick Guggiana, Senior Electrical Engineer
 Terry Wong, Mechanical Engineering
 Misha Schwarz, Environmental Services
 Scott Harris, Senior Scientist

Client/Reference

Blue Lake Rancheria
 Jana Ganion, Sustainability and Government Affairs Director
 PO Box 428, Blue Lake, CA 95525
 +1 707 668 5101 x 1044 | jganion@bluelakerancheria-nsn.gov





City of Rio Dell

Wastewater System Improvements

For over 25 years, GHD has provided wastewater management assistance to the City of Rio Dell, a small community roughly 25 miles south of Eureka, California. Historically, the City has faced compliance issues with the North Coast Regional Water Quality Control Board

(NCRWQCB) regarding the discharge of effluent to seasonal percolation ponds on the Eel River. GHD worked with the City to identify funding for final design, CEQA, permitting, and construction for the Solids and Disinfection Management Project. GHD crafted the project's scope and schedule to take advantage of American Recovery and Reinvestment Act (ARRA) funding (\$2.1 million) for shovel-ready project components. Permitting, design, and bid period services were completed in less than six months. The project notice of completion was filed in December 2010. Rebecca Crow assisted Rio Dell in securing a 50% grant and low interest loan from the State Board Division of Financial Assistance to fund completing the remainder of the \$12 million in upgrades to the treatment and disposal system. GHD's experience with wastewater design and the State Water Resources Control Board (SWRCB) funding programs was key to facilitating the Solids and Disinfection Management Project.

GHD continues to work with the City, and facilitated a \$500,000 Planning Grant through the SWRCB to address inflow and infiltration issues with the collection system as well as other minor wastewater compliance items.

Water System Improvements

GHD has also been supporting the City's water system. In 2005, GHD obtained a \$5 million grant for the City and provided design and construction management of pipelines, water tanks (500,000 gallons and 100,000 gallons), pump stations, control systems, 32,000 feet of 6- and 10-inch water mains, 230 water service connections, and 22 fire hydrants.

GHD has continued to support multiple grant funded water projects including a \$1.8 million well rehabilitation project funded by USDA, SWRCB, and DWR. GHD recently completed a \$500,000 SWRCB funded Water System Planning grant, that included full plans for replacement of six miles of distribution main and concept design for two other projects which the City learned in November 2021 were submitted to FEMA for over \$4 million in total grant funding.

→ The Power of Commitment

Key Team Members

Nathan Sanger, Project Management, Construction Management
 Rebecca Crow, Project Management, Funding
 Luke Halonen, Civil Engineer
 Jordan King, Energy/ Electrical
 Matt Kennedy, Water Systems
 Nathan Stevens, Water Systems
 Rick Guggiana, Senior Electrical Engineer
 Terry Wong, Mechanical Engineering
 Brian Crowell, Structural Engineer
 Stephanie Gould, Structural Engineer
 Craig Camp (Directional Drilling)
 Jeff Knauer, Corrosion Engineering
 Amber Shows, GIS Analyst
 Julia Clark, GIS Analyst
 Zach Powers, GIS
 Misha Schwarz, Senior Project Scientist
 Andrea Hilton, Environmental Planner
 Scott Harris, Senior Scientist
 Kelsey McDonald, Botanist
 Elizabeth Meisman, Wildlife Biologist
 Brian Howard, Survey
 Linda Costa-Franklin, Grant Manager

Project Type	Grant Funding Obtained for Rio Dell
• Other	• \$63,000
• Roads	• \$6,287,500
• Stormwater	• \$385,000
• Wastewater	• \$9,254,500
• Water	• \$9,655,376
• Grand Total	• \$25,645,376

Client/Reference

Kyle Knopp | City Manager
 675 Wildwood Avenue, Rio Dell, CA 95562
 | kknopp@riodellcity.com | +1 707 764 3532





Humboldt Bay Municipal Water District

Engineering and Environmental Support Services

As is similar to GHD's long-held relationship with the City of Rio Dell, GHD has been providing engineering and environmental services to the HBMWD since 1956. GHD has served as the District Engineer for the majority of that time, today supporting the HBMWD in maintaining two water systems supplying water to more than 88,000 people, including HCSD. GHD has provided engineering studies, regulatory actions, community outreach, and construction management. GHD supports the HBMWD's multi-Million dollar Capital Improvement Plan (CIP).

One of the first major funding projects GHD supported the HBMWD in completing was replacement of the 18-inch Techite pipe along the Samoa Peninsula which services the Truesdale Pump Station and the HCSD. GHD facilitated \$3.4 million grant funding for this project from FEMA's Hazard Mitigation Grant Program (HMGP). The next major HMGP project was the Blue Lake/Fieldbrook Mad River Crossing Pipeline Replacement. GHD partnering with the HBMWD to obtain FEMA funding to design, permit, and oversee the construction of 2,000 feet of 18-inch diameter high density poly ethylene (HDPE) pipeline, directionally drilled under the Mad River. It was completed more than 20% under budget, with only one \$12,000 credit change order. GHD assisted in obtaining Proposition 85 grant from DWR to pay the 75%

match to the HMGP Project. The project won the ASCE North Coast Branch and San Francisco Sections Water Project of the Year awards.

Additionally, team member Jordan King is currently working with HBMWD on the installation of a \$2 million Tesla battery system funded by the State Grant Incentive Program in conjunction with the HBMWD switchgear upgrade (in part funded by an HMGP grant). In fact, GHD has assisted the HBMWD in obtaining over \$15 million in grant funds through FEMA, the SWRCB, and Department of Water Resources (DWR).

→ The Power of Commitment

Key Team Members

Nathan Stevens, Project Management
 Rebecca Crow, Funding
 Luke Halonen, Civil Engineer
 Jordan King, Energy/ Electrical
 Matt Kennedy, Water Systems
 Rick Guggiana, Senior Electrical Engineer
 Terry Wong, Mechanical Engineering
 Brian Crowell, Structural Engineer
 Stephanie Gould, Structural Engineer
 Craig Camp (Directional Drilling)
 Jeff Knauer, Corrosion Engineering
 Amber Shows, GIS Analyst
 Julia Clark, GIS Analyst
 Zach Powers, GIS
 Misha Schwarz, Senior Project Scientist
 Andrea Hilton, Environmental Planner
 Kerry McNamee, Environmental Scientist
 Scott Harris, Senior Scientist
 Kelsey McDonald, Botanist
 Elizabeth Meisman, Wildlife Biologist
 Dana Rose, Wildlife Biologist
 Brian Howard, Survey
 Richard Maddock, Surveyor

Project Type	Grant Funding Obtained for Rio Dell
• Other	• \$63,000
• Roads	• \$6,287,500
• Stormwater	• \$385,000
• Wastewater	• \$9,254,500
• Water	• \$9,655,376
• Grand Total	• \$25,645,376

Client/Reference

John Friedenbach | General Manager |
 PO Box 95, Eureka, CA 95502
 friedenbach@hbmwd.com | 707.443.5018



F

→ Litigation History

GHD trusts that HCSD will appreciate that due to the commercial sensitivity and confidentiality of any litigation in which GHD may have been involved, GHD is not at liberty to disclose specific information. However, we point out that as a component of our prudent risk management practices, GHD obtains high quality professional liability insurance in the world market, and domestically in the U.S., to provide coverage in the industries in which we operate. As a consequence of engaging in business, there are sometimes claims asserted which may or may not give rise to litigation. The details and progress of any such claims are by necessity commercially sensitive and remain in confidence. We are able to inform you that there have been claims notified in the normal course of business, none of which we believe are material to the services which are the subject of your Request for Qualifications (RFQ). There are presently no significant ongoing contract failures, no criminal matters, and there have been no judgments against GHD Inc. within the last ten years. GHD has not defaulted on any financial loan or financing agreement.

03

Understanding and Management

Understanding of the Services to be Provided



Though the District is operating successfully, it continues to have infrastructure needs that must be attended to in order to continue to maintain the District's high quality system. The District has a diverse list of capital improvement projects. Historically, the District completed these projects utilizing in-house design teams supplemented with consultants when special expertise was required and/or workload peaks dictated. In response to the need for efficiency, potential workload and desire to have readily available resources and technical expertise, the District intends to contract with consultants in an on-call capacity.

The District's typical Capital Improvements Projects to be completed by consultants include projects in the areas of wastewater collection, water distribution, stormwater, renewable energy, and electric vehicle implementation, master planning, and specialty projects such as upgrades at the District's operations facilities and system fire resilience projects. These assignments are all ideally suited to GHD and our team of professionals.

Project Funding

The District funds its operations and capital projects through service fees and charges as well as property taxes and assessments. One of the greatest challenges is the continuing need to maintain the District's water and sewer infrastructure. GHD brings experience in assisting communities with finding grant and loan funds to support project implementation. GHD has obtained over \$84 million in grants for North Coast Communities in the last 10 years. We continuously track grant funding programs to be able to align known District needs with eligible grant funding programs. The District is eligible for many grant and loan programs including funding from State Propositions 1 and 68, the State Water Resources Control Board's Clean Water And Drinking Water State Revolving Fund Programs, Department of Water Resources Integrated Regional Water Management Grant Program, and FEMA's Hazard Mitigation Grant Program and Building Resilient Infrastructure (BRIC) funding. As HCSD

participated in the Humboldt County Hazard Mitigation Plan, the District is ready to implement mitigation projects including new and/or retrofitted storage tanks, flood protection, and pipeline retrofits. Further, GHD is actively tracking funds from the recently passed infrastructure bill, and is looking at how funds will filter into the State of California and into the hands of HCSD.

Project Management Approach

The District has a wide variety of potential needs relating to both planning and design and so both our technical approach and our project management approach is geared towards delivering the desired results. We adapt our project management approach to the specifics of each assignment.

GHD has selected Rebecca Crow to serve as the primary point of contact and contract manager for the District. The primary point of contact for the On-Call Consulting Services contract is a regular contact person with the District and facilitates bringing the right resources together as a project team to serve the District on a project assignment. Rebecca is supported by Michelle Davidson, as assistant contract manager. For each assignment, GHD will propose a project-specific manager to be confirmed with the District. The project-specific manager will be engaged with the District and our senior staff in the development of the scope, schedule, and budget to build consensus on the overall project goals and strategies. Our selected project-specific manager will be supported by a team selected for the assignment based on the needs of the project, staff technical skills, and availability to meet project schedules. The project-specific manager oversees scheduling, communication, and coordination of the project team as well as with District staff and key stakeholders.

Responsiveness to Stakeholder Input

Community and agency stakeholders can play an important role in managing and delivering projects. Productively engaging stakeholders to the appropriate degree can help improve project outcomes. GHD will work with District staff on a project-by-project basis to assess the best way to engage stakeholders on each assignment. Some projects may not warrant any stakeholder outreach at all, while others may necessitate a significant stakeholder engagement process. In each case, GHD will develop the desired engagement process with the District during initial scoping. Planning for the project engagement is one of the techniques GHD uses to help manage schedules and budgets.

Project Schedule and Budget Adherence

GHD proposes to conduct a scoping and kick-off meeting with staff to obtain input at the start of each project assignment. The kick-off meeting/field walk will be used to achieve consensus and jump-start critical efforts. We will also involve stakeholders and project partners in the field walk as appropriate. By bringing all stakeholders to one location and presenting and addressing all concerns, issues are addressed early and decisions can be made quickly. In general, the cost of making decisions increases as projects progress into later phases of design. Making decisions at the preliminary stage of a project helps ensure time savings, and as a result, budget adherence; early coordination efforts often make the difference between success and something less.

Management of Large, Complex Projects

Our local GHD staff deliver projects both large and small within our local area and in locations across the west and the Pacific region. Our local staff are engaged in these larger projects because of our ability to identify stakeholder needs and client requirements and how to successfully navigate the complex multi-disciplinary nature of larger projects. These larger projects require coordination of many in-house staff and subconsultants, working effectively with numerous regulatory agencies, and collaborating and satisfying many stakeholders.

Management to Deliver High Quality Results

The local GHD offices operate under a North American Quality Management System. GHD's system is ISO 9001 Certified. The ISO system is based on eight fundamental principles starting with Customer Focus and including a systematic approach to managing quality. GHD's system includes processes for Quality Assurance (Setting up project management strategies to produce results meeting quality standards) and Quality Control (Formal checking of all deliverables against quality standards). Our formal quality system is audited by independent third parties for compliance. Our Quality Management System is coupled with practical hands-on project management by our team members. The system itself provides the framework and the verification system, while our people deliver on the quality results.

We have produced the results that met the needs for quality and performance of our clients through our systems. Our systems have been developed over the years and include the training of our staff, the use of software, and the application of reliable operating procedures that allow us to remain competitive and consistently produce high-quality engineering and environmental documents. Quality Assurance and Quality Control are essential elements of our Quality Management System. Quality

Assurance is the planning and process of creating a high-quality deliverable, meeting client expectations. This is a proactive process designed to eliminate errors through a sound project execution process. Quality Control is the formal checking of the final deliverables before they are delivered to the District

"I think highly of all the work we have accomplished due to their (GHD's) expertise"

Russ Crabtree, Former Chief Executive Officer
Tolowa Dee-ni' Nation (formerly Smith River
Rancheria)

Managing to Deliver Cost Effective Services

When GHD undertakes a project, we take a comprehensive approach to management of costs. Cost management extends beyond providing cost-effective planning and design services. Cost management should consider overall life cycle costs of an overall project. When considering the management of the overall life cycle costs for a project, it is important to consider the following elements:

- Engineering Planning and Design Costs
- Permitting and Approval Costs
- Environmental Compliance Costs
- Administrative Costs
- Construction Costs
- Ongoing Operation and Maintenance Costs

These costs elements combine to represent the major components of the total life cycle cost of a project. At GHD, we strive to help our clients consider the overall life cycle costs and invest wisely during the engineering planning, environmental permitting, and design phase to help minimize the overall life cycle costs. The engineering planning and design costs are a small fraction of the overall life cycle costs, so careful investment and consideration of options up front can save significant money over the life of the project. It is important to set and manage the engineering, environmental permitting, and design budget to stay on track during the project.

GHD also must manage the design process to result in projects that can be built within the allowable construction budget. The initial construction is a major component of the overall life cycle cost and so efficiency in design and developing useful opinions of potential construction cost is important for keeping projects on track. Part of GHD's strategy for developing more realistic opinions of cost is to involve seasoned construction professionals in the development and review of designs and in the cost estimating process. Our strategy also involves different approaches for gathering existing field data to include in the design and to provide a more comprehensive design of construction conditions. We also work with our clients on developing bid alternates and additive and deductive bid items so that the owner can select from a menu of options for contract award.

Our overall Project Approach highlights our strategy of using a life cycle cost comparison approach when comparing alignment alternatives. This approach strives to consider all project costs that could be encountered during the life of a project.

Managing to Meet Budgets

GHD has developed effective systems for managing the planning and design funds, as demonstrated by the following graphic:

GHD is able to deliver our work within budget starting with appropriate project planning and scoping with our client followed by effective technical execution strategies. It is important to note that cost control goals are closely related to our quality control goals and overall project risk management strategies. The strategies are based on up-front planning of integrated activities followed by regular check-ins and adjustments throughout the process.

Accurate cost estimating for the project will be critical to optimizing the project funds that are available. GHD is proud of our continued success in developing project and engineer's estimates that closely reflect the final bid results, as illustrated by these path projects in the table.

Management through Planning and Reporting

The first critical step in accomplishing cost control goals is the development of the detailed scope, schedule, and budget with our client. This is based on collaborating with our client to refine and articulate the overall project goals, constraints, requirements, and opportunities. These are translated into the written scope, schedule, and budget. Regular project progress and budget review with the project team and the client helps track the overall project so that adjustments can be made as needed to manage overall consulting budgets. Materials costs will be a major factor in planning future projects as bot raw and manufactured goods costs continue to increase as we come out of the pandemic and infusions of funds in the economy form the infrastructure bill will only accelerate this trend.

An integral part of cost control is regular communication with our client. A Project Status Report will be prepared on a monthly basis and delivered along with the monthly invoice. Typically, a monthly status report will include the following:

- Items accomplished in the previous month
- Anticipated activities for the next month
- Budget status
- Schedule status
- Outstanding issues

Project	Engineer's Estimate	Low Bid or Bid Range
Foster Avenue Extension/Trail	\$2,220,859	\$1,907,507 (\$2,317,686-High)
Rohnerville Road STIP/HSIP	\$2,244,911	\$2,082,706
Salt River Ecosystem Restoration (Phase 2014)	\$3,000,000	\$2,944,839
Salt River Ecosystem Restoration (Phase 2015)	\$2,100,000	\$1,882,311
SMART Trail (Hearn to Rodota)	\$1,200,000 (with Alta)	\$1,050,000 (with Alta)
Depot Park ADA Improvements	\$145,000	\$111,000 (\$165,000-High)
Salt River Ecosystem Restoration (Phase 2019)	\$1,600,000	\$1,300,000 - \$1,900,000

Management through Technical Execution

GHD's approach to the technical execution of this project is based on developing the most cost-effective solution given the conditions, opportunities, and constraints. GHD specializes in planning, permitting, and design with extensive experience working on trail projects in the Humboldt Bay area. This experience base has led us to develop strategies for developing accurate opinions of probable cost for trail projects to help configure them to fit within their construction budgets.

During projects, the GHD team will notify the District of any significant deviations from opinions of costs as the project proceeds. This allows us to work together with our client to implement value engineering solutions, funding strategies, and bidding strategies to help deliver the finished construction project within available budget.

The ability of GHD to manage projects within the established engineering planning and design budgets and to create designs that can be implemented within available construction budgets is coupled with a sound record of schedule performance as discussed in the following section.

Management through Meeting Schedules

Management of the schedule is essential for coordinating overall project activities, keeping projects on track in terms of timelines, and in keeping projects on budget. Project schedule drives many other aspects of project success and so schedule control is of prime importance. At GHD we use a variety of scheduling tools as further discussed below. The best approach for a project depends on the specific project characteristics; we prepare detailed and realistic project schedules at the beginning of each task. We monitor overall project development and construction schedules. We have found that setting, tracking, and updating schedules allows us to keep the overall process up to date and it becomes a driver for progress and aids in budget management. The result are projects that are completed on time, and in many cases, can be completed early when a client change requires an accelerated delivery of results.

Management through Being Audit Ready

Failure to properly document and confirm contract compliance with any of the many federal requirements can result in a finding of non-compliance being issued and the potential loss of funding. Therefore, it is critical that documentation is thorough and complete. Throughout the projects, GHD will administer, manage, and document activities to ensure that the project complies with applicable requirements of project funding sources.

We have successfully assisted many local jurisdictions through audit processes and have been involved with successful audits from Caltrans, FHWA, CDBG, and other agencies. GHD will be available to assist the District during an audit to present project files and documentation and to answer auditor questions.

Managing Projects in Sensitive Areas

GHD's multi-disciplinary team of professionals clearly understand the current planning, compliance, and permitting environment in the Eureka and the coastal zone area with regard to sensitive species and habitats. The relationships we have established with regulators and agencies allow us to work efficiently throughout the application process, to facilitate the most timely project approvals. Effective management planning and design requires a solid basis in science, both to understand potential environmental impacts of management decisions and to form reliable partnerships with affected agencies. GHD's expertise in terrestrial and aquatic ecology provides credible information targeted to meet the needs of each client. Our staff is especially recognized for experience and expertise in plant ecology, wetlands, coastal environmentally sensitive habitats, ecology of amphibians, and a multi-species approach to habitat restoration/mitigation for special status species and regulated habitats.

04

Value and Fee Schedule

A

→ Value

The GHD Team is providing a single point of contact supported by local staff that are familiar with the HCSD's systems, infrastructure, and the community. Having a knowledgeable, local single point of contact for the HCSD will ensure that communication is personal, informed, timely, and effective.

The diversity within our team enables us to provide efficient, effective, timely, and cost-conscious services by teaming the HCSD up with our local project managers with expertise meeting the HCSD's specific project needs. This multi-disciplinary expertise in the local community will allow for cost-conscious, right sized solutions that are a collaboration with HCSD's goals and cutting-edge industry techniques.

GHD will work with HCSD to develop the appropriate scope, schedule, and budget approved by the District. The budgets will be established to provide overall value to HCSD and be in balance with the scope and nature of the work. GHD will apply the ideal staff to complete the agreed upon work within the budget.

Overall, GHD is proud of the high-value proposition we are able to provide HCSD. GHD brings an unparalleled offering to HCSD: the resources of a world-class, ENR-top-25 engineering and environmental firm, with the personal touch, caring and long-term relationship motivation that makes for highly successful projects and services. This combination is rare, and we are looking forward to the opportunity to work with HCSD on this on-call assignment!

B

→ Fee

GHD provides services over a broad range of geographies and markets and so our standard fee schedule provides typical ranges of billing rates for different staff classifications. Rates are customized to local market conditions and specific projects as negotiated along with the scope, schedule, and overall project budget.

As specified in HCSD's RFQ, GHD's Fee Schedule has been submitted in a separate, sealed envelope.

05

Other Requirements

A

→ Conflicts of Interest

To the best of our knowledge, GHD Inc. does not have any past, ongoing, or potential conflicts of interest which would result from performing work under HCSD's contract for On-Call Consulting Services as outlined in this Request for Qualifications.

B

→ Business License

GHD certifies its possession of all licenses required for the provision of services set forth in this RFQ. GHD Inc. is registered and in good standing with the Secretary of State to do business in California. GHD maintains current business licenses with all the local municipalities, including Humboldt County, as required to complete local projects.

C

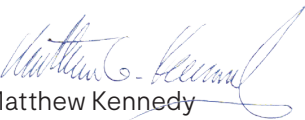
→ Certificate of Insurance

GHD Inc. has reviewed HCSD's insurance requirements for this contract and can issue certificates of insurance in accordance with those requirements if selected to provide on-call services.

D

→ Authorized Signature

This GHD Qualification is approved by the following authorized representative:



Matthew Kennedy

Principal and Authorized Representative

Appendix A

Resumes



Rebecca Crow PE

Contract Manager, Primary Client Contact, Funding Management



Qualifications/Accreditations

- BS, Environmental Resources Engineering
- Civil Engineer, CA #69994

Relevance to the Project:

Rebecca Crow has 23 years of experience in a broad range of environmental management and planning services: water and wastewater planning, water recycling, watershed and water quality modelling, groundwater management, regulatory compliance, funding assistance, and grant and contract management. She has assisted numerous communities in the evaluation of cost impacts from projects, as well as the evaluation of economic and qualitative benefits resulting from project implementation. Rebecca has experience using both state and federal economic models in support of funding program development. She has experience working with regulatory agencies on permit compliance for water, wastewater, recycled water, groundwater, and stormwater systems and understands the economic impacts project decisions can make on long- and short-term permit requirements.

Project Manager | Eureka Area Watersheds Stormwater Resources Plan | City of Eureka | Eureka, CA

Developed a Stormwater Resource Plan (SWRP) meeting the requirements of California Water Code section 10563 (c) requirement to receive Proposition 1 funding from the State. The SWRP development included an evaluation of the contributing watersheds, water quality, and natural resources. The evaluation included a multi-criteria analysis to identify suitable locations for LID technologies to improve stormwater management. The project included development of a PCSWMM model to evaluate stormwater improvement options through the urban area of the City of Eureka. The model incorporated predicted sea level rise to evaluate future predicted impacts to the City's infrastructure and natural environment. The final plan included a list of prioritized projects for implementation. As Project Manager, led the technical advisory committee oversight the team that completed the evaluation, modeling, and final project analysis.

Project Manager/Funding Facilitator | Areas of Special Biological Significance (ASBS) Stormwater | City of Trinidad | Trinidad, CA

The project included six separate stormwater collection, treatment, and infiltration systems utilizing Low Impact Development (LID) technologies. The objective of this project was to improve the water quality of the watersheds on the Trinidad plateau that ultimately drain into Trinidad Bay. Oversaw preparation of the successful grant application and provided ongoing grant management support. Responsible for planning (including an extensive geotechnical field study and groundwater model), CEQA oversight, preparation of final plans and specifications, bid period assistance, and construction support. Obtained \$2.5 million Prop 50 ASBS grant to complete the project.

Project Manager | Caltrans District 1 Climate Change Vulnerability Assessment | Humboldt County Association of Governments (HCAOG) | Humboldt County, CA

Served as Project Manager for a district-wide climate change vulnerability assessment and adaptation plan led by Caltrans and the HCAOG. The project involved performing climate change vulnerability assessments at four prototype sites in Del Norte, Humboldt, Mendocino, and Lake Counties. The GHD team developed an adaptation planning tool and then used it to develop adaptation strategies to mitigate the effects of climate change impacts, such as sea level rise, storm surges, and temperature change.

Project Manager | Wastewater Treatment Plant (WWTP) Modifications and Reuse | Maxwell Public Utility District | Maxwell, CA

Oversaw the completion of the planning, design, California Environmental Quality Act (CEQA) document, Mitigated Negative Declaration (MND), permitting, and construction of the Maxwell Wastewater Facilities Improvements to address disposal issues. Facilitated an engineering report which included a regulatory analysis of effluent disposal options and associated treatment requirements, operations evaluation, flow projections, development and evaluation of alternatives, a preliminary design concept, and a draft revenue program. Worked with regulators and State Legal Counsel to obtain legal clarification on enforcement orders and discharge permit requirements. Construction for this project was successfully completed in March 2012. Assisted in obtaining \$2 million State Water Resources Control Board (SWRCB) small community wastewater grant, \$1 million Community Development Block Grant (CDBG) grant and \$4.8 million US Department of Agriculture (USDA) grant for almost 60% grant funding for the project.

Funding Facilitator/Coordinator | Rohner Creek Flood Control and Habitat Improvement Study | Rohner Creek, CA

The objective of the project is to analyze the Rohner Creek watershed and identify potential improvements to reduce the frequency of flooding events along the Rohner Creek channel. Flood reduction improvements include channel widening and terracing with habitat improvements. Assisted on obtaining \$3.5 million prop 1E grant stormwater and \$400,000 Prop 84 urban streams grant from Department of Water Resources (DWR).

Project Manager, Engineer | Big Rock Community Service District Hillside Stabilization | Big Rock Community Service District | Hiouchi, CA

Work with Big Rock Community Services District (BRCSD) on a funding package to implement a seismic retrofit project to replace the District's existing 100,000-gallon redwood tank constructed on top of an unstable soil fill prism. Funding included \$2,210,310 in FEMA Section 404 Hazard Mitigation funds, \$875,221 in California Proposition 84 funds, and another \$1.1 million in California State Revolving Funds. GHD oversaw all funding coordination. The project was to retrofit through replacement the existing 100,000-gallon tank, including a new foundation and retaining wall, security features, and a radio antenna. The tank was expanded to 200,000 gallons using non-FEMA funds. The project included design, permitting, completion of a NEPA environmental assessment, as well as California environmental documents, bid assistance, and construction management. The project addressed naturally occurring asbestos at the site as well. Worked with the District to develop the 404 HMGP funding application and state funding applications. Oversaw environmental investigations, NEPA, state and federal permitting, design, bidding, and construction management.

Project Manager/Engineer | Wastewater System Planning and Solids and Disinfection Management | City of Rio Dell | Rio Dell, CA

Involved with wastewater system regulatory planning assistance since 2001. Project Manager for construction of 2010 Solids and Disinfection Management Project. Designed to take advantage of American Recovery and Reinvestment Act funding, the \$2.1m cost was 100% grant-funded and included headworks upgrades, a new chlorination system, and a new sludge drying press. Coordinated obtaining a \$130,000 Small Community Wastewater Grant to assist with facilities planning. Oversaw the completion of the Facilities Plan for City of Rio Dell, including working closely with the City's Regional Water Quality Control Board (RWQCB) regulator to assure feasibility of proposed alternatives.

Project Manager | Wastewater Treatment and Disposal System Concept Design | City of Fortuna | Fortuna, CA

Oversaw the completion of a concept design that was accepted by the Regional Board to address effluent treatment issues and

effluent disposal compliance with the North Coast Basin Plan. The planning included a dye study on the eel River, groundwater Analysis, and special studies. GHD assisted the City in obtaining a SWRCB Clean Water SRF grant that supported the planning as well as next steps. The final products included the initial studies, conceptual design, completion of the CEQA process plus federal cross cutters, and estimated costs.

Project Quality Assurance/Quality Control | Water and Sewer Rate Study | Manila Community Services District | Manila, CA

Worked closely with GHD staff and the District's General Manager and Board of Directors to develop a rate structure that met projected budgets while balancing the impacts to rate payers. The rate structures were accepted by the community and will provide the District with additional financial security to maintain their water and wastewater systems in the coming years.

City/District Engineer | City/District Engineering Services | Multiple Clients | California

Works with many communities throughout Humboldt County as the Role of City/ District Engineer or in support of GHD On-Call Engineering contracts as follows:

- City of Rio Dell - City Engineer
- Myers Flat Mutual Water System - District Engineer
- Fieldbrook Glendale Community Service District - District Engineer
- City of Fortuna - On-Call Engineering Services
- City of Trinidad - On-Call Engineering Services
- Humboldt Bay Municipal Water District - On-Call Engineering Services
- City of Eureka - On-Call Engineering Services
- Redway Community Service District - On-Call Engineering Services

Funding Experience

Rebecca has helped local municipalities obtain almost \$100 million in grant funds in her career in Humboldt County. From multiple agencies including: SWRCB, DWR, FEMA, USDA, BOR, CDBG, and others.



Michelle Davidson

Assistant Project Manager, Civil Engineering



Qualifications/Accreditations

– BS, Civil Engineering

Relevance to the Project:

Michelle Davidson is a staff engineer focused on engineering design, construction management and inspection, and project funding. Her five years of experience includes a variety of water projects including tanks, pump station, piping, treatment plants, and site work. She serves as project engineer on civil and structural design; energy analysis and solar design; field inspection, environmental monitoring, and soil testing; grant writing; and public outreach.

Project Manager | College of the Redwoods Soil Reuse at White Slough | Humboldt County Resource Conservation District | Eureka, CA

This project included the development of an engineering design and bid package for College of the Redwoods Soil Reuse at White Slough. Michelle was responsible for the development of the engineering design and bid package for College of the Redwoods Soil Reuse at White Slough, bid period assistance, and construction management.

Construction Manager | Water Tank Replacement | Big Rock Community Services District | Hiouchi, CA

This project included the replacement of a 100,000 gallon redwood water tank with a 200,000 gallon bolted steel tank. The project boundary had naturally occurring asbestos, and Ms. Davidson ensured that the contractors complied with the asbestos dust mitigation plan. The project also included improvements to the access road to the tank, the installation of a soil nail retaining wall, installation of a new pump house, and site drainage improvements. The construction cost for the project was \$1,862,324.

Project Manager/Project Engineer | Jedediah Way Road Improvements Project | Big Rock Community Services District | Hiouchi, CA

Project Manager and Project Engineer for the design replacement of Jedediah Way in Hiouchi CA. Prepared design package plans, specifications, and id package. Provided construction support services. The construction cost for the project was \$618,117.

Project Engineer/Construction Manager | SCADA Upgrade Project | Big Rock Community Services District | Hiouchi, CA

Project Engineer and Construction Manager for the SCADA Upgrade Project. Providing project RFI and submittal review, design change documentation, periodic on-site inspection.

Project Engineer | CR Construction Support Services | College of the Redwoods | Eureka, CA

Project Engineer for eight College of the Redwoods Projects. Managing construction documentation via Procore’s online construction management software for all eight projects.

Construction Manager | Elk River Wastewater Treatment Plant Secondary Clarifier Repair Project | City of Eureka, CA

Ms. Davidson managed the construction on a \$1,021,5000 project. The project entailed repairing two secondary clarifiers, including the replacement of the bridge assembly, installation of a new drive unit, hazardous material abatement, recoating of some of the features, installation of a new fiberglass flocculate skirt, and improvements to the electrical features. The project required special coordination to ensure that there was always one clarifier in service and that the project was done before the heavy winter rain.

Construction Manager | Elk River Treatment Plant Odor Control Tower Repair Project | City of Eureka, CA

Construction Manager for the repair of the odor control tower. Repairs included hazardous material abatement in a confined space, concrete crack, snap tie, and spall repair, installation of new FRP beams and tower recoating.

Project Engineer | Huntington Beach Channel & Talbert Channel sheet Pile Repair Project | Orange County, CA

Project Engineer for the design and construction services for repair and/or replacement of portions of the existing steel sheet pile wall of two channels that are part of the Talbert Valley Channel System. Assisted with the development of civil plans and technical specifications. Assisted with project communication to keep the project on budget and schedule.

Project Engineer | Proposition 39 Projects | Multiple Schools | Humboldt County, CA

Michelle served as a project engineer to complete Proposition 39 energy related services for several schools in Humboldt County. Her responsibilities included performing energy audits; writing Energy Expenditure Plans; the preparation of solar and HVAC engineering plans, specifications, and estimates (PS&E package); and construction administration and management duties. Michelle completed these services for the following Humboldt County school districts:

- Jacoby Creek Solar PV Project, Jacoby Creek School District, Bayside, CA
- Blue Lake Solar PV Project, Blue Lake School District, Blue Lake, CA
- Peninsula Solar PV Project, Peninsula School District, Samoa, CA
- Freshwater Solar PV Project, Freshwater School District, Eureka, CA
- South Bay Elementary | South Bay Union School District | Eureka, CA
- Big Lagoon Elementary Solar PV Project | Big Lagoon Union Elementary School District | Trinidad, CA
- Redwood Coast Montessori Solar PV Project | Arcata Elementary School District | Manila, CA

Construction Inspector | Old Town Eureka Sewer Project | City of Eureka | Eureka, CA

As project engineer, Michelle was responsible for the construction inspection of the City of Eureka’s first design build project for the installation of new sewer mains and laterals within Old Town Eureka. Her responsibilities included performing construction management tasks and oversight for the project.

Project Engineer | Gene Lucas Community Center | McLean Foundation | Fortuna, CA

Michelle served as project engineer for the development of the new Gene Lucas Community Center. Her responsibilities included construction management for the LID basin and detention pond construction.

Project Engineer | Hoopa Grocery Store Project | Hoopa Tribe | Hoopa, CA

Her responsibilities included assisting the engineer of record with parking lot design and drafting; existing infrastructure assessment and improvement; the preparation of the engineering plans, specifications, and estimates.

Project Engineer and Drafter | Community Futsal Project | Mad River Youth Soccer League | Arcata, CA

As project engineer, Michelle assisted with the preparation of the engineering plans, specifications, and estimates.

Software/Training

- Autodesk AutoCAD Civil 3D
- OSHA 10 Hour Training
- US Army Corps of Engineers QCM Training



Matthew Kennedy PE, TE, ENV AP

Authorized Representative, Civil Engineer



Qualifications/Accreditations

- MS, Environmental Engineering
- BS, Environmental Resources Engineering
- Civil Engineer, CA #68304, OR #83450, NV #24172, NM #23032, HI #18171, GU #1337, CNMI #528; Traffic Engineer, CA #2385
- Envision Sustainability Professional (ENV SP)

Relevance to the Project:

Matt Kennedy is a principal engineer with 17 years of experience in delivering a wide variety of civil infrastructure projects. Project types include water and recycled water, sewer, drainage, traffic/transportation, buildings and sustainable site development. He is adept in the management and design of multi-discipline projects with medium to large teams and numerous stakeholders and including construction management. Projects involve planning, environmental compliance, design, permitting and construction. Project elements include water tanks, wells, water transmission/distribution, sewer collection, pump stations, stormwater conveyance, Low Impact Development (LID), grading and drainage, civil site design, traffic signals, roadways, retaining walls, pedestrian and bicycle facilities, and traffic control. His experience also includes a broad range of planning, modeling and analysis capabilities, including utility master planning, hydrologic and hydraulic modeling, water and wastewater process design, traffic and parking studies, and circulation studies. He is also experienced in land surveying and construction management.

Project Engineer | Water System Hydraulic Model Update | Humboldt Community Services District | Humboldt County, CA

Served as Project Engineer responsible for the update and calibration of the water system hydraulic model of the HCSD water supply system. The model was developed using Bentley's WaterCAD V8i hydraulic modeling software and the District's comprehensive system-wide water maps, which are in AutoCAD format. The system mapping was used as a background layer and the model pipe network was "traced" over the background to create the skeleton model. Water storage tanks, pump stations and Pressure Reducing Valves (PRV's) were added to the model, along with nodes or junctions where pipes meet or change size. Water storage tanks were defined from records of tank diameters, heights and known or estimated working volumes. Pump stations were defined from published pump curves, and PRV settings were assigned as pressures from known or estimated pressure settings. Elevations were assigned to the junctions, tank bottoms, pump stations and PRV's using available topographic data, including United States Geological Survey (USGS) maps, the District's aerial surveyed elevation contours, and field surveyed data. Because the District's system mapping was not spatially located on a recognized horizontal coordinate system, GIS spatial analysis was used to adjust the horizontal location of all of the model elements (pipes, valves, nodes, tanks pumps, etc.) to the NAD83 California State Plane Coordinate System, Zone 1. The data in the model was verified

using the District's water mapping and record drawings to confirm pipe lengths, sizes, materials, and other important data affecting hydraulic calculations and results. Flow and pressure data were collected at various pump stations to define specific pump curves. Water demands were assigned to the model using GIS spatial analysis. Daily average water billing data (three-year record) received was geocoded to the parcels served. Thiessen Polygons were developed, whose sides bisect the distance between nodes, to identify the nodes for which each parcel water demand and portions of those parcel's water demands are assigned. The average daily water demands for each parcel or parcel portion were finally assigned to the nearest nodes in the model. Historical fire flow test data was obtained from the fire department, and additional fire flow tests were performed. This data consisted of static and residual pressures and hydrant flows and was used to calibrate the model.

Project Engineer | Rio Dell-Scotia Annexation Study | City of Rio Dell | Rio Dell, CA

GHD completed detailed and comprehensive evaluation and condition assessment of the City of Rio Dell and Town of Scotia's infrastructure systems as part of a municipal service review for the proposed annexation of Scotia by the City of Rio Dell. The infrastructure systems analyzed in this study were the potable and fire water distribution system, water intake, treatment facility and storage, water rights, wastewater collection system, wastewater treatment facility, storm drainage system, streets, alleys, roadways, and sidewalks.

Tasks included mapping and analyzing all of the existing infrastructure facilities, documenting condition issues, confirming demands and capacities, identifying deficiencies of the existing infrastructure, developing water distribution and wastewater disposal alternatives, recommending infrastructure improvements required for annexation, reviewing the proposed subdivisions for compliance with the subdivision map act requirements, and representing the City of Rio Dell at several meetings with the land owners and regulatory agencies. The study considered alternatives to connect the infrastructure systems of the City and Town, address facility siting and flood zone issues relative to the Eel River, and evaluated a range of technologies and alternatives to improve infrastructure systems based on capital and long-term operation/maintenance costs, ease of operation, regulatory compliance, and other factors. The study developed costs associated with additional infrastructure ownership and operations and maintenance, as well as the cost of improvements needed to bring systems into compliance with state and federal water quality and accessibility regulations. This project was completed in April 2007.

Project Engineer | Water System Master Plan | City of Fortuna | Fortuna, CA

GHD prepared the current Water System Master Plan for the City of Fortuna in Humboldt County, CA in 2005. For this project, a WaterCAD hydraulic model of the City's entire water system was developed, calibrated and validated. The system includes five tanks and reservoirs, seven booster pump stations and a well field in eight separate pressure zones. Estimated demands at various critical nodes were calculated using customer use records and projected for the General Plan build-out level. A demand analysis was also completed comparing estimated demands with water production to assess system-wide water losses. The adequacy of the existing water transmission, distribution, storage, and pumping systems was assessed using the calibrated and validated model, including fire flow analysis. The results of the analysis were used to develop capital improvement projects to improve system supply and efficiency. Improvements included construction of new and parallel mains, and installation and replacement of storage facilities. Recommended improvements were prioritized into a Capital Improvement Program. A planning level cost estimate for the improvements was completed to bring the existing water system up to recommended standards as development in the City occurs. GHD completed this Water System Master Plan on schedule and 15% under budget. This project was completed in 2005.

Project Engineer | Water System Infrastructure Improvement | City of Rio Dell | Rio Dell, CA

Served as Project Engineer and Construction Inspector for the design and construction of water system infrastructure improvements for the City of Rio Dell. Efforts include design of

water main alignments and profiles, two epoxy coated bolted steel water storage tanks, tank site grading and improvements, a recirculation pump station, and project specifications. The \$5 million project was 100% grant funded, replaced aging and degraded asbestos-cement and steel mains, nonfunctional fire hydrants and leaking water services. Project components included over five miles of new water mains, 22 fire hydrants, and 230 water services. The project was completed under budget allowing for the installation of an additional 1,000 feet of water mains. The new system also reduced water losses by over 10%. Construction of this project was completed in 2007.

Project Engineer | Ranney Collector Well Rehabilitation | Humboldt Bay Municipal Water District | Arcata, CA

Prepared the plans and specifications for the pilot test rehabilitation of one of the District's Ranney collector wells in the Mad River. This project was completed in 2005.

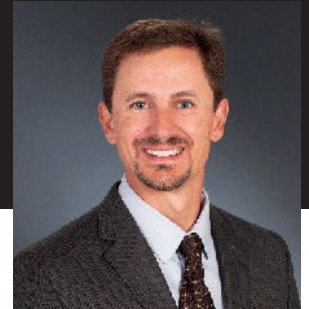
Project Engineer | Storm Drainage Master Plan | City of Fortuna | Fortuna, CA

GHD prepared the current Storm Drainage Master Plan for the City of Fortuna. Individual drainage basins were identified, and a field investigation of existing storm drainage facilities was conducted to assess their condition and capacity. Estimated storm run-off at various critical nodes was calculated for the 10-year, 25-year, and 100-year precipitation events at the General Plan build-out level. The adequacy of the existing storm drainage system was assessed using the 25-year event as the design year for hydraulic sizing. Using the capacity analysis and projected build-out flow requirements capital improvement projects to the storm drainage system were developed. Improvements included construction of detention facilities, installation and replacement of new storm drain conduits and inlets, and replacement of undersized culverts. A preliminary cost estimate for the improvements was completed to bring the existing storm drainage system up to recommended standards. Various funding sources and their merits were examined. The original Storm Drain Master Plan was developed by GHD and had served the City well for almost 20 years. Our knowledge of the City's facilities enabled us to develop and complete the updated plan in an efficient and cost effective manner. This project was completed in 2005.



Jeremy Svehla PE

Project Director, Funding Management



Qualifications/Accreditations

- BS, Environmental Resources Engineering
- Civil Engineer, CA #72169, OR #84314
- Qualified SWPPP Developer/Practitioner #00159

Relevance to the Project:

Jeremy Svehla is a professional engineer with over 17 years of experience in water resources and coastal engineering, encompassing a broad range of engineering design, project management, and construction management for large-scale wetland improvements, stream habitat restoration, and flood control projects, especially within the Coastal Zone of California. This has involved managing the Eel River Restoration Program comprised of the Salt River Ecosystem Restoration Project involving restoration of the lower 7.7-mile reach of the Salt River corridor and 450 acres of tidal salt marsh. He is also managing restoration of the lower 2.5-mile reach of Centerville Slough, 150 acres of tidal salt marsh, and 15 acres of coastal dunes in the Eel River Estuary. His skills range grant writing, geomorphic assessments, shoreline assessments, 2D hydrodynamic modeling, riverine and estuarine habitat restoration design, and sea level rise adaptation planning. He has served as project manager or project engineer for restoration projects and habitat improvement/enhancements for the majority of our team's high-profile restoration experience, including for CalTrout, the Wildlands Conservancy, California Water Service Company, Alameda County Water District, Santa Clara Valley Transportation Agency, the Five Counties Salmonid Conservation Program, and the City of Fortuna. As a testament to the quality of his service, Jeremy was named the ASCE San Francisco Section North Coast Branch "Engineer of the Year" in 2015.

Project Manager | Hanson Russian River Floodplain Restoration | Sonoma County | Windsor, CA

Responsible for this ongoing project to restore 350 acres of former gravel pit mines to a riparian floodplain on the Russian River near the Town of Windsor. Work involves riverine hydraulic analyses, groundwater assessments to support final design (assessing the hydraulic and fate-transport of accumulated methylmercury at the bottom of the mine pits), CEQA and regulatory approvals, and 3 million cubic yards of earthwork to re-contour and re-connect the floodplain to the river. The project will improve geomorphic stream function, increasing riparian buffers and habitat diversity for avian and aquatic listed species while reducing further accumulation of methyl mercury and flood reduction. Mr. Svehla led the project team through initial data collection, hydrogeologic and geotechnical studies, and preliminary design to support regulatory approvals. The project is funded by the California Coastal Conservancy and the California Department of Fish & Wildlife.

Project Manager | Salt River Ecosystem Restoration Project | Humboldt County Resource Conservation District | Humboldt County, CA

Responsible for this ongoing project which includes restoration of the lower 7.7-mile reach of the Salt River corridor and 450 acres of tidal salt marsh in the Eel River estuary. Project objectives include removal of salmonid migration barriers, improvements

to geomorphic stream function, increased riparian buffers, increased tidal exchange and habitat diversity for avian and aquatic listed species. Responsibilities have included leading the project team through development of permit applications, channel design, EIR support, and development of construction documents and construction management for this \$34M restoration project. The project is being funded by the California Coastal Conservancy, State Water Resources Control Board, U.S. Fish & Wildlife Service, CA Wildlife Conservation Board, CA Department of Water Resources and the CA Department of Fish & Wildlife.

Project Manager | Rohner Creek Flood Control and Habitat Improvement Project | City of Fortuna, CA

Responsible for this \$8M urban stream restoration project through Fortuna's downtown district. Project objectives include removal of salmonid migration barriers, improvements to geomorphic stream function and reduced flooding. Responsibilities have included leading the project team through grant development, streamflow monitoring, hydrologic/hydraulic modelling, preliminary design, environmental review, final design and construction management for this multi-phase project. FEMA has approved the Conditional Letter of Map Revision (CLOMR) and once completed the project remove approximately 150 properties from the FEMA regulated 100-year flood hazard zone.

Project Manager | Ongoing Agricultural and Irrigation Technical Assistance | Humboldt County Resource Conservation District | Humboldt County, CA

Managed the application, planning, permitting, CEQA, design, and construction phase of the Agricultural Grant Program Projects in cooperation with the USDA-NRCS. The HCRCD Agricultural Grant Program, funded by the State Water Resources Board, provides cost share assistance for the implementation of projects located on Humboldt County agricultural lands to improve management operations while protecting surrounding water resources. The HCRCD administers the grant program and provides application and technical assistance to all eligible applicants in cooperation with the NRCS EQIP Program. Duties have included attending the scoping meeting with the HCRCD staff, field visits to each applicant's agricultural operation to discuss management and resource concerns with operators, development of design and opinion of probable construction cost, and construction oversight. Environmental and permitting involvement encompasses CEQA Mitigated Negative Declarations, California Coastal Commission Coastal Development Permits, Floodway Certifications, and County Building Permits. Projects have included irrigation design, wellhead protection, groundwater well installation, and other irrigation efficiency projects.

Project Manager | Eel River Estuary Preserve Enhancement Project | California Trout Inc. and The Wildlands Conservancy | Humboldt County, CA

Responsible for this ongoing project which includes restoration of the lower 2.5-mile reach of Russ Creek, 150 acres of tidal salt marsh and 15 acres of coastal dunes in the Eel River estuary. Project objectives include removal of salmonid migration barriers, improvements to geomorphic stream function, increased tidal exchange and habitat diversity for avian and aquatic listed species. Responsibilities have included leading the project team through development of preliminary design, landowner outreach, permit applications, CEQA EIR, modeling, regulatory agency stakeholder outreach for this estimated \$10M restoration project. The project is being funded by the California Coastal Conservancy, Wildlands Conservancy, U.S. Fish & Wildlife Service, and the CA Department of Fish & Wildlife.

Engineering/Constructability Reviewer | San Francisco South Bay Salt Pond Restoration Project | California State Coastal Conservancy

Involvement on this project included constructability plan-check, quality assurance and environmental compliance review of construction documents. Role included review of shoreline erosion potential, suitability of sediment reuse for set-back berm construction and identification of haul route constraints due to traffic and dust suppression constraints. The review also included value-engineering assessment to reduce overall construction cost while increasing project biddability and constructability.

Project Manager | Humboldt Bay Trail South Sea Level Rise (SLR) Adaptation Plan | Humboldt County Department of Public Works | Humboldt Bay, CA

Oversaw the team's hydrologic, hydraulic, and wave analyses to determine SLR vulnerabilities and adaptation measures with the ultimate goal to reduce long-term risk for this 4.2-mile-long Humboldt Bay Trail segment. A regional high priority for years, the Humboldt Bay Trail is the backbone of Humboldt County's envisioned regional trail system, providing connectivity and a safe route between Eureka and Arcata, the County's two largest cities. The Humboldt Bay Trail South project is the final segment of trail needed to complete the overall Humboldt Bay Trail system. The trail parallels U.S. Highway 101 between Arcata and Eureka and is vulnerable to wind-wave erosion, tidal inundation, and stormwater flooding. Led discussions with Caltrans regarding drainage and SLR impacts and developed solutions with the team that mutually benefit the proposed trail design and Caltrans infrastructure.

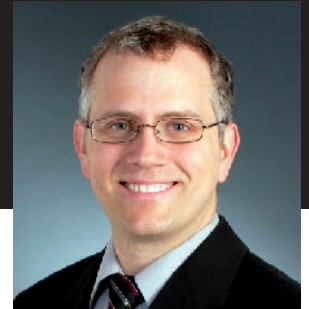
Project Manager | SLR Adaptation Plan for Transportation Infrastructure in the Eureka Hydrologic Area Humboldt County Department of Public Works | Humboldt Bay, CA

As part of a study to identify shoreline vulnerability and adaptation projects to address SLR, shoreline erosion, and sedimentation from coastal streams throughout a 3,000-acre study area—including the U.S. Highway 101 corridor between Arcata and Eureka—is leading the project team to determine vulnerabilities to SLR impacts and adaptation measures that will reduce long-term risk. The study focuses on the geomorphic response to episodic storm events and long-term increases in sea levels. Humboldt County Department of Public Works leads the project, partnered with Caltrans, HCAOG, and City of Eureka. The project is funded through a Caltrans Sustainable Communities Grant Program.



Luke Halonen PE

Civil Engineer



Qualifications/Accreditations

- BS, Environmental Resources Engineering
- Civil Engineer, CA #89080

Relevance to the Project:

Luke Halonen is a licensed civil engineer with seven years of experience in delivering a variety of civil infrastructure projects. His professional area of focus is hydraulic design of utility infrastructure including design of associated site improvements. Project types include water transmission, distribution, storage, and booster pump stations, stormwater conveyance and Low Impact Development (LID) stormwater treatment systems, and sanitary sewer collection systems including lift stations, associated project site design and grading, and pedestrian and bicycle facilities. Projects involve planning, environmental compliance, design, permitting, and construction. Roles on project include project manager, project engineer, construction manager, discipline lead, and technical reviewer. His experience also includes a broad range of planning, hydraulic modeling, and analysis capabilities.

Civil Engineer | Plunkett Road Water Retrofit – Phase 1 | City of Arcata | Bayside, CA | 2020 – 2021

Serving as lead Civil Engineer for the preliminary engineering evaluation and design to replace an aging water booster station and a failing water distribution line as part of Phase 1 of a Hazard Mitigation Program project. Preparing the preliminary engineering evaluation that includes evaluating methods to install a replacement water line under a roadway that has a history of instability resulting in pipeline failure, booster station pump sizing and selection, and land acquisition requirements.

Civil Engineer | Collection System and WWTP Improvements | Covelo Community Services District | Covelo, CA | 2020 – 2021

Serving as lead Civil Engineer for the design development of sewer collection system improvements including sewer manhole rehabilitation, and sewer main and lateral replacement. Performing design development technical support, and plan and technical specifications review.

Civil Engineer | Oliver P. Roemer Water Filtration Facility 2021 Expansion | West Valley Water District | Rialto, CA | 2020 – 2021

Serving as lead Civil Engineer for the preliminary engineering of the water treatment facility expansion which includes a new trident filter system, new influent and effluent pump stations, yard piping modifications, site modifications, and new effluent forcemain. Performing civil design development for the facility modifications which includes site grading and drainage, site circulation and paving, and yard piping improvements to accommodate new pump stations.

Project Manager | Eureka Pump Station Pump Upgrade Washington Street | City of Eureka | Eureka, CA | 2020 – 2021

Preparing the design package for the City selected pumps from the evaluation task to retrofit for one of the three pump stations. Design includes retrofitting existing vertical shaft driven dry pit pumps with single – body centrifugal pumps, modifications to existing suction and discharge piping, retrofitting new beam and electric hoist, integration of new equipment with existing SCADA equipment, and associated auxiliary pump station modifications.

Project Engineer | Highway Sewer Crossing – Phase 1 | McKinleyville Community Services District | McKinleyville, CA | 2020

Served as Project Engineer for the preliminary design to replace three 15-inch sewer mains crossing Highway 101 via horizontal augering as part of Phase 1 of a Hazard Mitigation Program project. Performed design development technical support and plan review in coordination with GHD’s trenchless technical lead, coordination with the client, geotechnical engineering team, surveyors, and permitting agencies, and site visits.

Project Engineer | 400,000 Gallon Water Tank Project | Fieldbrook Glendale Community Services District Tank | Fieldbrook, CA | 2020

Served as Project Engineer for the preliminary design of the replacement 400,000 bolted steel water storage tank as part of a Hazard Mitigation project to replace the aging redwood water storage tank. Design includes tank replacement, yard piping, and general site modifications.

Project Manager, Project Engineer | Arcata WWTP Final Design | City of Arcata | Arcata, CA | 2019 – 2021

GHD is serving as a subconsultant under Carollo Engineers for the ongoing Arcata Wastewater Treatment Plant improvement project to address increased regulatory compliance requirements.

Project includes upgrading pump stations, modifying flow routing with new or modified transfer structures, additional aeration in oxidation ponds.

Project Engineer | CR Construction Support Services | College of the Redwoods | Eureka, CA | 2019 - 2021

Serving as Project Engineer for the ongoing construction of previously designed Utility Infrastructure Replacement & Seismic Strengthening project. Providing project Request for Information (RFI) and submittal review, design change documentation, periodic on-site inspection. Managing construction documentation via Procore's online construction management software.

Project Manager | Eureka Pump Station Pump Upgrade 2020 | City of Eureka | Eureka, CA | 2019 - 2020

Served as Project Manager for a hydraulic evaluation of three in-series pump stations requiring upgraded pumps. Evaluation included hydraulic modeling and calibration of the pumps and discharge force main, selection of replacement pumps, and summary recommendation of findings.

Project Engineer | Wastewater Infrastructure Improvement | Manila Community Services District | Manila, CA | 2019

Served as Project Engineer for the wastewater utility replacement project for the Manila Community Services District. Project included replacement of septic tank effluent pump systems, sewer force main air valves, influent lift station and miscellaneous lift station building improvements and oxidation pond and liner repairs. Developed civil plans and technical specifications.

Project Engineer | Water Treatment Plant Backwash Drain Realignment | City of Rio Dell | Rio Dell, CA | 2018

Served as Project Engineer for the evaluation and design recommendation to realign the City of Rio Dell's backwash drain to drain through the City's abandoned piping and clarifier. Developed design plans to reroute the backwash water, including hydraulic profile, and recommendations to retrofit repurposed, abandoned facilities to be Occupational Safety and Health Administration (OSHA) compliant.

Project Manager, Project Engineer | Secondary Clarifier Repair Design and Construction Support Services | Elk River Wastewater Treatment Plant | Eureka, CA | 2018 - 2020

Served as Project Manager and Project Engineer for the design replacement of the City of Eureka's wastewater treatment plan secondary clarifier bridge superstructure, clarifier drive, and incidental equipment. Prepared design package plans, specifications, and bid package. Provided construction support services.

Project Manager, Project Engineer | Preliminary Engineering Evaluation of Upsizing Sewer Line to the Wastewater Treatment Plant | City of Rio Dell | Rio Dell, CA | 2018

Served as Project Manager and Project Engineer for the analysis of sanitary sewer trunk main flows to the wastewater treatment plant to minimize surcharge potential to address sanitary sewer overflows. Prepared hydraulic model to evaluate peak flow conditions and summarized recommended options for truck sewer upsizing under future capital improvement projects.

Project Engineer | Drinking Water Infrastructure Improvement | City of Rio Dell | Rio Dell, CA | 2018 - 2021

Served as Project Engineer and Engineer of Record for design of the water utility replacements throughout the City of Rio Dell. Project includes replacement aging water distribution system components, and replacement of failing 250,000-gallon redwood water storage tank with a new 500,000-gallon bolted steel water storage tank. Prepared a preliminary engineering report for the grant planning application under the Drinking Water State Revolving Fund that identified the history and condition of the existing infrastructure, and the need and basis for replacement of select infrastructure system components. Performing site investigations to identify aging infrastructure. Preparing water infrastructure improvement designs and technical specifications, including a proposed pressurized cured-in-place pipe linings to rehabilitate existing water lines crossing the State highway as a lower-cost alternative to replacement via trenchless technology.

Project Manager, Project Engineer | Distribution System Improvement | Myers Flat Mutual Water System | Myers Flat, CA | 2018 & 2019 - 2021

Served as Project Engineer for the design of water distribution system upgrades in Myers Flat. Prepared a preliminary engineering report for the grant planning application under the Drinking Water State Revolving Fund that identifies the history and condition of the existing infrastructure, and the need and basis for replacement of select infrastructure system components. Developed the construction plans, technical specifications, and engineers cost estimate. Also served as Project Manager for the ongoing construction management phase of the project. Coordinated with State and County transportation departments to obtain draft encroachment permits, prepared construction contract, and finalized bid package. Ongoing effort includes coordinating with state agencies to finalize construction grant funding, attending client monthly board meetings, coordinating road easement recommendations and requirements, and managing bid period services.



Holly Cinkutis PE, LEED AP

Civil Engineer



Qualifications/Accreditations

- BS, Agricultural & Biological Engineering
- Civil Engineer, CA #77541, PA #079263
- Qualified SWPPP Developer
- LEED Accredited Professional

Relevance to the Project:

Holly Cinkutis is a licensed civil engineer with over 15 years of experience in the municipal, public works, and land development sectors of the civil engineering industry. Her experience began as a project engineer and progressed to project manager and acting engineer for multiple water and wastewater service providers and public works entities.

Project Engineer | Sewer System Master Plan Implementation: CIP-6 Phase 1 | City of Rohnert Park | Rohnert Park, CA | 2021

The project, located in Rohnert Park, California, includes the removal of 650 linear feet of 18-inch sanitary sewer, abandonment of 600 linear feet of 18-inch sanitary sewer, installation of new manholes and approximately 1,470 linear feet of new 8-, 18-, and 30-inch sanitary sewer main via trenching. The project also includes trench restoration, restoration of landscaped areas, roadway restoration and striping, and reconnection of laterals. The project will reduce the City's infiltration and inflow from the aging existing collection system as well as abandon a portion of sewer that is no longer used from the City of Cotati. The project will be publicly bid in the summer of 2021.

Project Manager | Coyote Valley Water System Improvement | Coyote Valley Band of Pomo Indians | Redwood Valley, CA | 2019

The project, located in Redwood Valley, California, included the development of an existing well, installation of well pump and controls; 1,800 linear feet of four-inch raw water pipeline; installation of a 5,000-gallon raw water tank; raw water pump house with duplex pumps and controls; installation of a 60 gpm AdEdge packaged water treatment facility, which utilizes iron and manganese removal filtration followed by Reverse Osmosis (RO); the installation of a new bolted steel 70,000-gallon finished water tank; and a finished water pump house with duplex pump system and controls. The project, fully funded by a US Department of Agriculture (USDA) grant, is the first step in the Tribe's goal to provide water to their reservation and disconnect from the Redwood Valley Water System. The project was funded by USDA and publicly bid.

Project Manager | Pudding Creek Water Main Replacement Project | City of Fort Bragg | Fort Bragg, CA | 2020

The project, located in Fort Bragg, California, includes abandonment of approximately 3,000 linear feet of 10-inch steel water main that spans the Georgia Pacific owned Pudding Creek Dam and installation of a new main on the Pudding Creek Bridge. The project has been long-awaited for as the Georgia Pacific Dam has been scheduled to be removed for some time, but the City's water main has prevented the removal. The project required close coordination with Caltrans design engineers and will be implemented in coordination with the replacement of the Pudding Creek Bridge in the summer of 2022.

Project Manager | Wes Tank Water Main Replacement | Resort Improvement District #1 | Whitehorn, CA | 2020

The project, located in beautiful Shelter Cove, California, includes the installation of approximately 1,000 linear feet of eight-inch Ductile Iron Pipe (DIP) water main on an extremely steep slope. Design of steep slope anchors and vertical thrust blocking to secure the pressurized main was required. The project will be implemented by Resort Improvement utilities staff in Spring 2021 and will provide redundancy to their distribution system.

Project Manager | Belt Filter Press Replacement | Caernarvon Township Municipal Sewer Authority | Morgantown, PA | 2018

The project included preparation of plans, specifications, and contract documents for public bidding to replace the wastewater treatment plant's aging belt filter press with a new Centrifuge system including control panel, polymer feed system, rotary sludge feed pump system and new screw conveyor system. Several sludge thickening options were considered, and cost-benefit comparisons were conducted.

Project Manager | 1,000 Oaks Pump Station Improvements | Caernarvon Township Municipal Sewer Authority | Morgantown, PA | 2017

The project included preparation of plans, specifications, and contract documents for public bidding to replace the equipment at the Authority's aging 1,000 Oaks Pump Station. Improvements include new 7.5 hp pumps, discharge piping, control panel and flow meter. The project allowed for continued efficient use of the pump station that provides sewer service to a busy industrial development.

Project Manager | Well No. 7 Water Treatment Facility | Caernarvon Township Authority | Morgantown, PA | 2017

The project included well development, permitting by the Pennsylvania Department of Environmental Protection (PA DEP) and Susquehanna River Basin Commission, aquifer testing, preparation of plans, specifications and contract documents to publicly bid the project, and construction management and administration. The well was permitted for 500 gpm and a max 30-day average withdrawal of 1.2 mgd. Treatment includes automatic valves to discharge turbid water to waste, softening and disinfection, future space for additional treatment units, and Chlorine contact time via a baffled 100,000-gallon glass-fused-to-steel tank. The project provided full system redundancy to the Authority's only other source, Well No. 8.

Project Manager | Well No. 8 Clearwell Bypass | Caernarvon Township Authority | Morgantown, PA | 2017

The project included permitting, preparation of plans, specifications, and contract documents to publicly bid the project, and construction management and administration. The project included work to bypass the system's 100,000-gallon underground clearwell, which needed repairs due to a sink hole that threatened the structural integrity of the tank. The project included replacing the existing well pump, installation of 900 linear feet of 6-24-inch DIP water main and associated electrical controls installation. The project included adding automatic valves to discharge turbid water to waste and allowed the Authority to continue providing water to the town of Morgantown while their underground clearwell could be rehabilitated.

Project Engineer | Annual Cured-in-Place Pipe (CIPP) Sewer Lining Projects | Borough of Wyomissing | Wyomissing, PA | 2011 - 2017

From 2011 to 2017, acted as Project Engineer and prepared plans, specifications, and contract documents for the Borough of Wyomissing's annual sewer rehabilitation projects. Projects ranged in size but generally included cleaning, CIPP lining, grouting, manhole lining, and sewer replacement.

Project Engineer Construction Manager | Annual Water System Replacement Projects | Borough of Wyomissing | Wyomissing, PA | 2011 - 2017

From 2011 to 2017, acted as Project Engineer Construction Manager. Prepared plans, specifications, and contract documents for the Borough of Wyomissing's annual water

system replacement projects as part of their five-year rolling capital improvement plan. Projects ranged in size (approximately 1,200-4,000 linear feet each year) but generally included replacing 6- to 12-inch water main with new main, hydrostatic testing, leakage testing, disinfection, and reconnecting services.

Project Engineer | Sewer Separation Project Phase 3A | Shamokin-Coal Township Joint Sewer Authority | Shamokin, PA | 2010-2014

The project included field survey, Closed-Circuit Television (CCTV) of the existing underground combined sewers, preparation of a plans, specifications and bid documents for the separation of 30,000 linear feet of 8"-42" sanitary sewer. The project included modification of the combined system to allow for a separate stormwater system and included bidding and construction phase services including construction observation, contract and construction administration, as-built / record plan preparation and extensive permanent roadway restoration. The project's goal was to relieve hydraulic overloading of the sanitary sewer collection system and receiving wastewater treatment plant caused by excessive Infiltration and Inflow (I/I) to the combined system.

Project Engineer | Shamokin-Coal Township Joint Sewer Authority Wastewater Treatment Facilities Improvements Project | Shamokin-Coal Township Joint Sewer Authority | Shamokin, PA | 2014

The project included the preparation of plans, specifications and contract documents for wastewater treatment facility improvements including a new 5.0 mgd Sequencing Batch Reactor (SBR) treatment system, new influent pumping, new influent fine screens, multiple vector offload location points, a new grit dewatering system, a new sludge belt dryer system to produce Class A biosolids, Ultraviolet (UV) disinfection system as well as a new office/administration building, a 1-megawatt emergency power generation system and appurtenances. The project included client assistance with acquisition of a \$17.6M USDA low interest loan using American Recovery and Reinvestment Act of 2009 (ARRA) funds and \$20 million in PENNVEST funds. Acted as Project Engineer throughout the project's design and construction phases, assisting with the UV disinfection design and construction phase tasks such as Request for Information (RFI) review and response, submittal review and response and conflict resolution.

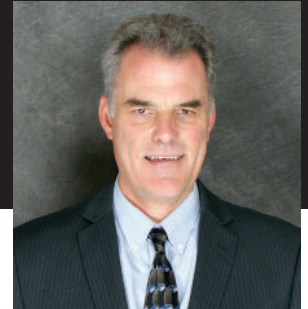
Project Engineer | Grande Sewer Service Feasibility Study | Borough of Topton | Topton, PA | 2010

The project included the preparation of a feasibility study to determine the costs and feasibility as well as advantages and disadvantages of upgrading the Topton Wastewater Treatment Plant (WWTP) to accept additional sewage flows from a large single-family home subdivision. Three treatment expansion alternatives were examined as well as permitting costs and increased effluent discharge implications for the National Pollutant Discharge Elimination System (NPDES) permit.



Rick Guggiana EE, LEED AP

Energy, Electrical Engineer



Qualifications/Accreditations

- BS, Electrical Engineering Technology
- Electrical Engineer, CA #15580, AZ, CO, IL, TX, WA
- LEED Accredited Professional

Relevance to the Project:

Richard (Rick) Guggiana is a licensed electrical engineer with over 29 years of experience in the electrical, controls, and instrumentation fields, for federal, military, municipal, and private industrial clients. He has extensive experience with water treatment, storage, and pumping systems, wastewater collection and treatment systems, pumping controls, Supervisory Control and Data Acquisition (SCADA) systems, low and medium-voltage power generation, microgrids, and waterfront electrical distribution. Rick has led large-scale coordination and arc flash studies, desk-top radio path modeling, photometric analyses, forensic studies, feasibility studies, condition assessments, construction cost estimates, and engineering services during construction. He has also written design-build Requests for Proposal (RFP's) and has served as the client's representative, as well as served as the lead electrical engineer on contractor-led design-build teams. Rick was involved in the design and construction management of a 115 kV substation project, which won a merit award from the Consulting Engineers and Land Surveyors of California (CELSOC).

Electrical/Controls Engineer | Wastewater Treatment and Reclamation Plant Improvement Feasibility Study | Saint Helena Public Works Department | Saint Helena, CA

Served as Electrical/Controls Engineer for feasibility study and master plan for improvements to a 3 mgd (peak wet weather flow) secondary Wastewater Treatment Plant (WWTP). Scope included qualitative assessment of current conditions of electrical equipment, mechanical equipment, buildings, and irrigation systems. The study included recommendations and a schedule for implementation of the recommendations to refurbish existing equipment and facilities, as well as assessment and recommendations for additional improvements to meet future capacity, treatment, storage, and disposal requirements.

Lead Electrical Engineer | US Coast Guard Training Center WWTP | US Coast Guard | Petaluma, CA

Served as Lead Electrical Engineer for design of a 4.8 mgd tertiary wastewater treatment plant to replace an existing, smaller secondary treatment plant. Plant systems included screening and headworks, grit removal, aeration/clarification/digestion, filtration, ultraviolet disinfection, sludge dewatering, chemical injection, various effluent pumping systems, process instrumentation, and SCADA system. Electrical design included new 12kV circuit extension from the Base distribution system and 480V electrical service to the Plant, distribution switchboards, motor control centers, and variable frequency drive lineups for pumps and packaged process equipment, and site lighting. Pump stations included 3x40 hp and 4x100 hp variable speed systems.

Electrical Engineer | Lift Station SCADA RFP | City of Santa Rosa | Santa Rosa, CA

Served as Electrical Engineer for project to develop design-build SCADA RFP for retrofitting the telemetry system covering 18 sewage lift stations. The project established requirements to convert the City's existing telephone autodialler-based alarm system to a radio-based SCADA system, providing full control and status of each lift station. The new Remote Terminal Units (RTU's) were integrated into the lift stations to replace the existing mix of Tesco and Gorman Rupp level controllers. Existing autodiallers were integrated as a backup system in case of radio failure. Modifications were made to each lift station's control cabinets to accommodate the unique conditions at each site.

Project Engineer | Mule Creek Wastewater Treatment Plant Upgrades | California Department of Corrections and Rehabilitation | Ione, CA

Served as Project Engineer for the upgrades to the institution's wastewater treatment plant. The scope included evaluation of existing distribution system to support additional facilities, which consisted of a secondary clarifier, a mixed liquor splitter box, a chlorine contact basin, a disinfected secondary effluent pump station, a staff facilities building, and upgrades on the motor speed controls for return activated sludge pumps, chemical feed equipment, power supply, electrical equipment, SCADA system, telecommunications, instrumentation and controls, and site work.

Project Manager, Electrical Engineer | Laguna Treatment Plant Power Master Plan | City of Santa Rosa Utilities Department | Santa Rosa, CA

Served as Electrical Engineer and Project Manager for this project to study various options replace an existing cogeneration facility at a regional wastewater treatment plant. The master plan included evaluation of refurbishing various combinations of existing engines, exhaust systems, cooling systems, fuel delivery and fuel treatment systems, and upgrades to the existing generator building. The study evaluated the costs of simply continuing with the existing equipment and facilities vs new internal combustion engines vs fuel cells vs exporting the digester gas to the utility. The master plan also addressed the siting of the cogeneration plant to better take advantage proximity to fuel, power, and hot water loop connections. The master plan included a 10% concept design that was then funded for further design development and construction in a separate project phase.

Senior Electrical Engineer | Luther Pass Pump Station Evaluation and Seismic Retrofit | South Tahoe Public Utilities District | South Lake Tahoe, CA

Served as Senior Electrical Engineer for project to evaluate condition of pump station with four multiple stage horizontal split-case centrifugal pumps with a total connected horsepower of 3,400 hp. Assessed each component including the site, structures, and mechanical/ electrical/ instrumentation systems. A prioritized Critical Infrastructure Protection (CIP) for the pump station was then prepared to recommend upgrade of existing 2,400 V electrical service and motor control center.

Electrical Engineer | West College Utilities Facility, Phases I and II | City of Santa Rosa Utilities Department | Santa Rosa, CA

GHD was retained for the master planning and design for a 16-acre municipal corporation yard with complicated existing conditions. Phase I of this project included new utility electrical service to support the future facilities, site distribution switchgear, and duct bank systems to distribute power, telephone, data, fire alarm, and ancillary systems. Phase I work included construction of a materials storage and transfer station, plus connection of existing facilities to the new site distribution system. Phase II work included design of enclosed parking structures with roof-mounted photovoltaics, a vehicle wash station, a recycled water pump station, and site lighting. The Phase I site utility distribution system was extended to support Phase II facilities, as well as to building pads for future Phase III operations, administration, and maintenance facilities.

Electrical Engineer | North Richmond Pump Station Renewal | Contra Costa County Public Works | Richmond, CA

Performed condition assessment and developed cost estimate for rehabilitation of a stormwater pump station. The pump station consists of four vertical turbine pumps driven by spark-ignited engines, along with dry-weather electric pumps, ventilation, engine cooling, and other pump station auxiliary systems and equipment. Developed options to convert pump drivers to diesel engines, or electric motors with variable frequency drives.

Lead Electrical Engineer | Geysers Recharge | City of Santa Rosa | Santa Rosa, CA

Served as Lead Electrical Engineer for Llano Pump Station, 1 of 4 pump stations on a pipeline designed to move 12 mgd of treated wastewater 34 miles and 3,000 feet in elevation from the City of Santa Rosa's regional WWTP to The Geysers steamfields. Pump station consists of 2-1,250 hp pumps and medium-voltage Anti-Flotation Devices (AFD's), plus 5-800 hp pumps and medium-voltage soft-starters. Appurtenant systems include medium voltage metal-enclosed switchgear, medium and low-voltage power distribution, low-voltage Mist Control Center (MCC), Programmable Logic Controller (PLC)/instrumentation, building ventilation, interior and exterior lighting. Coordinated closely to ensure uniformity of equipment between all pump stations to the extent possible in pre-purchase and general contractor bid packages.

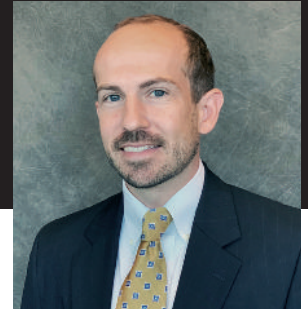
Electrical Engineer | Lift Station SCADA | City of Santa Rosa | Santa Rosa, CA

Served as Electrical Engineer for project to develop design-build SCADA for retrofitting the telemetry system covering 18 sewage lift stations. The project established requirements to convert the City's existing telephone autodialler-based alarm system to a radio-based SCADA system, providing full control and status of each lift station. The new RTU's were integrated into the lift stations to replace the existing mix of Tesco and Gorman Rupp level controllers. Existing autodiallers were integrated as a backup system in case of radio failure. Modifications were made to each lift station's control cabinets to accommodate the unique conditions at each site.



Jordan King PE, B-GC QSD

Energy, Electrical Engineer



Qualifications/Accreditations

- BS, Chemistry (Environmental)
- MS, Environmental Systems (Environmental Resources Engineering)
- Civil Engineer, CA #83970
- Licensed Building Contractor, #B 970469
- Qualified SWPPP Developer

Relevance to the Project:

Jordan King is a professional civil engineer specializing in energy efficiency, renewable energy, and sustainable infrastructure projects, experienced in the assessment, design, and implementation of these systems throughout Humboldt County, as well as a skilled tradesman and licensed general building contractor. Recently, he's served as lead design engineer, project manager, and construction manager on numerous solar photovoltaic projects funded by Proposition 39 for school Districts in Humboldt. Overall, Jordan has consulted on a variety of projects, including solar photovoltaic, cogeneration, infrastructure development, green building design, restoration, environmental remediation systems, hazardous waste management, stormwater pollution prevention compliance, and housing subdivisions.

Consulting Engineer | Sea Level Rise Assets Vulnerability and Risk Assessment Report | City of Eureka, CA

Served as consulting engineer for the technical components of the Sea Level Rise Assets Vulnerability and Risk Assessment. The project report used the Coastal Commission's Sea Level Rise Policy Guidance as the definitive reference for conducting the vulnerability and risk assessment of assets in the City and its Planning Area (PA). The project addressed the first three steps of the Policy: choosing a range of sea level rise projections relevant to Humboldt Bay, identifying potential sea level rise impacts in the City and its PA, and assessing vulnerability and risk to coastal resources and development in the City and its PA. The work involved developing maps of impacted areas, consulting with area experts to determine likely impacts to assets from various modes of inundation, reviewing existing impacts currently experienced by City staff, and reporting.

Consulting Engineer | Elk River Waste Water Treatment Plant Cogeneration Equipment Replacement Project | City of Eureka, CA

Worked with City staff to determine options for cogeneration equipment replacement at the Elk River WWTP. The project included an assessment of existing infrastructure, alternative technology assessment for cogeneration equipment replacement, development of a feasibility study to secure funding from the California Energy Commission for project implementation, and preparation of design-build bid documents.

Consulting Engineer | Cogeneration Facility Preliminary

Feasibility Assessment | City of Fortuna, CA

Performed a preliminary feasibility assessment of the City of Fortuna's cogeneration system using current and proposed operational strategies. The assessment included a cost-benefit analysis of operation of the cogeneration unit using biogas augmented with natural gas blending, electrical interconnection options, and rate schedules available to the City.

Consulting Engineer | Old Town Sewer Pipe Replacement Project | City of Eureka | Eureka, CA

As consulting engineer, assisted the City in developing an expedited process for on-going pipe replacement work using the design-build method of project implementation. This included development of a prequalification process for potential bidders using a standardized Request for Qualifications package. Pipe replacement work was prioritized using a combination of past assessments, maintenance staff knowledge, and CCTV inspections. The scope of work for the bid documents with associated maps and register of components to be replaced was developed. The project was implemented by the design-build contractor using the pipe bursting method.

Project Engineer | Prop 39 Funded Solar Photovoltaic (PV) Design and Implementation Projects

Served as the lead project engineer for preliminary design, cost-benefit analysis, and funding application report development. Upon award of funding, he coordinated plan preparation and final design of structural and electrical engineering components. Also prepared bid packages, reviewed bids, consulted with District

supervisors and board for project award, provided construction management services, and commissioned the installed systems.

- Jacoby Creek Solar PV Project, Jacoby Creek School District, Bayside, CA
- Blue Lake Solar PV Project, Blue Lake School District, Blue Lake, CA
- Kneeland Solar PV Project, Kneeland School District, Kneeland, CA
- Peninsula Solar PV Project, Peninsula School District, Samoa, CA
- Freshwater Solar PV Project, Freshwater School District, Eureka, CA
- Trinidad School Solar PV Design/Build Project, Trinidad Union School District, Trinidad, CA

Project Engineer | Commercial Solar Photovoltaic Design and Implementation Projects

Served as project engineer working with the client to size the solar photovoltaic energy generation systems. Prepared plan sets, bid documents, managed the bid process, oversaw construction activities, and commissioned installed systems.

- Arcata Technology Center 126 kW Solar PV Project, ATC Partners, Arcata, CA
- Holly Yashi 50 kW Solar PV Project, Holly Yashi, Arcata, CA

Assistant Engineer/QSP | Active Water Treatment System Compliance Monitoring – Humboldt Bay Nuclear Decommissioning Project | Pacific Gas & Electric Company | Eureka, CA

Responsible for overseeing AWTS contractor compliance during dewatering activities associated with decommissioning of building structures at the Humboldt Bay Power Plant. Activities included review of treatment system instrumentation and control, emergency notification processes, and review of compliance reporting.

Staff Engineer | Highway 101 Rattlesnake Wall Storm Damage Repair Project | Caltrans | Legget, CA

Acted as QSP alternate, conducted site inspections and storm water sampling for implementation of a construction SWPPP and SWPPP amendment in compliance with the Caltrans SWPPP/WPCP Preparation Manual; provided BMP recommendations; completed Caltrans required storm water compliance forms. Familiar with project 401 certification monitoring and sampling requirements; sampled discharges in compliance with 401 certification.

Staff Engineer | Construction Storm Water Support Services: Highway 101–Confusion Hill Decommissioning Project | Caltrans | Laytonville, CA

Mr King acted as QSP alternate, conducted site inspections and storm water sampling per the Caltrans construction SWPPP, provided BMP recommendations, completed Caltrans required storm water compliance forms. Familiar with project 401

certification monitoring and sampling requirements. Led weekly on-site storm water tailgate training sessions for contractor.

Consulting Engineer | McKinleyville Fire House Facility Upgrades | Arcata Fire District | McKinleyville, CA

Developed the plan sheet for the McKinleyville Fire House facility upgrade in compliance with the newly adopted Humboldt Low Impact Development Stormwater Manual. Redevelopment of the existing facility required compliance with the State Water Control Board's general permit for municipal separate storm sewer systems (MS4 General Permit). Mr. King also supported in review of the soil site conditions, alternatives consideration for site excavation per the geotechnical report, and site inspections during excavation.

Staff Engineer | Water and Gas Monitoring of 3 Landfills | Mendocino County | Mendocino, CA

Involved in historical data analysis, development of a statistical analysis process using ProUCL software, data interpretation, and regulatory requirements.

Electrician Trainee/Energy Consultant | Preliminary Solar Photovoltaic Design – Eureka Fisherman's Terminal | City of Eureka | Eureka, CA

Worked collaboratively to prepare preliminary solar photovoltaic system configuration and electrical calculations. The new bay side, multi-use facility project was ARRA funded and LEED certified.

Energy/Electrical Consultant | Old Jefferson School Electrical Infrastructure Assessment | Westside Community Improvement Association | Eureka, CA

Served as an electrical infrastructure and energy consultant involved in preliminary site assessment for safety and NEC compliance, as well as recommendations for renewable energy and energy efficiency improvements. The project included preparation of a letter report addressing proposed infrastructure upgrades required for rehabilitation and future safe use of the Old Jefferson School Building.



Brian Crowell PE, SE

Structural Engineer



Qualifications/Accreditations

- MS, Structural Engineering
- BS, Civil Engineering
- Civil Engineer, CA #65326
- Structural Engineer, CA #5216

Relevance to the Project:

Brian Crowell has 20 years of structural engineering evaluation and design experience with new building construction and retrofits, retaining walls, wharves and piers, equipment anchorage, concrete tanks and structures, timber structures, and steel buildings throughout northern California, serving as one of GHD's senior structural designers. In this role, he interacts with owner representatives, architects, and regulators while collaborating with the design team to provide cost-effective, detailed structural designs.

Structural Engineering Supervisor | Creative Arts Buildings | College of the Redwoods | Eureka, CA

Served as Structural Engineering Supervisor for detailed structural design for five new single-story wood framed classroom buildings. Responsible for plywood shear wall lateral design with premanufactured wood truss roof assemblies, as well as plan development and 3D modeling in Revit. Was reviewed and approved by the Division of the State Architect (DSA).

Structural Engineering Supervisor | Buena Ventura Trail Ten Bridges Replacement | City of Redding | Redding, CA

Served as Structural Engineering Supervisor for field investigation, preparation of replacement options, and estimates of probable cost for 10 bridges destroyed or damaged by the Carr Fire. Replacement options include like-kind timber bridges compared with non-flammable options in conformance with the Federal Emergency Management Agency (FEMA) Public Assistance Hazard Mitigation Program.

Structural Engineering Supervisor | Storm Damage Repairs Mattole Road at PM 13.67 | County of Humboldt Department of Public Works | Eureka, CA

Served as Structural Engineering Supervisor for structural design of soldier pile retaining wall with anchor piles and precast concrete lagging.

Structural Engineering Supervisor | Storm Damage Repairs Mattole Road at PM 42.76 | County of Humboldt Department of Public Works | Eureka, CA

Served as Structural Engineering Supervisor for structure design of 20-foot-tall, welded wire Mechanically Stabilized Earth (MSE) retaining wall. The wall was used as a permanent traffic-supported wall for a county road.

Senior Structural Engineer | Lower Alameda Creek Fish Passage Improvement | Alameda County Water District | Fremont, CA

Served as Structural Engineering Supervisor for structural design for a complex, large-scale fish ladder/water intake structure. Performed structural calculations for reinforced concrete earth retaining and fish passage structures, sheet pile retaining walls, structural steel appurtenances, catwalk system, and soil anchor tiebacks.

Senior Structural Engineer | Applied Technologies Building | College of the Redwoods | Eureka, CA

Served as Senior Structural Engineer for seismic upgrades to existing timber framed community college classroom, laboratory, and shop building.

Senior Structural Engineer | Student Union Building | College of the Redwoods | Eureka, CA

Served as Senior Structural Engineer for seismic upgrades to existing timber framed community college bookstore, cafeteria, office, and meeting space building.

Senior Structural Engineer | Site Utilities Replacement | College of the Redwoods | Eureka, CA

Served as Senior Structural Engineer for design for new Cement Masonry Unit (CMU) electrical switchgear building and concrete foundations for emergency generators.

Senior Structural Engineer | Wastewater Treatment and Disposal System | College of the Redwoods | Eureka, CA

Served as Senior Structural Engineer for design for new underground septic system including reinforced concrete tanks, and new CMU maintenance building.

Senior Structural Engineer | Bear Gulch Upper Diversion Fishway | California Water Service Company | San Mateo County, CA

Served as Senior Structural Engineer for reinforced concrete design for creek fish passage and water diversion. Project included retaining walls, new pump house foundation, and catwalks.

Senior Structural Engineer | San Nicolas Island Pier Repairs | Naval Facilities Engineering Systems Command (NAVFAC) | San Nicolas Island, CA

Served as Senior Structural Engineer for repair of pier catwalk column anchorage, railing anchorage, and mooring bumpers.

Senior Structural Engineer | Fine Arts Building | Northern Humboldt Union High School District | Arcata, CA

Served as Senior Structural Engineer for construction administration, including Request for Information (RFI) responses and field detailing.

Senior Structural Engineer | 50,000-Gallon Tank Foundation | CPKelco | San Diego, CA

Served as Senior Structural Engineer for foundation design for support of new syrup tank. Foundation incorporating micro-piles in liquefaction hazard zone.

Senior Structural Engineer | Los Alamitos Fuel Maintenance Station Modernization | State of California Military Department | Los Alamitos, CA

Served as Senior Structural Engineer for Interior and exterior improvements to existing CMU building. Structural anchorage for new mechanical, electrical, and architectural components.

Senior Structural Engineer | New Boiler Plant | California Department of Corrections and Rehabilitation, San Quentin Prison | San Quentin, CA

Served as Senior Structural Engineer for design for new boiler building housing three new 1200 HP boilers and ammonia-based Selective Catalytic Reactors (SCR's). The project also included new surge tank, deaerator, and chemical treatment system.

Senior Structural Engineer | New Boiler Addition | California Department of Corrections and Rehabilitation Deuel Vocational Institute | Deuel, CA

Served as Senior Structural Engineer for design for a new boiler building housing new 1,000 HP boilers and an ammonia-based SCR.

Senior Structural Engineer | Creech Air Force Base Storage Facility | Department of the Air Force | Nellis Air Force Base, NV

Served as Senior Structural Engineer for new concrete slab systems for portable facility and storage container support. Existing buildings interior and exterior modifications.

Senior Structural Engineer | Northrup Grumman Facility Improvements | Northrop Grumman Corporation | Sunnyvale, CA

Served as Senior Structural Engineer for existing timber, concrete and steel building modifications, including seismic evaluation and overhead crane support.

Senior Structural Engineer | CalARP Seismic Evaluations | Dreisbach Enterprises | Richmond and Oakland, CA

Served as Senior Structural Engineer for CalARP seismic walk-down evaluation and report preparation for ammonia refrigerant systems.

Senior Structural Engineer | Interior and Exterior Cold-formed Steel | Cathedral Hill Hospital | San Francisco, CA

Served as Senior Structural Engineer for interior and exterior design and detailing, Office of Statewide Health Planning and Development (OSHPD) approval, and full Building Information Modeling (BIM) coordination.

Senior Structural Engineer | Interior and Exterior Cold-Formed Steel | Saint Luke's Hospital | San Francisco, CA

Served as Senior Structural Engineer for interior and exterior design and detailing, OSHPD approval, and full BIM coordination.

Senior Structural Engineer | Sunvalley Mall Improvements | Sunvalley Mall | Concord, CA

Served as Senior Structural Engineer for existing concrete, CMU, and steel building; interior and exterior modifications; mechanical; and electrical equipment anchorage.

Senior Structural Engineer | Casino and Parking Structure Improvements | Jackson Rancheria | Jackson, CA

Served as Senior Structural Engineer for exterior façade renovations and interior casino improvements, as well as old-formed steel framing design and detailin and HVAC suspension support grid design.



D. Craig Camp

Structural Engineer



Qualifications/Accreditations

– BS, Mining Engineering

Relevance to the Project:

Craig Camp has over 40 years of experience in underground construction. His expertise encompasses all phases of microtunneling and other trenchless construction methods including conceptual design reviews, preliminary design reports based on anticipated ground conditions, production estimates, specification reviews, drawing reviews, Geotechnical Baseline Reports (GBR) reviews, project cost estimating, and resolution of project issues. He has been involved in over 100 trenchless construction projects installing over 250,000 feet of pipelines throughout North America, including Miami International Airport in FL; JFK International Airport in New York; Nimitz Reconstructed Sewer in Honolulu, Hawaii; and Novelty Hill Sewer in Seattle, Washington. Craig has worked with contractors, engineers, and owners in both the public and private sector markets to assist in the resolution of project issues.

HDD Project Manager | City of Rehoboth Beach, Delaware Ocean Outfall Project | City of Rehoboth Beach, Delaware

Horizontal Directional Drilling (HDD) technical expert for project owner. Reviewed contract documents including the soils report and the contractor’s submittals, construction records, and equipment. Project required construction of approximately 3,900 feet of 24-inch low pressure ocean outfall constructed using HDD. The contractor proposed a shore launch HDD with a thrusting casing for a HDPE ocean pullback of the carrier pipe.

HDD Technical Expert | BAC Runway Visual Range (RVR), Brisbane Airport Corporation (BAC) | Brisbane, Australia

Project manager and technical expert for trenchless construction on Design-Build construction contract. Reviewed project plans, specifications, and geotechnical report to develop comments for contractor’s work plan and constructability. Project required three undercrossings: Fire Access Road (FSR), Taxiway H4, and Taxiway W using horizontal directional drilling (HDD). The three undercrossing were between 60 and 98 meters (approximately 196 and 321 feet). The HDD installed conduits were 457mm (18.0-inch) OD DR13.5 HDPE 4710 containing 10 x 125mm electrical conductors

HDD Technical Expert | TDN Stormwater Outfall Improvement | Tolowa Dee-ni’ Nation, California

Trenchless expert for Tolowa Dee-ni’ Nation’s TDN Stormwater Outfall (Project). Reviewed the contractor’s construction submittals and as-built submittals for compliance with the contract requirements. Project relocated and reconstructed approximately 130 feet of 18-inch DR11 HDPE storm water outfall. The outfall, the final leg of a much larger project, dropped approximately 25 feet towards the ocean.

HDD Technical Expert | La Costa Water Main Replacement Project | City of Carlsbad, California

Trenchless expert for Carlsbad’s La Costa Water Main Replacement (Project). Reviewed the contractor’s submittals for compliance with the contract requirements. Project relocated and reconstructed approximately 930 feet of 8-inch HDPE potable water main. The open trench excavation covered approximately 330 feet. The horizontally drilled portion resulted in approximately 600 feet of installed pipe. Successful low bidder was approximately \$365,000 pipe.

Trenchless Expert | North Coast System Replacement-Phase 3 | City of Santa Cruz, California

Trenchless expert for the City of Santa Cruz’s North Coast System Replacement-Phase 3 project which requires the replacement of approximately 3 miles of existing 6 to 22-inch Welded Steel Pipe for the raw water pipeline. A majority of the work will be constructed by open trench method, and in select locations will require the installation of approximately 1,300 feet of 24-inch FPVC beneath a creek, by horizontal direction drill (HDD) and the installation of approximately 630 LF of 30-inch diameter (or greater) steel casing in four locations across Highway 1 and SCCRTC railroad tracks using horizontal auger bore (HAB) methods.

Trenchless Expert | Upper Narrows Pipeline Replacement | Victor Valley Wastewater Reclamation Authority, California

Trenchless expert for the Upper Narrows project as a sub-consultant to the prime engineering firm. Reviewed the alignment, geotechnical information, shaft, and pipeline design and drafted the trenchless related specifications. Project relocated over 5,000 feet of a 42-inch ID gravity sewer from within the Mojave River. The new alignment includes

approximately 2,500 feet of soft ground tunneling and 1,700 feet of rock tunneling for a gravity sewer and 1,900 feet of horizontal directional drilling (HDD) for an inverted siphon. Crossings include 2 railroad crossings, a perpendicular and parallel highway encroachment, and Mojave River crossing. The project design included an underground intercept of the rock tunnel and the microtunnel thereby avoiding an 80-foot deep shaft in a narrow right-of-way near a cemetery.

Project Engineer & Cost Estimator | Otay Recycled Water | Otay Water District | San Diego and Chula Vista, California

Project Engineer and Cost Estimator during preliminary design. Provided specialized preliminary trenchless design services and cost estimates for the design engineer. Project Manager and Project Engineer during horizontal directional drilling (HDD) construction. Supervised HDD construction inspection and assisted in resolving tunnel related construction issues. The Otay Recycled Water project consisted of a 30-inch cement mortar lined reclaimed water pipeline transferring water from the South Bay treatment plant in San Diego to a storage facility in Chula Vista. The six-mile project had one 1,500-foot reach under the Otay River installed using HDD. The pipeline also passed through suburban neighborhoods and commercial footage roads. Three crossings were in dry, dense material, while three crossing were in saturated loose alluvial deposits. Resolved a casing centralizer installation issue involving design of casing centralizers.

Trenchless Expert | Miami-Dade's Government Cut Utility Relocation Project | Miami-Dade County | Miami, Florida

The design-build project included the replacement of a 20-inch diameter (508 mm) ductile iron water main that transmitted water from the mainland to Fisher Island and the Port of Miami for distribution. The new 24-inch-inside-diameter (610 mm) high-density polyethylene (HDPE) water line was installed beneath Fisherman's Channel using horizontal directional drilling (HDD). The project also included the construction of approximately 1,200 linear feet of new 54-inch pipe inside a 72-inch minimum diameter casing using microtunneling from the north side of Fisher Island to a water location south of the City of Miami Beach via two deep shafts, 55- and 70-foot shafts.

Project Engineer | Coronado Transbay Force Main | Coronado, California

Project Engineer during preliminary design for trenchless alternatives. Provided specialized trenchless engineering recommendations and an engineer's opinion of estimated construction costs for each of the five tunnel design alternatives. The Coronado Transbay Force Main project consisted of replacing a 24-inch sewer force main pipeline for approximately 3,000 feet under the San Diego Bay. Trenchless construction options include horizontal directional drilling (HDD), microtunneling, and a segmental EPB tunnel.

Project Engineer | Solana Beach Pump Station | Encinitas, California

Project Engineer during preliminary and final design and Project Manager and Project Engineer during construction. Provided site specific horizontal directional drilling (HDD) specifications, reviewed plan and profile drawings, and a cost estimate for the HDD portion only during design. Reviewed contractor's HDD submittals and assisted in resolving HDD construction related issues during construction. The Solana Beach Pump Station project included one 16-inch sewer force main pipelines, up to 3,000 feet in length, to be installed utilizing horizontal directional drilling to cross under the environmentally sensitive lagoon.

Project Engineer | Meiners Oak Ventura River Crossing | Ojai Valley Sanitary District | Ventura County, California

Project Engineer and Cost Estimator during design and Project Manager during construction. Design services included recommending pipeline alignment, pipe sizes, construction means and methods, construction zones, reviewing drawings, reviewing the Geotechnical Baseline Report (GBR), preparing an engineer's estimated cost of construction, and writing project specifications for HDD. Construction services included reviewing contractor submittals and helping resolve construction issues. Meiners Oak Ventura River Crossing project consisted of replacing approximately 3,000 feet of a 24-inch gravity sewer pipeline crossing under the Ventura River and a Caltrans right-of-way with an inverted siphon designed to avoid flood damage. The estimated construction cost and low bid was \$3.4 million.

Project Engineer | San Antonio Creek Crossing | Ojai Valley Sanitary District | Ventura County, California

Project Manager, Project Engineer, and Cost Estimator during design and Project Manager during construction. Provided specialized trenchless engineering design services including reviewing drawings, specifications, Geotechnical Baseline Report (GBR), and construction cost estimate during design. Provided submittal reviews and resolved construction issues during construction.



Jeff Knauer PE, ME, NACE CP Specialist
Corrosion Engineer



Qualifications/Accreditations

- MS, Mechanical Engineering
- BS, Mechanical Engineering
- Civil Engineer, CA #68329, WA, HI
- Mechanical Engineer, CA #31977, WA
- NACE Cathodic Protection (CP) Specialist #9181

Relevance to the Project:

Jeff Knauer has over 20 years of extensive experience with corrosion risk assessment and mitigation design for municipal, private, and federal infrastructure. Jeff has served as the corrosion engineer for condition assessment and rehabilitation projects throughout the Western United States and the Pacific Islands. He is licensed in civil engineering, mechanical engineering, and is a Certified NACE CP Specialist. Jeff also has experience with the design of corrosion control solutions in challenging environments and is an accomplished task leader for large scale corrosion assessment and rehabilitation projects and provides expert witness services.

Corrosion Control Design Team Leader | P1-102 Plant 1 Upgrade | Orange County Sanitation District | Fountain Valley, CA

Served as Corrosion Control Design Team Leader for Orange County Sanitation District as part of \$170 million Secondary Activated Sludge Facility 2 at Plant No. 1.

Corrosion Engineer | Mission Bay Force Main Relocation | San Francisco Public Utilities Commission | San Francisco, CA

The project included galvanic cathodic protection design for both 66-inch dielectrically coated welded steel pipe and 66-inch reinforced concrete cylinder pipe portions of the relocated force main.

Project Engineer | Systemwide Cathodic Protection and Corrosion Control | Central Contra Cost County Sanitary District | Martinez, CA

Served as Project Engineer for the systemwide Cathodic Protection System Survey and corrosion control design.

Lead Corrosion Engineer | 66-inch Sewage Force Main Relocation | San Francisco Public Utilities Commission | San Francisco, CA

Served as Lead Corrosion Engineer for the 66-inch Sewage Force Main Relocation portion of the Mission Bay project. The project included galvanic cathodic protection design for both 66-inch dielectrically coated welded steel pipe and 66-inch reinforced concrete cylinder pipe portions of the relocated force main.

Corrosion Engineer/Assessor | Port-Wide Corrosion Engineering Services | Port of San Francisco | San Francisco, CA

Provided port-wide corrosion engineering and assessment services for corrosion control, and cathodic protection and protective coating for ferry terminal floats, piles, piers, moorings, and associated Port infrastructure. Developed a port-wide corrosion operations and maintenance manual.

Corrosion Engineer | San Ramon Valley Transmission Improvements Projects | East Bay Municipal Utility District | Oakland, CA

Served as Corrosion Engineer for San Ramon Valley Transmission Improvements Projects' cathodic protection system design. The project included impressed current cathodic protection design for several miles of 69-inch water transmission pipeline.

Project Manager | Genentech South San Francisco Campus-Wide Utility Fitness for Service Evaluation | Jones Lang LaSalle | South San Francisco, CA

Served as Project Manager for a campus-wide utility infrastructure Fitness for Service Evaluation to quantify present-day condition of various assets and utility systems in order to assess the risk of corrosion related failure. Developed short and mid-term recommendations for maintenance and ongoing assessment.

Project Engineer | Effluent Pipeline Assessment | Incline Village General Improvement District | Incline Village, NV

Served as Project Engineer for field support for effluent pipeline assessment and rehabilitation project.

Program Manager | Santa Clara Water Pollution Control Plant | City of San Jose | San Jose, CA

Served as Program Manager for multi-year corrosion engineering services and design contract to assess, maintain, and upgrade corrosion control infrastructure.

Program Manager | As-Needed Corrosion Engineering Services | San Francisco Public Utilities Commission | San Francisco, CA

Served as Program Manager for a three-year \$1 million as-needed corrosion engineering contract encompassing services including field survey and cathodic protection design.

Program Manager | Davis Wastewater Treatment Plant | City of Davis | Davis, CA

Provided cathodic protection and corrosion control design for infrastructure associated with major treatment plant expansion.

Program Manager | Campus-Wide Utility Fitness for Service Evaluation | Hitachi Global Systems Technology | San Jose, CA

Served as Program Manager for a campus wide-utility infrastructure Fitness for Service Evaluation to assess the risk of corrosion related failure and recommend corrosion mitigation alternatives.

Lead Corrosion Engineer | Campus-Wide Utility Fitness for Service Evaluation | Lawrence Berkeley National Laboratory | Berkeley, CA

Served as Lead Corrosion Engineer for a campus wide-utility infrastructure Fitness for Service Evaluation to assess the risk of corrosion related failure and design of impressed current cathodic protection systems for corrosion control of utility piping.

Senior Corrosion Engineer | Eureka Cross Town Interceptor Fitness for Service Evaluation | City of Eureka | Eureka, CA

Served as Senior Corrosion Engineer for Fitness for Service Evaluation of the City of Eureka's primary sewage force main. Evaluation included cathodic protection system assessment, stray current inference studies, direct assessment, and close interval survey.

Senior Corrosion Engineer | Rohnert Park Sewer Pond Rehabilitation | City of Rohnert Park | Rohnert Park, CA

Served as Senior Corrosion Engineer for the study and development of conceptual design improvements for a reinforced concrete sewer pond.

Senior Corrosion Engineer | Golden Avenue Stray Current Assessment | Long Beach Water District | Long Beach, CA

Coordinated field testing data collection related to stray current corrosion of copper service laterals. Provided data analysis and developed recommendations for mitigation alternatives.

Senior Corrosion Engineer | Carlsbad Desalination Plant Shut Down Assessments | Poseidon Water | Carlsbad, CA

Served as Senior Corrosion Engineer for the cathodic protection system assessments for systems installed on plant infrastructure as a part of the first annual plant shut down.

Quality Assurance Manager | Stray Current Inference Study | Pacific Gas & Electric (PG&E) | San Ramon, CA

Served as Quality Assurance Manager for direct current stray current study of distribution system piping throughout Northern California.

Quality Assurance Manager | Records Integrity Database Management | PG&E | San Ramon, CA

Served as Quality Assurance Manager for database management related to natural gas distribution pipeline integrity.

Principal Engineer | Annual Survey and Stray Current Inference Investigation | Aloha Petroleum Company | Oahu, HI

Served as Principal Engineer for cathodic protection survey of petroleum storage tanks and transmission piping including stray current risk assessment and testing.

Project Principal | Stray Current Corrosion Investigation and Mitigation Design | Cal Water Services | San Mateo, CA

Served as Project Principal for analysis of potential stray current interference between a proposed pipeline installation/ existing cathodic protection systems and design of stray current corrosion mitigation measures.

Corrosion Engineer | Crest Marin Creek Pump Station | County of Marin | Marin, CA

Served as Corrosion Engineer for Crest Marin Creek Pump Station discharge pipeline evaluation and cathodic protection system design and testing.

Project Engineer | Sanitary Sewer Assessment | Central Contra Cost County Sanitary District | Martinez, CA

Served as Project Engineer for a sanitary sewer internal condition assessment.



Nathan Sanger PE, QSD/P, QSIP

Construction Management



Qualifications/Accreditations

- BS, Civil Engineering
- Civil Engineer, CA #84816
- Qualified SWPPP Developer / Practitioner #84816
- Qualified Industrial Stormwater Practitioner (QISP) #84816

Relevance to the Project:

Nathan Sanger has more than 10 years of experience managing civil engineering design projects in Humboldt County. Nathan has experience and expertise encompassing Americans with Disabilities Act (ADA) path of travel planning and analysis, grading and solar plans, trail design, utility mapping, stormwater modelling and analysis, detention basin design, Municipal Separate Storm Sewer System (MS4) and National Pollutant Discharge Elimination System (NPDES) permitting, and pipe bursting. As a civil engineer, Nathan's projects typically concern stormwater system design and site development, with great working relationships built by serving local municipalities (Eureka, Arcata, Fortuna, and Rio Dell) and districts (Briceland CSD), tribes (Yurok, Hoopa), schools (Freshwater, Blue Lake, Jacoby Creek, Kneeland, Redwood Coast Montessori, Big Lagoon, and South Bay) and community entities or small businesses (Mad River Lumber, Humboldt Creamery, Mad River Lumber).

Project Engineer | Gene Lucas Community Center | McLean Foundation | Fortuna, CA

Served as Project Engineer for the development of the new Gene Lucas Community Center. Responsibilities included parking lot and new infrastructure design, stormwater modeling using SWMM software, Low Impact Development (LID) basin and detention pond design, and MS4 permitting.

Project Engineer | Fortuna Safe Routes to School (SRTS) | South Fortuna Elementary | Fortuna, CA

Served as Project Engineer for the South Fortuna Elementary School SRTS project. Responsibilities included designing new sidewalks and accessible driveways, crosswalks, and enhanced pavement markings.

Project Manager | City of Rio Dell SRTS | City of Rio Dell | Rio Dell, CA

Responsible as the on-call engineer for the City of Rio Dell. As the on-call City engineer, has developed and is managing the Caltrans-funded 2019 Rio Dell SRTS project. Responsibilities include development of the engineering Plans, Specifications, and Estimates (PS&E) for the project; obtaining California Division of the State Architect (DSA) approval; contract administration; presentations to City Council; and Caltrans permitting.

Project Manager, Engineer of Record | KFC Eureka | Kentucky Fried Chicken | Eureka, CA

Serving as Project Manager and Engineer of Record for the site civil improvements for the KFC Eureka project. Responsibilities

include parking lot design; existing infrastructure assessment and improvement; preparation of the engineering plans; fire flow analysis; drainage analysis; and MS4 permitting.

Project Manager, Engineer of Record Humboldt County | Americans with Disabilities Act (ADA) Compliance Projects | Multiple Clients | Eureka, CA

Served as Project Manager and Engineer of Record for multiple clients that have been included in the consent decree entered into by Humboldt County and the US Department of Justice (DOJ) for alleged violations of the ADA. Responsibilities have included parking lot design; existing infrastructure assessment and improvement; the preparation of the engineering PS&E package for each of these sites.

Project Manager | Stormwater Management | Mad River Lumber | Arcata, CA

As Project Manager, responsible for several stormwater related items for the Mad River Lumber (MRL) facility including final engineering design of a stormwater retention basin, expert analysis in a litigation case brought against MRL, and industrial stormwater compliance related items. Responsibilities included modeling the site for optimal sizing of the retention basin; the preparation of the engineering PS&E package; providing environmental expert analysis and discussion with lawyers involved in a litigation case brought against MRL; and complete industrial stormwater compliance services including development of an industrial SWPPP, stormwater sampling, and annual reporting.

Project Manager, Engineer of Record Community Futsal | Mad River Youth Soccer League | Arcata, CA

As Project Manager and Engineer of Record, responsible for the design of Humboldt County's first ever outdoor all weather futsal court. Responsibilities included coordination and negotiating the project to be gifted by Mad River Youth Soccer League to the City of Arcata; the preparation of the engineering PS&E package; and MS4 stormwater permitting compliance calculations.

Engineer of Record | Hoopa Grocery Store | Hoopa Tribe | Hoopa, CA

Served as Engineer of Record for the site civil improvements associated with the Hoopa Grocery Store project. Responsibilities included parking lot design; existing infrastructure assessment and improvement; the preparation of the engineering PS&E package; and the design of a biofiltration LID stormwater treatment system for the site.

Project Manager | Old Town Eureka Sewer | City of Eureka | Eureka, CA

Responsible for the management of the City of Eureka's first design build project for the installation of new sewer mains and laterals within Old Town Eureka. Responsibilities included performing construction management and oversight for the project.

Project Manager | Briceland Community Services District (BCSD) Water System | BCSD | Briceland, CA

Provided an evaluation of the existing infrastructure and grant solicitation services for the BCSD. Responsibilities included a technical evaluation of the drinking water and fire suppression systems, mapping the drinking water and fire suppression distribution systems, and successfully applying for over \$1 million in Proposition 1 Grant funding to improve the client's water distribution system.

Project Engineer | Proposition 39 Projects | Multiple Schools | Humboldt County, CA

Served as a project engineer to complete Proposition 39 energy related services for several schools in Humboldt County. Responsibilities included performing energy audits; writing Energy Expenditure Plans; the preparation of solar and HVAC engineering PS&E package; and construction administration and management duties. Completed these services for the following Humboldt County school districts:

- Jacoby Creek Solar Photovoltaics (PV) | Jacoby Creek School District | Bayside, CA
- Blue Lake Solar PV | Blue Lake School District | Blue Lake, CA
- Peninsula Solar PV | Peninsula School District | Samoa, CA
- Freshwater Solar PV | Freshwater School District | Eureka, CA

- South Bay Elementary | South Bay Union School District | Eureka, CA
- Big Lagoon Elementary Solar PV | Big Lagoon Union Elementary School District | Trinidad, CA
- Redwood Coast Montessori Solar PV | Arcata Elementary School District | Manila, CA

Project Engineer | Pulp Mill Clean Up Site | LP Samoa | Samoa, CA

Served as Project Engineer for the site investigation and subsequent environmental remediation activities for the LP Samoa Pulp Mill Site. Responsibilities included subsurface investigations; fate and transport analysis; groundwater, soil and air sampling and analysis; conceptual site plan development; subsurface chemical injection planning, permitting and oversight; and semiannual report writing.

Assistant Project Manager, Project Engineer | Northern California Prisons | California Department of Corrections | Northern California

Served as Assistant Project Manager and Project Engineer for all of Northern California's prison cleanup sites. Responsibilities included managing local and regional staff to implement site investigation, groundwater monitoring and cleanup activities for all Northern California Prison cleanup sites (including Pelican Bay, San Quentin, Folsom, California Medical Facility, and Susanville prison facilities).



Patrick Sullivan PE

Construction Management



Qualifications/Accreditations

- M.S. Environmental Engineering
- B.S. Environmental Resources Engineering
- Registered Professional Engineer: CA #69599
- OSHA 40-hr Hazardous Site Worker Training

Relevance to the Project:

Patrick Sullivan is a California Licensed Civil Engineer with over 20 years of experience as a design engineer. These two decades have broadly involved stream/wetland restoration design, hydrologic/ hydraulic design, treatment design, erosion and sediment control, and construction management/oversight for all related projects. As Hydrogeology Service Line Coordinator for GHD's West Coast, he specializes in water resources with an emphasis in numerical modeling. Patrick has been supporting Fortuna in the evaluation of groundwater movement of WWTP effluent to support potential year round surface water disposal as well as leading the field investigations for the proposed sursurface percolation site.

Project Engineer | Eel River Mixing Zone Study | City of Fortuna, CA

The City of Fortuna wastewater facility discharges to Strongs Creek, which then discharges to the Eel River within 1,000 feet. This mixing zone analysis was performed assess the compliance with discharge requirements. The study focused on low flow time periods when the discharge from the treatment plant comprises a higher percent of the total flow (natural plus discharge). The mixing zone in the Eel River was analysed using the EPA supported mixing zone model, CORMIX.

Project Engineer | Wastewater Effluent Mixing Zone Study | City of Rio Dell, CA

The effluent from the Rio Dell Wastewater treatment plant is discharged to the Eel River during the winter and spring high flow periods and into infiltration basins on the gravel river bar during the summer and fall low flow periods. This study evaluated an alternative to infiltrate the effluent in the river deposits, in an effort to eliminate the discharge to the river. This study evaluated the infiltration rates and the hydrogeologic connection to the river as well as advective and dispersive diffusion of the effluent into the river. The mixing zone in the Eel River was analysed using the EPA supported mixing zone model, CORMIX.

Project Engineer | Coos Bay Effluent Mixing Zone Study | Port of Coos Bay, OR

This project evaluated the mixing zone of wastewater effluent from an outfall into Coos Bay. The study evaluated the modification of the outlet structure to increase the diffusion properties. The modifications included relocating the outfall structure and type of diffusors. The mixing zone in the tidal exchange reign of Coos Bay was analysed using the EPA supported mixing zone model, CORMIX.

Project Engineer | Rio Dell Wastewater Effluent Infiltration Pilot Study | City of Rio Dell, CA

Mr. Sullivan designed, constructed and performed a pilot study for the infiltration of treated wastewater into point bar sediments. This project included developing a groundwater model to simulate the injection, mounding, and flow field to assess the impacts on the Eel River and groundwater.

Construction Manager | Rohner Creek Habitat Improvement Project | City of Fortuna, CA

Mr. Sullivan is served as Construction Manager for this \$8M urban stream restoration project through Fortuna's downtown district.

Project Engineer / Construction Manager | Trinidad ASBS Stormwater Project | City of Trinidad, CA

Project Engineer and Construction Management for a storm water project to reduce polluted discharges to Trinidad Bay, which was listed as an Area of Special Biological Significance (ASBS). GHD conducted planning, design, and construction oversight. During the site investigation stage of the project Mr. Sullivan led the hydrology and hydrogeology studies. Studies included installing 20 groundwater wells, geologic field mapping, geophysical imaging (seismic refraction/reflection and electrical resistance), and geotechnical slope stability modeling. The project design included the use LID stormwater design with swales, rain gardens, treatment, and infiltration chambers. The design required the development of hydrology, hydraulics, 3-D groundwater, and slope stability models. Mr. Sullivan's roles on this project were lead modeler, design engineer, and construction oversight.

Construction Inspector | Mad River Pipeline Project | City of Eureka, CA

Project Engineer and Construction Management for the City of Eureka's upgrade of the water delivery system from Humboldt Bay Municipal Water District. The project installed more than a mile of water force main 24" ductile iron pipe, four inter-ties to the existing system, and multiple air release and blow-off valves. The pipeline alignment runs through the Humboldt County and City of Eureka right of way. Work on this project required both day and night work, due to heavy traffic patterns. This project was completed in 2017.

Construction Inspector | Water Treatment Plant Upgrades | City of Trinidad, CA

Project Engineer and Construction Management for the City of Trinidad's water treatment plant upgrade including installation of flocculation mixer and settling basin to reduce the turbidity prior to the raw source water entering the filters. chlorine contact chamber to allow contact time, and an emergency generator. Mr. Sullivan was the lead inspector, and the project was completed in 2015 and has functioned well since completion.

Project Engineer / Construction Manager | Ranney Well Lateral Replacement | Humboldt Bay Municipal Water District | Arcata, CA

Project Engineer and Construction Management for Humboldt Bay Municipal Water District groundwater extraction from the Mad River Basin. With 5 Ranney lateral well collectors, 50 years old, Patrick assisted in evaluating improvements including: a groundwater study, installing soil borings and monitoring wells, seismic refraction geophysical study, 3-D groundwater model, alternative design and analysis, design plans and specifications, construction bidding, and construction oversight.

Project Manager | Ocotillo Windpower Project Hydrology and Hydraulic Study | Imperial County, CA

Project Manager for this hydrologic and hydraulic study which included the development of a HEC-HMS and HEC-RAS model. A comprehensive ACOE HEC-HMS model was developed to determine flow rates associated with various precipitation recurrence events at various locations within the Project Site. Utilizing the computed flow rates and topographic survey information, a HEC-RAS hydraulic model was developed to determine flooding extents during peak rainfall events. The determined flooding extents were then used to identify suitable locations for wind generators.

Project Engineer | Eureka Waterfront Revitalization Project | North Coast Regional Water Control Board | Eureka, CA

Mr. Sullivan was the primary investigator in Phase I and II investigations of several water front properties. He developed a guidance document to aid waterfront property owners/responsible parties through the regulatory process. This guidance document was specific to sites with groundwater that could meet the drinking water standard due to salt water intrusion from Humboldt Bay.

Project Engineer | 3rd and Y Sewer and Pump Station Project | City of Eureka, CA

Performed watershed flow analysis based on using a GIS base to input water billing records to determine base flows. Evaluated run time meters on pump stations coupled with rainfall data to statistically generate probable pump station operations under wet weather conditions. The results were used in developing the final force and gravity main sizes and alignment as well as the pump station capacity, as well as future Old Town sewer improvements points.

Project Manager | North Coast Irrigation and Fertigation Management Plan | Humboldt County RCD | Ferndale, CA

GHD assisted the Humboldt County RCD in the development of the North Coast Irrigation and Fertigation Management Plan (IWFMP) in collaboration with the UC Cooperative Extension (UCCE) Livestock and Natural Resource Advisors, USDA-NRCS, Western United Dairymen, and agriculture producers. GHD met with producers and developed an irrigation efficiency and nutrient application tool for pasture-based dairies on the North Coast. GHD helped design the final IWFMP to be incorporated into the larger Sustainable Growth Plan developed by the North Coast Resource Partnership (NCRP). The project was funded by West Coast Watersheds, in support of the NCRP.



Amber Shows

GIS, Spatial Science, LiDar



Qualifications/Accreditations

- MS, Natural Resource Science
- Graduate Certificate, Geospatial Sciences
- BS, Biology

Relevance to the Project:

Amber Shows is a spatial sciences professional and project manager with 13 years of experience in Geographic Information Systems (GIS), mobile mapping (GPS), asset inventory, and watershed and environmental management. She has experience with managing spatial and non-spatial data, mobile mapping, and surveying on private and public lands, building and maintaining geodatabases, remote sensing and analysis, preparation of grant proposals, regulatory agency coordination, and field work ranging from aquatic to public utility. Amber possesses a diverse educational and professional background, making her a valuable asset to any project where spatial sciences and data management are required.

GIS Services | City of Eureka On-Call GIS Services | City of Eureka | Eureka, CA

Assisted the City of Eureka in on-call GIS services. Tasks have included figure production for internal and public presentation, data management, schema and protocol development and GPS consultation. This background and familiarity with the City's GIS Department has been an asset for other projects in which GHD and the City are partners.

GIS Analyst | City of Sebastopol Water and Wastewater Mapping | City of Sebastopol | Sebastopol, CA

Coordinated the initial development of a water and sewer GIS for the City of Sebastopol. This project entailed the conversion of CAD modelling results and as-built drawings into data-rich GIS layers for utility maintenance staff and master planning and Clean in Place (CIP) development. Coordinated the process and the implementation of data development, field data collection with real-time survey grade GPS, and integration into the City's asset management software via regional partners and ESRI's Enterprise ArcGIS environment.

GIS Analyst | City of Elk Grove Systematic Safety Analysis Report (SSAR) | City of Elk Grove | Elk Grove, CA

The City of Elk Grove worked with GHD to develop a SSAR to provide analytics based traffic improvements that address the underlying risk factors that are able to be addressed through engineering and design. Contributed to this process by building a spatial analysis tool within the ESRI environment that ranks intersections and roadways based on several risk factors. As risk factors are addressed, the tool reflects the decreased risk at those locations and allows City staff to turn their focus on the remaining high priority locations.

GIS Analyst | Agricultural Development of Remote Ranch | Hum Sun Farms | Humboldt County, CA

GHD worked closely with private landowners to undertake the environmental permitting requirements associated with the agriculture development of a remote ranch in Northern California. This unique property provides habitat to many protected plant and animal species, necessitating several biological and vegetation focused surveys. Coordinated field data collection efforts, spatial data management, and figure production for the completion of environmental permit application documents.

GIS Analyst | City of Anaheim Fee Study | City of Anaheim | Anaheim, CA

The City of Anaheim requested an evaluation of their stormwater fee structure based on land use and impervious surface ratios. GHD analyzed the City's high resolution multispectral imagery using remote sensing and image classification software to provide an updated impervious/pervious surface layer. Created an accuracy assessment of the results utilizing random points and multiple editors to determine error rates per land use designation. This exercise provided the confidence the City needed in adjusting their fee schedule based on the new impervious surface results.

GIS Analyst | City of Sonoma Retroreflectivity Assessment | City of Sonoma | Sonoma, CA

As part of their SSAR, the City of Sonoma in California hired GHD to complete an identified mitigation measure to ensure road signage met retroreflectivity standards. Received the City's signage GIS data, made it available to field staff via the ArcGIS Online Collector app, then analyzed, merged, and delivered the data back to the City in its original format. Coordinated and supported this month long field project and provided the

client an end product that helped them visualize and plan for maintenance work, keeping drivers safe in their community.

Mobile GIS and Asset Inventory Lead | Windsor Sewer Master Plan - Phase 3 | Town of Windsor | Windsor, CA

In her capacity as Mobile GIS and Asset Inventory Lead, prepared equipment, data, and field work, and conducted four weeks of field work, then post-processed data for a sewer manhole depth and condition inventory. Highly accurate GPS equipment allowed this data to be used for modelling the gravity sewer system and to be used as the basis for master planning by the Town. Was successful in debuting a new piece of GPS equipment that greatly improved accuracy and efficiency in the field. The goal of this project was to assist the Town in planning capacity for projected growth.

Asset Inventory Lead | City of San Carlos Storm Drain Master Plan | Wilsey-Ham | San Carlos, CA

Coordinated with staff from the City of San Carlos, consultants, and GHD project leads to determine the extent of spatial and attribute data to be collected during a six-week field inventory of storm drain features throughout the City. Responsibilities included preparing the GPS equipment, liaising between field crew, consultants and GHD, quality control of data, and post-processing data used as the basis for modelling the system and alleviating flooding.

Asset Inventory Lead | National Pollutant Discharge Elimination System (NPDES) Permit Renewal Assistance | Mendocino Department of Transportation | Mendocino County, CA

Acted as the Asset Inventory Lead for the Mendocino Department of Transportation NPDES Permit Renewal Assistance project. The project involved the creation of a custom data entry system satisfying both the permit renewal and the asset management aspects of the project, then the mapping of MS4 stormwater facilities surrounding the incorporated communities of Ukiah and Fort Bragg, and resulted in the creation of stormwater system maps and an asset management system for Mendocino Department of Transportation's future use.

Asset Inventory, GIS Analysis | Chula Vista Citywide Asset Management | City of Chula Vista | Chula Vista, CA

Provided Asset Inventory and GIS Analysis services for this project to advance the City's efforts towards fully developing its Asset Management Program, including stormwater facilities. This project includes an asset inventory location via GIS and condition assessment of the various elements within five different systems. It also includes the development of risk assessment and potential failure modes. The goal of the project is to use this data to estimate maintenance costs and schedules for each system.

Asset Inventory, GIS Analysis, Database Management | GIS Needs Assessment and Implementation | Humboldt Bay Municipal Water District (HBMWD) | Humboldt County, CA

Providing ongoing Asset Inventory, GIS Analysis, and Database Management services to the HBMWD. GHD was hired by the District to develop a GIS Needs Assessment and Implementation Plan for the District. As part of the successful execution of the Implementation Plan, HBMWD requested GHD to develop a GIS, including all major data layers for a pilot section of their system. Data layers incorporated into the GIS included the pipeline alignment, pipeline right of way, the location of valves and connections, and USES and orthophoto base maps. A maintenance database was linked to the system to track the location of leaks, inspections, repairs, and other maintenance activities. Additional data linked and accessed through the GIS includes as-built drawings, system specifications, right of way documentation, and photos of the system.

Asset Inventory, GIS Analyst | Stormwater Resource Plan | City of Eureka | Eureka, CA

The City of Eureka collaborated with the County and Humboldt Community Services Districts to create a stormwater resource plan, which will enable the partners to apply for funds for Low Impact Development (LID) and best management practices to alleviate flooding and improve water quality of flows into Humboldt Bay. Coordinated the collection of stormwater infrastructure in the field and assisted with data management and figures production for reports and public presentations. ESRI Story Maps were used on this project to present findings in a way that were compelling and interactive.

GIS Analyst Lead | Eel River Estuary Preserve Ecosystem Enhancement | CalTrout | Ferndale, CA

Prepared field-based GIS habitat mapping, wetland delineations, and rare plant surveys over 1,100 acres as part of this tidal wetland restoration and environmental engineering project. Preparation included custom data entry systems and post-processing of field data. The goal of this project was to enhance biological diversity, flood regimes, and public access to a privately held property on the Eel River Delta in Coastal California.



Andrea Hilton

CEQA, NEPA, and Permitting



Qualifications/Accreditations

- MS, Natural Resources (Watershed Management)
- BA, Environmental Studies

Relevance to the Project:

Andrea Hilton is an environmental planner with 17 years of experience and an extensive technical background in hydrology and streamflow management, with an emphasis on management for special-status anadromous fish species. Her professional experience has focused on planning, implementing, and monitoring ecosystem restoration projects; collaborative resource management planning and negotiation; and regulatory oversight. Her portfolio of restoration projects includes channel rehabilitation designs implemented on the Trinity River, fish passage improvement on Trinity basin streams, landscape-scale restoration planning on the Klamath River on both Oregon and California, coastal wetland and salt marsh enhancement, and wetland and cultural restoration in Humboldt Bay and the Eel River estuary. Andrea frequently conducts regulatory permitting and California Environmental Quality Act (CEQA) for a wide variety of projects, including public access facilities, trails, and public infrastructure improvements, among others. She has prepared project permits, technical studies, and CEQA documents for numerous trail and rail trail projects. Her trail and rail trail projects include an extension of the Eureka Waterfront Trail in the Elk River estuary, the Manila Shared Use Pathway along Highway 255, the City of Eureka Bay to Zoo Trail, a public access trail in the Mad River Estuary, Humboldt Bay Trail South, and the Little River Trail, a coastal trail south of Trinidad, California. Andrea is also experienced working with Caltrans District 1 on a variety of Local Assistance projects and is very familiar with the Local Assistance Procedures Manual (LAMP) guidelines and requirements. She has taken the Caltrans training for Federal Environmental Requirements for Local Agency Transportation project "OFF" the State Highway System.

Project Manager | Felt Ranch Fisheries Restoration | Thomas Gast & Associates and Buckeye Conservancy | Freshwater, CA

Provided regulatory compliance support for the Felt Ranch environmental enhancement effort on Wood Creek, including development of the project description, CEQA Initial Study/Mitigated Negative Declaration (IS/MND), technical studies, and permits. The project will restore fish passage and result in fish habitat improvement and habitat restoration in a tributary to Freshwater Creek and Humboldt Bay.

Project Manager | Mad River Floodplain and Public Access | California Trout | McKinleyville, CA

Developed a Project Description and permits for a floodplain restoration project to convert percolation ponds used by the McKinleyville Community Services District into a perennially backwatered off-channel habitat for salmonids in the Mad River estuary. The project also includes trails and viewing facilities for public access enhancement. Prepared project permits to the California Coastal Commission, Humboldt County, California Department of Fish and Wildlife, State Lands Commission, Regional Water Quality Control Board (RWQCB), and US Army Corps of Engineers (USACE).

Environmental Planner | Hiller Lift Station Improvement Project | McKinleyville Community Services District | McKinleyville, CA

Prepared a CEQA Categorical Exemption and Coastal Development Permit application to support necessary upgrades to a sewer lift station.

Environmental Planner | Cardiff Dunes Living Shoreline Drainage Study | City of Encinitas | Encinitas, CA

Applied the rational method to stormwater runoff to develop and evaluate design scenarios to address unexpected small-scale drainage impacts to the recently construction living shoreline.

Environmental Project Manager | Little River Trail Project Approval/Environmental Documentation (PA/ED) | Redwood Community Action Agency | Little River, CA

Managed environmental support activities for GHD and subcontractors, including the Preliminary Environmental Study (PES), biological, wetland, cultural resource, visual resource, and various other technical studies, as well as CEQA and National Environmental Policy Act (NEPA) documentation. Worked in close coordination with project management and environmental Caltrans District 1 staff.

Project Manager | Rohnerville Road Fire Station | Fortuna Fire Protection District | Fortuna, CA

Prepared a project description and CEQA document (IS/MND) for construction of a proposed fire station on Rohnerville Road in Fortuna. The project is coordinated with planning staff at the City of Fortuna, as the City is the lead agency for the project.

Environmental Team Lead | Old Arcata Road Rehabilitation and Pedestrian/Bikeway Improvements | City of Arcata | Arcata, CA

Served as Environmental Team Lead for Caltrans District 1 Local Assistance project. Prepared a project description and CEQA IS/MND for road rehabilitation, upgraded bicycle lanes, extended pedestrian walkway, cross walks, curbs and gutters, speed humps, and a new roundabout. Facilitated client and Caltrans review of related project documents, including cultural resource investigations (Archaeology Survey Report and Historic Resources Evaluation Report – among others), Visual Impact Assessment, and the Natural Environment Study (NES). Project includes wetland impacts and requisite compensatory mitigation.

Environmental Team Lead | Manila Highway 255 Shared Use Pathway | Humboldt County | Manila, CA

Prepared permits for a shared use pathway along California Highway 255 through the rural community of Manila. Work included finalization of the Habitat Mitigation and Monitoring Plan required for mitigating wetland impacts.

Environmental Team Lead | Highway 101 Sewer Crossing Retrofit | McKinleyville Community Services District | McKinleyville, CA

Coordinated preparation of biological, botanical, wetland, and cultural resources technical studies. Prepared CEQA IS/MND and lead NEPA support conducted by California Governor's Office of Emergency Services (Cal OES) and Federal Emergency Management Agency (FEMA).

Environmental Planner | Hiller Lift Station Improvement | McKinleyville Community Services District | McKinleyville, CA

Prepared a CEQA Categorical Exemption and Coastal Development Permit application to support necessary upgrades to a sewer lift station.

Environmental Team Lead | Highway 101 Kenmar Road Interchange | City of Fortuna | Fortuna, CA

Served as Environmental Team Lead for Caltrans District 1 Local Assistance project. Managed environmental support activities for GHD and subcontractors, including the PES, biological, wetland, cultural resource, visual resource, and various other technical studies, as well as CEQA and NEPA documentation. Worked in close coordination with project management and environmental staff at Caltrans District 1.

Environmental Team Lead | Briceland Water System Improvements | Briceland Community Services District | Briceland, CA

Coordinated preparation of biological, botanical, wetland, and cultural resources technical studies. Prepared CEQA IS/MND and led NEPA support conducted by US Department of Agriculture (USDA).

Environmental Planner | Wastewater Regulatory Support | City of Eureka | Eureka, CA

Provided technical and regulatory support to ongoing National Pollutant Discharge Elimination System (NPDES) permitting for the City's wastewater effluent disposal, focusing on evaluation of required enhancement activities in the Elk River estuary.

Environmental Planner | Humboldt Bay Eureka Slough Sea Level Rise Planning | County of Humboldt | Eureka, CA

Developed a sea level rise adaptation plan for the Eureka Slough hydrologic unit. Effort focused on existing regulatory constraints and development of proposed projects prioritized to increase sea level rise resiliency.

Environmental Planner | Hanson Ponds Russian River Floodplain Restoration | Endangered Habitats Conservancy | Windsor, CA

Developed 30% Basis of Design Report for large-scale Russian River fisheries restoration project. Prepared regulatory project description and Conditional Use Permit for the Sonoma County Planning Department.

Environmental Planner | Ocean Ranch Environmental Impact Report (EIR) | Ducks Unlimited | Loleta, CA

Authored the Hydrology chapter of the Ocean Ranch EIR to restore hydrologic connectivity and salt marsh spanning 933 acres of the Eel River estuary. Restoration actions include levee removal and lowering, channel construction, and ditch blocks, among other techniques. The project also included extensive removal of invasive European beachgrass and dense-flowered cordgrass.

Environmental Planner | First Slough Fish Passage and Habitat Improvement | City of Eureka | Eureka, CA

Prepared project permit applications to the Regional Board, USACE, National Marine Fisheries Service, and California Department of Fish and Wildlife. Prepared CEQA Categorical Exemption for small-scale habitat restoration projects.



Kelsey McDonald

Weland and Biological Services



Qualifications/Accreditations

- MS, Environmental and Natural Resource Science
- BA, Environmental Studies

Relevance to the Project:

Kelsey McDonald has 11 years of professional experience in environmental science and resource management, with a special focus on coastal restoration and plant ecology on the North Coast of California. Kelsey has experience conducting aquatic resource delineations, floristic surveys and other special status plant surveys, vegetation and sensitive habitat mapping, and restoration monitoring. Kelsey also has experience writing habitat mitigation and monitoring plans, aquatic resource delineation reports, invasive plant management plans, and other natural resource management plans. Kelsey is experienced in assessing potential impacts to rare plants, vegetation communities, and other natural resources, and writing mitigation measures. Her academic research focused on aquatic dispersal of invasive dense flowered cordgrass in Humboldt Bay, and morphological differences in dunes associated with the invasion and removal of invasive European beach grass on the North Spit of Humboldt Bay.

Environmental Scientist | Differences in the Morphology of Restored and Invaded Foredunes on the North Spit | Humboldt County | Humboldt Bay, CA

This study was accepted for publication in the Journal of Coastal Research in 2020. Used GIS to model dune heights and morphology in invaded areas dominated by European beachgrass (*Ammophila arenaria*) and restored areas dominated by American dunegrass (*Elymus mollis*) and native dune mat communities.

Environmental Scientist | Elk River Estuary Enhancement | City of Eureka | Eureka, CA

Created maps of rare plant populations and sensitive vegetation communities found at the City of Eureka's estuary enhancement project, and provided other GIS support.

Environmental Scientist | Ocean Ranch Estuary Restoration | City of Ferndale | Ferndale, CA

Created maps of special status plant populations, wetlands and other aquatic resources. Also provided GIS data management and supported field data collection.

Environmental Scientist | Dunes Climate Ready | Humboldt County | Humboldt Bay, CA

Developed a historical shoreline analysis for Humboldt Bay, georeferencing historical aerial imagery of the Humboldt Bay coastline, using Digital Shoreline Analysis System (DSAS) to calculate shoreline change, and creating a report and maps showing trends in shoreline change from 1939 to 2016. Available at: https://www.fws.gov/refuge/Humboldt_Bay/what_we_do/science.html

Environmental Scientist | Dunes Climate Ready - GIS | City of Eureka | Eureka, CA

Provided GIS support to develop a coastal vulnerability and adaptation study, assisting with vegetation and Real Time Kinematik (RTK) data collection for beach profiles in the Eureka littoral cell.

Environmental Scientist | Avian Botulism Hotspot Mapping | Hanalei Bay National Wildlife Refuge | Kapa'a, HI

Created maps showing hotspots for avian botulism outbreaks in agricultural wetlands on the refuge, as well as instructional documents showing steps for hotspot mapping that will assist in determining which wetlands need management adjustments.

Environmental Scientist | Tidal Seed Dispersal of *Spartina densiflora* in Humboldt Bay | Humboldt County | Humboldt Bay, CA

Master's thesis at Humboldt State University showed tidal dispersal of the invasive cordgrass between Humboldt Bay saltmarshes and potential for Humboldt Bay to serve as a vector for invasion along the coast from Central California to Alaska.



Brian Howard PLS

Land Surveying



Qualifications/Accreditations

- BS, Survey and Photogrammetry
- AS, Engineering
- Professional Land Surveyor, CA #7250

Relevance to the Project:

Brian Howard manages the firm's Northern California surveying projects and supervises surveyors, scheduling field and office personnel. Throughout his over 35-year career, he has performed surveying and right of way engineering on a full range of surveying projects, serving as project manager and party chief. Brian has extensive experience with topographic, boundary, and construction surveying, as well as expertise with geodetic and photogrammetric control, hydrographic surveying, optical tooling and monitoring surveys. He has surveyed in all types of environments from the highly industrial settings of chemical plants, steel mills, and oil refineries to remote areas staking slide repairs and establishing boundary lines, including work in the vast majority of California's counties. Brian also has additional surveying experience in Nevada, Oregon, and Hawaii.

Surveyor | City of Galt On-Call Services | City of Galt | Galt, CA

Prepared the exhibits and wrote legal descriptions for the City of Galt corporate limits and annexations.

County Surveyor | Modoc County On-Call Surveying | Modoc County | Modoc County, CA

Provided the map checking and working with the State Board of Registration on disciplinary actions.

Surveyor | City of Anderson On-Call Services | City of Anderson | Anderson, CA

Currently an ongoing contract that has led to survey work on several projects providing boundary and topographic surveys, right of way, engineering, construction quality control/staking, and utility locations. Working with the City since 2008 providing On-Call surveying services for roadway widening, interchange, roundabout, downtown beautification, Safe Routes to School (SRTS), Plans, Specifications, and Estimates (PS&E), grant application, and construction management projects.

Surveyor | City of Rocklin On-Call Development Plan Check | City of Rocklin | Rocklin, CA

Provided the checking of parcel maps and final maps for the private development projects in the City.

Survey Manager | City of Sacramento On-Call Land Surveying | City of Sacramento | Sacramento, CA

Provided all forms of surveying to the City. The initial contract was set up in June 2012, and the City was so pleased with the work, the contract was extended to June 2015. This contract led to work on the several projects including the East Sacramento Water Main Replacement Phase 2, providing construction staking of

several miles of water line - the Greenhaven Drive and Rizza Ditch Topographic Surveys. Responsible for topographic surveying of the ditch intersections, the Land Park Water Meter Retrofit Survey project control and the topographic surveying of 72,000 lineal feet of residential streets, the South Natomas/Hagginwood Water Meter Retrofit Topographic Surveying of 6,000 lineal feet of residential streets, and the Curtis Park Water Meter Retrofit Topographic surveying of 36,000 lineal feet of residential streets.

Surveyor | On-Call Surveying for PACE Engineering | PACE Engineering | Shasta County, CA

Provided the precise control surveying and mapping of the Pit No. 3 dam structure and precise measurements on attached equipment for a bladder replacement project and other improvements. This dam impounds Lake Britton on the Pit River.

Surveyor | Tehama County On-Call Right of Way Engineering and Acquisition | Tehama County | Tehama County, CA

Prepared the plats and legal descriptions to assist with right of way acquisition.

Survey Manager, Party Chief | Trinity County On-Call Surveying and Interim County Surveyor | Trinity County | Trinity County, CA

Provided the map checking of records of survey, parcel maps, and final maps, responded to planning department request for comments on planning applications, and field surveying for court ordered encroachment resolution, construction staking of road improvements, and FEMA applications. Project involving various land surveying duties from January 2012 to January 2017.

Survey Manager | San Luis Obispo County On-Call Surveying Services | County of San Luis Obispo | San Luis Obispo County, CA

Managed the On-Call services to provide all forms of surveying to the County as requested.

County Surveyor | County Surveyor | Modoc County, | Modoc County, CA

Performing the map check records of survey, parcel maps, final maps, and respond to planning department requests for assistance for projects involving work with the planning department, as well as the general public. Performing these services from 2016 to present.

Survey Manager | Interim County Surveyor | Trinity County | Trinity County, CA

Performing the map check records of survey, parcel maps, final maps, provide field survey for court ordered fence removal, responded to planning department requests for comments on planning applications. Performed these services from 2012 to 2017.

Surveyor | Limantour Road Culvert Replacement at Point Reyes National Seashore | Marin County | Marin County, CA

Provided construction staking services to assist with the culvert replacement needed on Limantour Road at the Point Reyes National Seashore along the California coast.

Survey Manager | Bidwell Canyon Stage 3 Boat Ramp | Hat Creek Construction, Incorporated | Butte County, CA

Provided the construction staking. Placed slope stakes each side of the proposed detour road and set rough grade stakes on each side of the proposed road and boat ramp. Placed finish-grade stakes at edge of boat ramp. Measured the existing ground at staked cross-sections and at grade breaks for quantity calculations.

Survey Manager | Big Bar River Access | Bureau of Reclamation | Orleans, CA

Provided the construction staking services for new access points on State Route (SR) 49, new access roads, and parking and launching facilities on the Mokelumne River.

Project Surveyor, Party Chief | Bowman Road Bridge over West Fork of Cottonwood Creek | Shasta Constructors, Incorporated | Tehama County, CA

Provided construction staking for the construction of a 460-foot, three-span, curved bridge. The project also included 3,000 feet of approach and side roads. Performed all field work on this project as a one-man crew using Global Positioning System (GPS) and robotic total station instruments.

Survey Manager, Party Chief | Bridge over Trinity River at Eagle Creek Loop Road Construction Staking | H & H Construction | Trinity County, CA

Responsible for layout of abutments, piers, and approach roads. This project was to replace a bridge washed out by flood waters.

Survey Manager, Party Chief | Bridge over Van Duzen River near Zenia Construction Staking | Clemons Construction | Trinity County, CA

Responsible for layout of abutments, piers, and approach roads. This bridge was constructed to replace an outdated structure and low water crossing.

Project Surveyor, Party Chief | Laporte Road Bridge over New York Creek | Shasta Constructors, Incorporated | Yuba County, CA

Performed construction staking to layout new road alignment and bridge structure. This bridge was constructed to replace an outdated structure and allow for curve corrections in the road.

Survey Manager, Party Chief | County Road 69 Bridge over Pit River | Modoc County, CA

Provided construction staking services to layout a new bridge structure and approach roads. This bridge replaced an old, wooden, single-lane structure.

Surveyor, Party Chief | Daniel K. Inouye Highway Truck Escape Ramp | S.T. Rhoades Construction | Hawaii County, HI

Provided construction staking, as-built condition surveys, and control monuments. The project added an emergency truck escape ramp on the new saddle road highway from Hilo to Kona. Additional work included intersection improvements and drainage upgrades.

Survey Manager | El Dorado National Forest Road Repairs | Federal Highway Administration | T.L. Peterson Construction | Pioneer, CA

Provided construction staking services for storm damage repairs and a low water crossing on US Forest Service roads.





Statement of Qualifications

On-Call Consulting Services Bid # 2021-02



PREPARED FOR:

Humboldt CSD
5055 Walnut Drive
Eureka, CA 95503

DATE:

December 2021

PREPARED BY:

SHN
812 W. Wabash Ave.
Eureka, CA 95501

#021000.064



Eureka, CA | Fort Bragg, CA | Arcata, CA | Redding, CA | Willits, CA | Coos Bay, OR | Klamath Falls, OR



Reference: 021000.064

December 13, 2021

Ms. Brenda Franklin
Humboldt Community Services District
5055 Walnut Drive
Eureka, CA 95503
Via email: bfranklin@humboldtcsd.org

**Subject: SHN Statement of Qualifications for On-Call Consulting Services,
Bid #2021-02**

Dear Selection Team and Ms. Franklin:

Thank you for the opportunity to continue our successful relationship with the Humboldt Community Services District (HCSD, or "the District"). SHN understands our on-call role as trusted advisors to the District, and we are available to work as much or as little as the District requires. We also understand the financial constraints that the District faces, and its practice of using District staff as much as possible to save on consulting services. Over the years, SHN and District staff have developed channels of communication that allow clear boundaries on our scopes of work, and we are proud to have achieved this level of teamwork with the District's General Manager and staff.

SHN is available to work as much or as little as the District requires, and we enjoy the teamwork with District staff.

SHN understands how the District functions based on many years of experience. We first assisted HCSD in 1993, when the District needed assistance in revenue forecasting. SHN was involved in many historical (1993 to 2010) District projects, including groundwater assessment in the Elk River aquifer; embankment failures investigations on Beechwood and Walnut streets; a sanitary sewer survey in King Salmon; topographic surveys for Ivy Lane, the Humboldt Hill tank, the King Salmon right-of-way, Mike Lane, and Sea Avenue; a noise evaluation for the Humboldt Hill water tank booster station; and spoils and fill studies at Brauning Lane, the Goat Farm site, and Artino Avenue.

In 2014, HCSD designated SHN as their on-call District Engineer, providing both engineering and permitting support as needed. Services have ranged from providing general technical advice and construction support, to engineering services for the Pine Hill Bridge water main below Swain Slough, installed via horizontal directional drilling (HDD). A representative planning scope was the Langlois Lane



Selection Team and Ms. Franklin

SHN Statement of Qualifications for On-Call Consulting Services, Bid #2021-02

December 13, 2021

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annexation project (CEQA exemption and in-house environmental review). SHN has also reviewed and approved traffic control plans for all District repair and replacement projects, and we are currently conducting biological monitoring for the Sea Avenue project.

SHN and our municipal partners are familiar with ways to stretch project budgets, such as phasing projects as funding becomes available and using new technologies such as HDD and cured-in-place pipe. SHN planners were the first in Humboldt County to develop a full cost-recovery ordinance for permit applications, further stretching municipal/district budgets. On-call arrangements are also budget friendly because when funding is delayed, the District can similarly delay consultants' contracts.

For this SOQ, SHN is not proposing a team of prime and subcontracting firms; SHN is able to provide all services requested, with the exception of mechanical and electrical engineering and cultural resources documentation. Should those services be required, we can assist the District in contacting firms with whom we have close and successful relationships. The District is familiar with our proposed points-of-contact, Jared O'Barr, PE (SHN Civil Engineering Principal) and Stein Coriell, AICP (SHN Senior Planner).

Again, SHN thanks the District for trusting us with projects from the 2014 on-call contract, and we very much wish to continue our relationship with the District. Please contact us if you have any questions or comments on our SOQ.

Respectfully,

SHN



Jared O'Barr, PE
Civil Engineering Principal and Project Manager



Stein Coriell, AICP
Senior Planner and Project Manager

JSO/SC:slw

Enclosures: 5 hardcopies with fee schedule in separate envelopes
1 electronic copy without fee schedule via email



Statement of Qualifications

On-Call Consulting Services Bid # 2021-02

Prepared for



Humboldt Community Services District

5055 Walnut Drive
Eureka, CA 95503

December 2021

Prepared by:





Section 01 HCSD's Cover Sheet	Section 02 Organizational Chart	Section 03 Firm Description	Section 04 Key Personnel	Section 05 Firm Experience	Section 06 Reference Projects	Section 07 Litigation History	Section 08 Understanding & Management	Section 09 Value and Fee Schedule	Section 10 Other Requirements
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Selected Client Testimonials

“SHN’s work product is and always has been routinely prompt, thorough, and within budget, regardless of the scope or complexity of any given project.”

*Glenn Bernald, Public Works Supervisor
City of Blue Lake*

“They provided us with several well written environmental reports and also provided expert advice and insights in navigating our project through the CEQA process. I couldn’t have asked for a better partner both in terms of their expertise and professionalism. The icing on the cake is that they’re really great people who are fully engaged and passionate about what they do.”

*David Estes, General Manager
Cypress Grove Chevre*

“SHN has provided quality work on our projects. In every case, the projects were completed within or under budget and on time. The SHN engineers and staff have been a pleasure to work with.”

*Mike Kelley, District Superintendent
Mendocino City Community Services District*

“SHN’s commitment to the success of the project and the health of the Humboldt Bay environment has been very apparent. Work was always completed in a timely manner and they were always very responsive to us as a client. I can wholeheartedly recommend their services.”

*S. Kullmann, Natural Resources Director (Former)
Wiyot Tribe*

“Probably one of the most conscientious and easy-to-work-with group of professionals that we have the privilege to work within our creative endeavors. We would recommend Trever, Bob and the entire staff as top notch professionals who make environmental issues tenable to the uninitiated. We have profited by our association and been extremely pleased with their product.”

*Steve Paine, General Manager (Former)
Willow Creek Community Services District*

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APPENDIX B

Humboldt Community Services District

Dedicated to providing high quality, cost effective water and sewer service for our customers

On-Call Consulting Services List
Bid No. 2021-15

Name of Person, Business or Organization:	SHN
Type of Entity: (e.g. Sole Proprietorship, Partnership, Corporation, Non-Profit, Public Agency)	California "C" Corporation
Federal Tax ID Number:	94-2571944
Contact Person - Name	Jared O'Barr, Principal Engineer
Contact Person - Address	812 W. Wabash Avenue, Eureka, CA 95501
Contact Person - Phone Number	707-441-8855 (Office) / 707-267-4039 (Mobile)
Contact Person - Email Address	jobarr@shn-engr.com

By signing this Cover Sheet I hereby attest that: I have read and understand all the terms listed in the RFQ; have read and understand all terms listed in this SOQ; I am authorized to bind the listed entity into this agreement; and that should this SOQ be accepted, I am authorized and able to secure the resources required to deliver against all terms listed within the RFQ as published by the Humboldt Community Services District, including any amendments or addenda thereto except as explicitly noted or revised in my submitted SOQ.



 Signature of Authorized Representative

Jared O'Barr, Principal Engineer

 Printed Name of Authorized Representative

December 13, 2021

 Date

 Mailing: Post Office Box 158 • Cutten, CA 95534 • tel (707) 443-4558 • fax (707) 443-0818
 Physical Address: 5055 Walnut Drive, Eureka, CA 95503

HCSD's Cover Sheet



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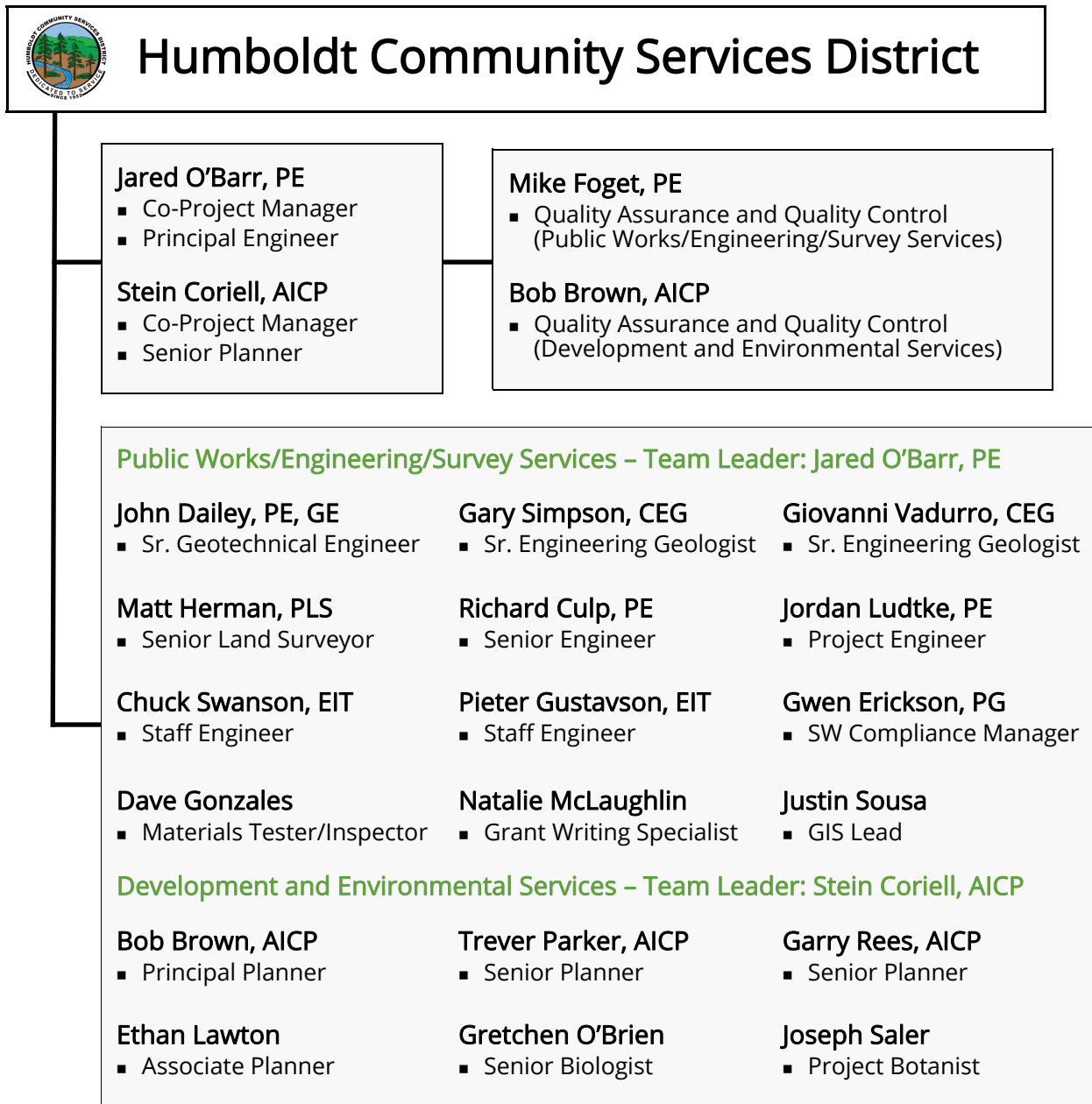


2. Organizational Chart

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Organizational Chart

SHN's multi-disciplinary staff has a wide variety of expertise and experience. Our group (as presented in the organizational structure below) is experienced in providing on-call professional services, including nearly all of the potential services as described in the RFQ. Please note that we are not including electrical and cultural resources services as part of our team because they are needed infrequently. We have trusted subcontractors who we will recommend to the District, when needed to satisfy project goals.



2. Organizational Chart



Section 01 HCSD's Cover Sheet	Section 02 Organizational Chart	Section 03 Firm Description	Section 04 Key Personnel	Section 05 Firm Experience	Section 06 Reference Projects	Section 07 Litigation History	Section 08 Understanding & Management	Section 09 Value and Fee Schedule	Section 10 Other Requirements
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3. Firm Description

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Firm Description

Firm Profile

SHN is a multi-disciplinary firm meeting the needs of communities in Northern California and Southern Oregon.

Our firm is comprised of approximately 110 employees who represent various disciplines, including civil and engineering, environmental services, planning and permitting, geosciences, surveying, biological sciences, and materials testing/special inspection.

By applying both time-tested and contemporary methods, SHN offers its clients efficient, practical, sustainable solutions to challenging problems. Through its services, SHN strives to contribute to a socially responsible, dynamic, and rewarding environment for its clients, employees, and community at large.

Rural Community Partnerships

Small and rural communities are a key client sector for SHN. This map represents a selection of SHN's special district clients who come to us when they need engineering, geologic, planning, environmental, and surveying services. We are proud of our partnerships with these clients and our ongoing efforts to help them improve their communities through diverse and impactful engineering projects.

Our rural community approach provides the expertise needed in an efficient, orderly, and phased way, to adjust for small communities' budgets and funding sources by assisting with grant funding, phasing projects, designing energy efficient and low operating/maintenance efforts.

SHN Overview

- SHN was founded in 1979.
- Our firm is a Certified Small Business Enterprise (SBE); the company is 100% employee-owned and approximately 30% of its employees are shareholders.
- SHN supports seven regional offices (Eureka, Arcata, Willits, Fort Bragg, and Redding, California; and Coos Bay and Klamath Falls, Oregon).
- SHN provides numerous services within these general service areas:
 - Civil Engineering
 - Environmental Services
 - Planning and Permitting
 - Geosciences
 - Surveying and Unmanned Aerial Vehicles (Drones)
 - Biological Sciences
 - Materials Testing/Special Inspections



3. Firm Description



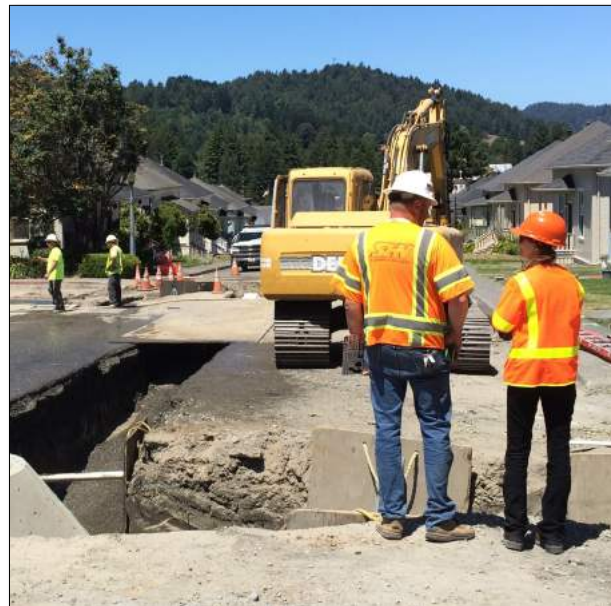
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Firm History

In 1979, the original partners incorporated the company as Selvage & Heber, but shortly thereafter, Jeff Nelson joined the firm and the company name changed to Selvage, Heber, Nelson Consulting Engineers. We continued expanding our services, merging with a geosciences/geotechnical engineering firm (Northern Geotechnical, Inc.) in 1989, making SHN the first full-service engineering and geotechnical consultant on the north coast.

The company name changed to SHN Consulting Engineers & Geologists in 1993. SHN formalized a teaming relationship with a surveying and engineering firm in Willits, merging the two firms in 2003. In April 2016, SHN and Streamline Planning Consulting of Arcata merged, augmenting SHN's planning and biological services.

Our history indicates our commitment to innovation and high quality performance. SHN's innovative approach is demonstrated by our willingness to embrace emerging technologies, such as mechanically stabilized embankments, trenchless technologies such as cured-in-place pipe and horizontal directional drilling, in-situ hazardous sites remediation, trench scanning, and unmanned aerial vehicles. Our many returning clients are indicative of our high quality performance, as is our 42 years in business, weathering five economic recessions since 1979.



Current Workload

The number of current projects in SHN's Eureka office is approximately 300 per year and project size varies from a single compaction test to the design of city wastewater treatment plant disposal system. SHN pledges to meet HCSD's needs, as we have done in the past, and will always be honest and open about our ability to finish work we take on in a timely manner.

HCSD is one of SHN's key municipal clients and we will make every effort to meet HCSD's needs for prompt and excellent service.




4. Key Personnel

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Key Personnel

SHN proposes two senior professionals who will co-manage this effort. Depending on the project's focus, SHN's project managers will be:

- Jared O'Barr, PE, for public works, engineering, and survey services; and
- Stein Coriell, AICP, for development and environmental services.



**Jared O'Barr, PE;
Co-Project Manager
and Principal Engineer**



**Stein Coriell, AICP
Co-Project Manager
and Senior Planner**

The following pages present brief resumes that describe our proposed team's qualifications to provide services to HCSD, as specified in the RFQ's scope of work.

Detailed resumes are available upon request.

4. Key Personnel



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Jared O'Barr Principal Civil Engineer

Years of Experience: 15
Years with SHN: 15

Education

B.S., Civil Engineering,
University of Washington;
2005

Professional Registrations & Trainings

Professional Civil Engineer,
#76125, CA

ASCE Buried Pipe Training

NASTT No-Dig Conference

Jared is a licensed civil engineer with more than 15 years of professional experience. He excels on complex projects that require collaboration between various disciplines. Jared is experienced in municipal infrastructure evaluation, design, and construction; site development, ADA accessibility, stormwater mitigation; and funding acquisition. He takes pride in developing a collaborative and engaged approach in working with his clients and projects partners.

Representative Projects

- District Engineer, Various Projects, Humboldt CSD, Eureka, CA
- Project Manager / Senior Engineer, Lundbar Hills Water Pump Replacement, City of Eureka, CA
- Project Manager / Senior Engineer, Broadway/Del Norte Sewage Lift Station Replacement, City of Eureka, CA
- Project Manager / Senior Engineer, Outfall Inspection and Evaluation, City of Eureka, CA
- Project Manager / Senior Engineer, Fortuna Sewer System Evaluation Survey (SSES), City of Fortuna, CA

Stein Coriell Senior Planner

Years of Experience: 18
Years with SHN: 9

Education

M.A., Biological Sciences,
Humboldt State University,
Arcata, CA; 2003

B.A., Biological Sciences, UC
Santa Cruz, CA; 1996

B.A., Environmental Studies,
UC Santa Cruz, CA; 1996

Memberships/Certs

American Institute of Certified
Planners

American Planning
Association

Association of Environmental
Professionals

Stein's professional expertise focuses on planning, permitting and environmental documentation related to federal, state, and local project-development processes, including coastal development, water and wastewater systems, stormwater compliance, historic resources, and wetlands delineations. His experience includes project management, development of project descriptions, permit acquisition, regulatory agency liaison, preparation of CEQA and NEPA documentation, environmental mitigation management, biological monitoring, grant-funding processing, noise studies, construction observation, stormwater pollution-prevention plans, and erosion-and sediment-control plans.

Representative Projects

- Senior Planner, Sphere of Influence Update, HCSD, Eureka, CA
- Senior Planner, Sea Ave. Sewer Main Project, HCSD, Eureka, CA
- Senior Planner, Walnut Yard Master Plan, HCSD, Eureka, CA
- Senior Planner, Various Emergency Permits, HCSD, Eureka, CA
- Senior Planner, General Plan Update, City of Eureka, CA



4. Key Personnel

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Mike Foget, PE Senior Civil Engineer

Years of Experience: 27
Years with SHN: 23

Education

M.S., Environmental
Engineering; Washington
State Univ., Pullman, WA;
1992

B.S., Environmental
Resources Engineering;
Humboldt State University;
1989

Professional Registrations

Professional Civil Engineer,
#54123, CA

Mike has more than 27 years of experience in civil and consulting engineering for both public agencies and private sector clients. He has been responsible for design, review, and completion of a wide range of engineering projects, including municipal utility projects. His design engineering experience includes wastewater treatment facilities, stormwater drainage, construction management, and analysis of drainage facilities for stormwater.

Representative Projects

- Project Manager, Wet Weather Improvement Plan, City of Eureka, Eureka, CA
- Project Manager, Wastewater Treatment Plant Facilities Improvements, City of Blue Lake, Blue Lake, CA
- Project Manager, Wastewater Facilities Design and Sanitary Sewer Evaluation, Loleta CSD, Loleta, CA
- Project Manager, Town of Scotia Infrastructure Rehabilitation and Replacement Project and NPDES Preparation
- Project Engineer, Site Investigation and Remediation Services at the Halvorsen Site, City of Eureka, Eureka, CA

Bob Brown, AICP Principal Planner

Years of Experience: 37
Years with SHN: 37

Education

B.S., Natural Resource
Planning; Humboldt State
University, Arcata, CA; 1981

Land Use and Environmental
Planning Certificate,
Extension program,
University of California at
Davis; 2005

Memberships

American Institute of Certified
Planners

American Planning
Association

With over 37 years of experience, Bob is the Principal Planner for SHN. He is a member of the American Institute of Certified Planners (AICP) since 1990. Bob served as the City Planner for the cities of Trinidad and Blue Lake for over 25 years. He was a primary author of the City of Blue Lake's Sphere of Influence/Annexation Study, its Fiscal Analysis, and its CEQA Initial Study. He has also provided planning services to the City of Arcata, the City of Eureka, the City of Crescent City, and the CSDs of Redway and Willow Creek.

Representative Projects

- Principal Planner, Arcata Wastewater Treatment Facility Upgrade CEQA/NEPA, City of Arcata, CA
- Principal Planner, On-Call Planning, City of Crescent City, CA
- Project Manager, Land Use Planning and Master Planning Project, Tolowa Dee-ni' Nation, Smith River, CA
- Project Manager, McKay Ranch Draft Initial Study: 325-Unit Mixed Use Development, Humboldt County, CA
- Project Manager, Trinidad-Westhaven Integrated Coastal Watershed Management Plan for 7 watersheds

4. Key Personnel



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John Dailey, PE, GE Sr. Geotechnical Engineer

Years of Experience: 45
Years with SHN: 12

Education

B.S., Civil Engineering,
University of California at
Davis, CA; 1975

Professional Registrations

Professional Civil Engineer
#C30345, CA

Geotechnical Engineer,
GE256, CA

Professional Engineer / Civil
and Geotechnical, #79564, OR

John is a senior geotechnical engineer with SHN. He is expert in the assessment of complex soils engineering and the development of practical solutions. Due to the frequent soils challenges associated with projects in this area, John has developed solutions for a variety of challenging sites, including the design and installation of remediation systems, stabilizations systems, and monitoring systems. He has extensive experience with deep foundation systems for a variety of infrastructure improvements, and has worked with many pile and pier support systems.

Representative Projects

- Sr. Geotechnical Engineer, Waterfront Drive Extension Project, City of Eureka, Eureka, CA
- Sr. Geotechnical Engineer, Fisherman's Terminal Geotechnical Investigation, City of Eureka, Eureka, CA
- Sr. Geotechnical Engineer, Industrial Arts Building Geotechnical Investigation, Eureka City Schools, Eureka, CA
- Sr. Geotechnical Engineer, Pine Hill Road Bridge Replacement, County of Humboldt, Eureka, CA

Gary Simpson, CEG Principal Geologist

Years of Experience: 31
Years with SHN: 21

Education

M.S., Geology, Humboldt
State University, Arcata, CA;
1990

B.A., Geology, Humboldt
State University, Arcata, CA;
1985

Professional Registrations

Professional Geologist,
#6000, CA

Certified Engineering
Geologist, #2107, CA

Member, Geological Technical
Advisory Committee to the
State Licensing Board

Gary is a Certified Engineering Geologist with more than 31 years of professional experience. He specializes in the application of Quaternary Geology and geomorphology to geotechnical and geohazard evaluations. Gary has a wide range of experience in engineering geological analyses pertaining to slope stability, earthquake faults, and overall site development. These studies are used in assessments for critical infrastructure, roads and highways, schools, hospitals, and a variety of other developments.

Representative Projects

- Engineering Geologist, Rohnerville Airport Access Road, Fortuna, CA
- Engineering Geologist, Royal Crest Mobile Home Park Bluff Assessments, Fortuna, CA
- Engineering Geologist, Riverview Terrace Landsliding, Fortuna, CA
- Engineering Geologist, McLean Center Geotech, Fortuna, CA
- Engineering Geologist, PG&E Pipe 177A Pipeline Assessment Projects, Humboldt and Trinity Counties, CA



4. Key Personnel

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Giovanni Vadurro, PG Senior Geologist

Years of Experience: 22
Years with SHN: 9

Education

B.S., Geology; Humboldt State University, Arcata, CA; 1993

Professional Registrations

Professional Geologist.
#7437, CA

Certified Engineering Geologist, #2554, CA

Giovanni is a Senior Engineering Geologist with SHN Geosciences group serving northern California and southern Oregon. He has over 22 years of professional experience on the North Coast working within the bedrock of the local Franciscan Complex. Prior to working in northern California, Giovanni worked for the United States Geological Survey performing fault hazard assessments for the permitting of a nuclear waste repository in southern Nevada. He is a Certified Engineering Geologist in both California and Oregon and regularly performs complex geotechnical site investigations for large State, municipal and private industry clients.

Representative Projects

- Engineering Geologist, CALFIRE HeliTac Runway Rehabilitation, Fortuna, CA
- Engineering Geologist, Geotechnical Investigation for Loleta CSD Water Tank Assessment, Loleta, CA
- Engineering Geologist, Open Door Fortuna, CA
- Engineering Geologist, Nordic Aquafarms Site Development Geotechnical Investigations, Humboldt Bay, CA

Matt Herman, PLS Principal Surveyor

Years of Experience: 26
Years with SHN: 16

Education

A.A., Civil Engineering Technology, Santa Rosa JC

Professional Registrations

Professional Land Surveyor,
#8335, CA

Matt is SHN's Surveying Principal. He has more than 26 years of experience providing land surveying, civil engineering and planning services throughout the Northern California. He has been the responsible surveyor in charge of field crews involved in collecting and processing raw field data into boundary, utility, and topographic maps. Matt participates in construction staking, topographic mapping, boundary determination, record searches and deed preparation, analyzing and preparing Subdivision Maps and Record of Surveys performed by staff.

Representative Projects

- Senior Surveyor, Bridge Replacement Projects, County of Humboldt, CA
- Senior Surveyor, St. Joseph Hospital Master Planning, St. Joseph Hospital Network, Eureka, CA
- Senior Surveyor, Lafayette and Alice Birney Elementary Schools, Eureka City Schools, Eureka, CA
- Senior Surveyor, Boat Launch Ramp and Parking Facilities Project, Noyo Harbor District, Fort Bragg, CA

4. Key Personnel



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Richard Culp, PE Senior Engineer

Years of Experience: 27
Years with SHN: 1

Education

B.S., Civil Engineering, West Virginia University, Morgantown, WV; 1978

Professional Registrations

Professional Civil Engineer, #51419, CA

Richard has more than 27 years of experience as a licensed civil engineer. His experience includes water/wastewater infrastructure, roadways, landfills, residential site development, storm drains, irrigation, landscaping, erosion control, water wells, pumps, motors, construction plans and specifications, cost estimates, bid documents, permitting, grants, construction management, inspection, and change order negotiation. Richard was also the construction manager for HSU during the school's \$17-million infrastructure improvement project.

History of Previous Employment

- Senior Engineer, Rural Community Assistance Corporation (RCAC), Eureka, CA
- General Manager, Shelter Cove Resort Improvement District, Shelter Cove, CA
- Field Engineer for construction of gas turbine power plants, CBI Services
- Project Engineer, SHN, Eureka, CA

Jordan Ludtke, PE Project Engineer

Years of Experience: 5
Years with SHN: 4

Education

B.S., Environmental Resources Engineering; Humboldt State University; 2017

Professional Registrations & Trainings

Professional Civil Engineer, #91819, CA

Caltrans Resident Engineering Academy

Jordan is a licensed civil engineer with more than 5 years of experience in the disciplines of resident engineering, survey, design, field work, and construction management/oversight of projects including roadway enhancements, bridge replacements, and pipeline replacements. She has completed the Caltrans Resident Engineering Academy and has provided construction management on several municipal projects. Jordan has performed numerous materials tests (compaction testing, concrete sampling) and special inspections at bridges, public buildings, pipelines, roads, driveways, and medical facilities.

Representative Projects

- Assistant Resident Engineer, Jacoby Creek Bridge Construction Management, County of Humboldt, BaySide, CA
- Construction Inspector, Waterline Improvements and Rehabilitation Projects, City of Eureka, CA
- Construction, CIPP Inspector, Sanitary Sewer Infiltration Reduction Project, City of Arcata, CA
- Staff Engineer/Construction inspector, Annie and Mary Rail Trail Phase 1, City of Blue Lake, CA



4. Key Personnel

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Chuck Swanson, EIT Staff Engineer

Years of Experience: 8
Years with SHN: 5

Education

M.S., Environmental Systems,
Environmental Resources
Engineering option;
Humboldt State University;
Arcata, California; 2015

B.S., Environmental
Resources Engineering;
Humboldt State University;
Arcata, California; 2013

Professional Registrations

Engineer-in-Training
Certificate, #147315, CA

Chuck is a staff engineer with 8 years of experience in wastewater permitting, engineering design, construction, and operation. He has a range of experience including local and state wastewater discharge permitting for public and private facilities, financing assistance for public entities, and project management. Chuck brings expertise in water quality data collection and analysis, constructed wetland wastewater treatment and operation, hydraulic modeling, and application of geographic information systems for water quality.

Representative Projects

- Project Manager, Water Storage Tank Replacement Project, Loleta Community Services District, Loleta, CA
- Project Manager, Sanitary Sewer Rehabilitation Project, Loleta Community Services District, Loleta, CA
- Staff Engineer, Ocean Outfall Report of Waste Discharge/ NPDES Permit Application, Town of Samoa, Samoa, CA
- Staff Engineer, WW Facilities Plan and Sanitary Sewer Evaluation Project, Loleta CSD, Loleta, CA

Pieter Gustavson, EIT Staff Engineer

Years of Experience: 5
Years with SHN: 5

Education

B.S., Environmental
Resources Engineering;
Humboldt State University;
Arcata, California; 2016

Professional Registrations

Engineer-in-Training
Certificate, #158813, CA

Pieter is a staff engineer with 5 years of professional experience in water and wastewater treatment systems, infiltration and inflow studies, infrastructure evaluations and analyses, and site monitoring. His expertise is focused on infiltration and inflow, pump stations, cured-in-place pipe rehabilitation, and water treatment systems.

Representative Projects

- Staff Engineer, Lundbar Hills Booster Station Pump Replacement, City of Eureka, Eureka, CA
- Staff Engineer, Ocean Outfall Inspection, City of Eureka, Eureka, CA
- Staff Engineer, Sanitary Sewer Evaluation Study, City of Fortuna, Fortuna, CA
- Staff Engineer, Plant Improvements and Recycled Water System, Mendocino CSD, Mendocino County, CA
- Staff Engineer, Mule Creek State Prison Stormwater Investigation, Lone, CA

4. Key Personnel



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Gwen Erickson, PG, QSD/P Stormwater Compliance

Years of Experience: 21
Years with SHN: 9

Education

M.S., Geology, Humboldt State University, Arcata, CA; 2008

B.A., Geology, Humboldt State University, Arcata, CA; 1999

Memberships/Certs

Professional Geologist, CA, #8578

Qualified SWPPP Developer/Practitioner (QSD/P), CA, #21366

CASQA CGP/IGP ToR

Gwen is a licensed professional geologist with expertise in compliance monitoring at industrial and legacy pollution sites, projects with NPDES permits, waste discharge requirements (WDR), and stormwater compliance for construction and industrial projects. She has been implementing sediment and erosion controls at construction sites for nearly 21 years, preparing plans that manage sediment and erosion control for 12 years, and preparing stormwater pollution prevention plans in accordance with the Construction General Permit for the past 11 years. Ms. Erickson also has 6 years of experience providing pollution prevention trainings on construction sites in accordance with the Construction General Permit.

Representative Projects

- Water Quality Compliance Lead, Martin Slough Interceptor Project, HCSD/City of Eureka, CA
- Water Quality Manager, Salt River Ecosystem Restoration Project, Ferndale, CA
- Project Manager, QSD/P, Drinking Water Improvement Project, Garberville Sanitary District, Garberville, CA
- QSP, Open Door Community Health Center, Eureka, CA

Dave Gonzales Materials Lab Manager

Years of Experience: 20
Years with SHN: 20

Education

Fortuna Union High School, CA; 1996

Memberships/Certs

International Code Council

Division of the State Architect

American Concrete Institute

American Welding Society

American Society of Nondestructive Testing

Dave has more than 20 years of special inspection and materials testing experience. He worked in the materials testing lab for the first 9 years of his career at SHN performing a plethora of soil, concrete and aggregate testing. Dave is also a DSA- and ICC- certified special inspector in structural masonry and has worked with masonry building contractors to ensure materials compliance for mortar, grout, and block. He is a Certified Welding Inspector and provides both ultra sonic and magnetic particle (UT/MT) testing on steel.

Representative Projects

- Materials Tester/Special Inspector, Martin Slough Interceptor Project, HCSD/City of Eureka, Eureka, CA
- Materials Tester/Special Inspector, Elk River WWTP Digester Catwalk Repair Project, Eureka, CA
- Materials Tester/Special Inspector, Humboldt County Juvenile Hall Replacement Project, Eureka, CA
- Materials Tester/Special Inspector, Veteran's Building Seismic Retrofit, Eureka, CA



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Natalie McLaughlin Grant Writing Specialist

Years of Experience: 12
Years with SHN: 1

Education

Orland High School, Glenn County, CA; 2009

Expertise

Grant writing

Grant management

Federal procurement

Program administration

State and Federal Labor Standards

Natalie has more than 12 years of experience in writing, implementing, and administering State and Federal grants. Her expertise includes data analysis, project management, program administration, and state and federal labor standards. Natalie has managed more than \$5M in Federal grant program awards while ensuring adherence to all local, State, and Federal regulations and requirements.

Representative Projects

- Grant Administrator, Active Transportation Program/Safe Routes to School Projects, City of Fort Bragg, CA
- Grant Administrator, Residential Care for the Elderly, Parents and Friends, Inc., Fort Bragg, CA
- Grant Administrator, CIPP Project, City of Fort Bragg, CA
- Labor Standards Compliance Administration, Wastewater Treatment Plant Upgrade, City of Fort Bragg, CA
- Environmental Review and Labor Standards Compliance, 1.5 Million Gallon Water Tank Installation Project, City of Fort Bragg, CA

Justin Sousa GIS Lead

Years of Experience: 18
Years with SHN: 18

Education

B.S., Music, Humboldt State University, Arcata, CA; 2000

Continuing Education

Post-graduate studies in Computer Programming, Humboldt State University; 2000-2001

AutoCAD Civil Design software professional coursework, College of the Redwoods; 2001

Justin Sousa has 18 years of CAD drafting experience and 12 years of GIS experience in the consulting planning, engineering, surveying, and biological fields. His primary role is generating high-quality comprehensive report figures drawing on his experience with data from all disciplines including surveying, planning, engineering, architectural, biological, botanical, wetland, stormwater, soil, photogrammetric, and historical. He also provides spatial analysis and data management services to project managers, professionals, technical staff, and clients.

Representative Projects

- GIS Lead, Last Chance Grade Project, Highway 101, Del Norte County, CA
- GIS Lead, Aquaculture Expansion Project, Coast Seafoods, Humboldt Bay, Eureka, CA
- GIS Lead, Comprehensive Community and Land Use Plan, Resighini Rancheria, Klamath, CA
- GIS Lead, SWPPP Wetland and Other Waters Delineation Report, Royal Gold LLC, Arcata, CA

4. Key Personnel



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Trever Parker, AICP Senior Planner

Years of Experience: 20
Years with SHN: 20

Education

M.S., in Natural Resources (Watershed Management), Humboldt State University, Arcata, CA; 2011

B.S., in Natural Resources Planning, Zoology Minor, Applied Mathematics Minor, Magna cum laude, Humboldt State University; 2000

Memberships/Certs

American Institute of Certified Planners

American Planning Association

Trever's experience includes a broad spectrum of writing environmental documents (CEQA/NEPA), agency and stakeholder coordination, project permitting oversight, and grant writing and management. She successfully navigates through the difficulties of multiple-agency permitting, balancing the needs of diverse and conflicting opinions while focusing on the priorities of the client. Trever serves as the City Planner for the City of Trinidad as well as the City's OWTS (septic) Administrator.

Representative Projects

- City Planner, Contract City Planning, City of Trinidad, CA
- Senior Planner, Caltrans District 1 Permitting and Environmental Impact Assessment Project, Eureka, CA
- Senior Planner, Park Master Plan and CEQA Documentation, Willow Creek Community Services District, CA
- Senior Planner, State Water Board EIR for Removal of Klamath Dams, Siskiyou County, CA
- Senior Planner, Trinidad/Westhaven Integrated Coastal Watershed Management Plan, Trinidad, CA

Garry Rees, AICP Senior Planner

Years of Experience: 14
Years with SHN: 14

Education

B.S., Natural Resource Planning; Humboldt State University, Arcata, CA; 2002

Memberships/Certs

American Institute of Certified Planners

American Planning Association

Garry's expertise focuses on planning, permitting, and environmental documentation related to obtaining local, state, and federal permits for a variety of residential, commercial, and industrial development projects. His primary role has been as project manager overseeing CEQA/NEPA work. He also currently serves as the City Planner for the City of Blue Lake. His experience includes project management, permit processing and regulatory agency liaison, preparation of CEQA/NEPA documents, mitigation monitoring, tribal consultation, noise and lighting studies, and grant writing and administration.

Representative Projects

- Senior Planner, The Lodge at Eureka Low-Income 50-Unit Senior Housing Project, Eureka, CA
- City Planner, Contract City Planning, City of Blue Lake, CA
- Senior Planner, Creekside Homes Annexation, Arcata, CA
- Senior Planner, Strategic Growth Council Grant, City of Blue Lake, CA
- Senior Planner, Royal Gold Soil Operation, Glendale, CA



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Gretchen O'Brien Senior Biologist

Years of Experience: 20
Years with SHN: 2

Education

B.A. Wildlife, Humboldt State University, Arcata, CA; 2000

Certifications and Trainings

Certified Wildlife Biologist status with The Wildlife Society; 2020

Northern California Bat Ecology and Field Techniques Workshop; September 2018

Foothill yellow-legged frog Ecology & Conservation Workshop; October 2018

Gretchen is a senior biologist whose expertise lies in wildlife survey techniques, habitat assessment, data management and report writing. Knowledgeable about threatened and endangered species concerns and survey protocols. Her responsibilities include conducting natural resources / biological assessments, analyzing impacts from project-related activities, assisting with CEQA and NEPA documents.

Representative Projects

- Senior Biologist, Pre-Construction Nesting Bird Surveys, Willits Bypass Project, Willits, CA
- Senior Biologist/Community Development Specialist, Biological Monitoring for Humboldt Bay Trail North Project, City of Arcata, Arcata, CA
- Senior Biologist, Foothill Yellow-Legged Frog Surveys and Permit Preparation for Gravel Extraction and Habitat Restoration Project on the Mad River, Humboldt County, CA
- Environmental Specialist, Construction Design and Permitting for Arcata Marsh Amphitheater Project, Arcata, CA

Joseph Saler Project Botanist

Years of Experience: 6
Years with SHN: 6

Education

B.A. Botany, Humboldt State University, Arcata, CA; 2013

Joseph is a botanist with more than six years of professional experience. His expertise focuses on botanical research, surveying, and consulting, as well as ecological restoration, wetland delineation and LID design. Joseph has conducted threatened and endangered plant surveys, wetland delineations, and analyses to minimize environmental impacts and provide ecologically responsible solutions while accomplishing project goals. He has worked on plans and prepared environmental documents related to CEQA and NEPA.

Representative Projects

- Staff Botanist/Environmental Support, McKay Tract Biological Report and Wetland Mitigation Report, Eureka, CA
- Staff Botanist/Environmental Support, Sequoia Park Zoo Natural Resource Assessment, City of Eureka, CA
- Staff Botanist/Environmental Support, Powers Creek Revegetation Plan and Habitat Design, City of Blue Lake, CA
- Staff Botanist/Environmental Support, Highway 101 Bypass Mitigation Monitoring, California Department of Transportation, Humboldt County, CA

4. Key Personnel



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Ethan Lawton Associate Planner

Years of Experience: 6
Years with SHN: 4

Education

B.A., Interdisciplinary Studies, (Psychology-Counseling & Inter-Cultural Studies); San Diego Christian College, Santee, CA; 2014

Memberships and Volunteer Positions

American Indian Science and Engineering (Member)

National Congress of American Indians (Member)

Association on American Indian Affairs (Member)

Native Americans in Philanthropy (Member)
Present

Ethan provides strategic guidance on the consideration and inclusion of tribal issues in development of projects, plans, programs, and policies. He has been responsible for correspondence between tribal and non-tribal entities and coordinates meetings with tribal governments and tribal community engagement. As key tribal contact, he facilitates tribal consultations (Section 106, SB 18, and AB 52), conflict management, and best practices. Specializing in cultural resources, tribal cultural resources, and trust assets Ethan, having lived on the Reservation, reviews project concepts and plans, analyzes impacts, and develops mitigations unique to Reservations and tribal communities.

Representative Projects

- Associate Planner, Development Services for the City of Crescent City, Crescent City, CA
- Associate Planner, Land Use Plan for Resighini Rancheria, Resighini, CA
- Associate Planner, Cultural Resources Element for General Plan Update, Trinidad, CA
- Associate Planner, Cultural Ordinances for City of Trinidad, Trinidad, CA
- Associate Planner, CEQA EIR for Dignity Health Pavilion, Redding, CA

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Firm Experience

This section provides narrative descriptions of demonstrated capabilities and past relevant projects. We are describing only the services and experience that we would expect to perform for the District on its upcoming on-call consulting services retainer.

Please note that for this on-call contract, SHN will not propose to provide the following services: electrical and mechanical engineering, and/or cultural resource documentation.



5. Firm Experience



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Public Works, Engineering, and Survey Services

Development of Grant Applications

SHN has assisted our clients in obtaining grants that funded planning, design, and construction of numerous roadway development and capital improvement projects. Many of these grant funding agencies pose specific and detailed reporting and invoicing requirements; SHN has experience in communicating information in formats required by these agencies. Winning grant funding requires a knowledge of grant cycles and how best to fit the work needed with the grant criteria. Once awarded, managing the staff hours, their rates, and invoices and billings is another specialized area of expertise that we have; without that experience, reimbursement of funds can be delayed or even denied.

Please note that SHN has many examples of design and management of grant funded projects of which our team has applied and received awards. The following table presents a selection of SHN's funding-assistance experience with various funding programs and agencies.



These photos present the City of Blue Lake's Annie & Mary Bike Pedestrian Trail. SHN assisted the City to acquire \$983k via the Active Transportation Program.



5. Firm Experience

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SHN's Funding Assistance Experience				
Funding Program or Agency	Project Title	Assisted in Funding Acquisition?	Provided Services Specified in Grant?	Amount of Grant Funding
Active Transportation Program (ATP)	City of Blue Lake, Annie & Mary Bike Pedestrian Trail	Yes	In Progress	\$983,000
State Water Resources Control Board (SWRCB) Prop 1	Alturas WWTP Planning	Yes	Yes	\$500,000
	Lake Shastina CSD, Wastewater Planning Study	Yes	Yes	\$500,000
	Town of Fort Jones Wastewater Services	Yes	Yes	\$348,000
	Etna WWTF Planning Grant Application	Yes	Yes	\$410,000
SWRCB Prop 84	Trinidad Stormwater Management Improvements	Yes	Yes	\$2.5 Million
Cal-OES, Hazard Mitigation Grant Program (HMPG)	City of Blue Lake, Water Tank Project	Yes	In Progress	\$1.67 Million
California Department of Boating and Waterways (DPW)	Noyo Harbor Boat Launch Facility Project	Yes	Yes	\$1.4 Million
SWRCB Clean Water State Revolving Fund	Loleta CSD, Sanitary Sewer Rehabilitation Project	Yes	Yes	\$1.15 Million
	Point Arena Sewer Collection System Planning and Permitting	Yes	Yes	\$436,000
Local Administration (on behalf of US EPA)	Tuluwat Village (Humboldt Bay's Indian Island) Cleanup Brownfield Project	Yes	Yes	\$200,000
California Dept. of HCD, CDBG, Planning/Technical Assistance Grant	City of Blue Lake, Powers Creek District Improvement Program	Yes	Yes	\$70,000

5. Firm Experience



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Water Treatment, Storage, and Distribution Systems

SHN has been providing municipal water supply services throughout northern California for 40 years. Our water system experience includes distribution system design, groundwater investigations, source and supply expansion, water system modeling and analysis, design water storage facilities, water treatment plant analysis and design, surface water intake design, and planning and permitting of water-related projects. We understand that water systems are critical, and our technical expertise can identify solutions that lead to project success that best meet the needs of our clients.



SHN was the project engineer for the City of Arcata's Upper California tank (welded steel).



5. Firm Experience

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Representative Water Treatment, Storage, and Distribution Experience		
Project	Client	Description
Various Projects as District Engineer	Humboldt CSD	Provided design services on various water distribution and storage projects as the District's engineer.
Lundbar Hills Domestic Water Booster Pump Replacement	City of Eureka	Provided design services for the replacement of a domestic water booster pump station.
Construction Management for Annual Water Distribution System Improvements		Provided construction management services for the City's annual water system upgrades (2016, 2017, 2018, and 2019).
Upper Panorama and California Water Tanks	City of Arcata	Replaced aging redwood water storage tanks with welded steel tanks.
Campbell Creek Water Treatment Plant	Hoopa Valley Public Utilities District	Providing design services for a new microfiltration water treatment system for HVPUD's Campbell Creek WTP.
Cyanotoxin Water Treatment System		Provided design services for the installation of an ultra-violet/advanced oxidation process (UV/AOP) system at the District's water treatment plant to treat for cyanotoxins.
Elk River Water System Survey	Humboldt Redwood Company	Established a general engineering protocol for investigation and development of 10 specific, individual, on-site potable water supply systems.
Water Distribution and Treatment Improvements	Scotia CSD	Replacement/rehabilitation of 37,000 lineal feet of water distribution line in and consolidated the existing fire supply and domestic water supply into distribution system. Assessed and provided recommendations to existing water treatment plant.
CALFIRE Water System Improvements	Various CAL FIRE sites in Northern CA	Design services for various CAL FIRE sites in Northern California. Services have included well installation, water treatment, and water storage.
FEMA Project	City of Bay City, OR	FEMA Disaster Prevention funded project to install three under river crossings for potable water lines using HDD.

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Wastewater Collection and Treatment

SHN offers a wide variety of wastewater collection and treatment services. We have designed new wastewater treatment plants, upgrades to existing treatment plants, and both large and small scale wastewater collection systems. We have also performed flow analyses, capacity analyses, plant operational audits, and sludge management plans. This experience helps SHN in identifying practical solutions when evaluating and upgrading facilities for compliance with current regulations.

SHN designed modifications for the City of Blue Lake's wastewater treatment plant (WWTP). As Blue Lake's City Engineer, SHN provided municipal engineering services that have improved the community's wastewater infrastructure. SHN was tasked with the design and construction oversight of the WWTP repairs and improvements to the City's wastewater ponds. Instead of installing a new mechanical WWTP, SHN suggested improving the existing WWTP, coupled with implementing a pretreatment program for commercial dischargers connected to the City's WWTP. The cost of the improvements was one-tenth the price compared to installing a new traditional mechanical WWTP.



As an on-call consultant to the City of Eureka, SHN provided engineering services for a lift station rehabilitation at the corner of Eureka's Broadway and Del Norte Streets.



5. Firm Experience

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Representative Wastewater Collection and Treatment System Projects		
Project	Client	Description
Various Projects as District Engineer	Humboldt CSD	Provided design services on various sewage collection projects, including: force main design (HDD), and lift station modifications and upgrades.
Wastewater Outfall Inspection and Evaluation	City of Eureka, CA	Conducted a condition assessment of the City's outfall pipe. Services included a diving inspection (subcontractor), bathymetric survey, and physical inspection of the above-water features.
Broadway/Del Norte Sewage Lift Station Replacement		Converted the City of Eureka's dry well sewage lift station into a wet-well lift station.
Sanitary Sewer Evaluation Survey	City of Fortuna, CA	Conducted a sanitary sewer evaluation survey. Efforts included the installation of flow meters, flow-poking, and CCTV coordination and evaluation.
Wastewater Treatment Plant Improvements	City of Willits, CA	\$28 million improvements include a new influent pump station, headworks, and a free-water surface wetland treatment which allows irrigation with reclaimed water.
Wastewater Management Facility	McKinleyville CSD, CA	Reclamation study, disposal study, 20-year facilities plan, feasibility study to identify top alternatives for upgrading the existing treatment and disposal system, and outfall permitting and design.
Wastewater Treatment Plant Improvements	City of Blue Lake, CA	\$300,000 project included dike repair, modified discharge to rock filter, addition of baffle curtain to primary pond, and replacement of three aerators. SHN's alternative was a cost-effective solution compared with installing a \$5 million mechanical WWTP.
Wastewater Treatment Plant Improvements	Scotia CSD, CA	Improvement to existing trickling filter WWTP to improve effluent quality and meet NPDES permit requirements.
Sewer Collection System Improvements		Replacement/rehabilitation of 23,000 lineal feet of failing sewer pipe in County streets.
Wastewater Treatment Plant Improvements	Loleta CSD, CA	Prepared facilities plan that identified alternatives for upgrading pre-existing collection, treatment, and disposal system.

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Stormwater Management, Conveyance, and Treatment

SHN's stormwater team and design engineers are strong proponents for low impact development (LID) design, utilizing the expertise of engineers, soil scientists, and native plant specialists. SHN works with municipalities, industrial facilities, and private landowners to integrate LID stormwater treatment elements into new and existing developments and redevelopment projects. We design LID features to meet municipal separate stormwater sewer system (MS4) requirements, and Area of Special Biological Significance waterfront management requirements. We also manage stormwater at industrial facilities, meeting peak flow mitigation requirements. SHN will design and oversee the successful construction of stormwater management, conveyance, and treatment features. SHN is often called when facility LID features fail due to improper planning and/or installation.

Some of SHN's premier LID designs include:

- Grace Hudson Museum Nature Education Facility located in Ukiah
- Open Door Community Health Center's facilities in both Eureka and Fortuna
- Trinidad Rancheria Tribal Office and the Trinidad Harbor (Area of Special Biological Significance)
- Arcata Pool parking lot
- Cypress Grove Cheese Creamery in Arcata
- Several features throughout Humboldt State University (14th and B street, Union and 17th, Library)
- Noyo Harbor Parking Lot, Fort Bragg

SHN's professionals stay current with the many programs that regulate water quality and stormwater discharges, and that affect stormwater planning, design, management, and compliance. Our institutional knowledge and our good standing with the local regulators allow us to provide effective, efficient water quality and stormwater compliance management services for our clients.



This photo presents a regraded and paved parking area with bioretention swale capturing and treating 100% of paved area runoff. The Noyo Harbor Boat Launch Facilities project was honored with a Merit Award from the American Council of Engineering Companies of California (ACEC).

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Construction Management and Inspection

An effective construction manager must be able to communicate with many people, simultaneously, and in a timely manner. It is the responsibility of the construction manager (CM) to protect the Owner's interests by ensuring the project runs efficiently and its schedule and budget are maintained. SHN's approach to construction management is to provide and cross-train our CMs with both construction management skills and materials testing and inspection skills. This allows our CMs to provide additional assistance when needed. Our experience validates this approach.

SHN's CMs have experience in inspection and testing, construction documentation, and reporting. We assure that their certifications are maintained so that when special inspections are required, the inspections can occur quickly, which limits "down time" that can delay construction.

SHN personnel provided full-time construction management services for the County of Humboldt's Jacoby Creek Bridge Rehabilitation project in 2018, and the City of Eureka's Waterfront Drive Extension project in 2019.

Also, our team is overseeing the replacement/rehabilitation of the majority of sewer, stormdrain, water, and road infrastructure throughout the Town of Scotia.



SHN provided construction management services for the County's Jacoby Creek Bridge rehabilitation.



SHN provided construction management services on the City of Eureka's Waterfront Drive project in 2019.

5. Firm Experience



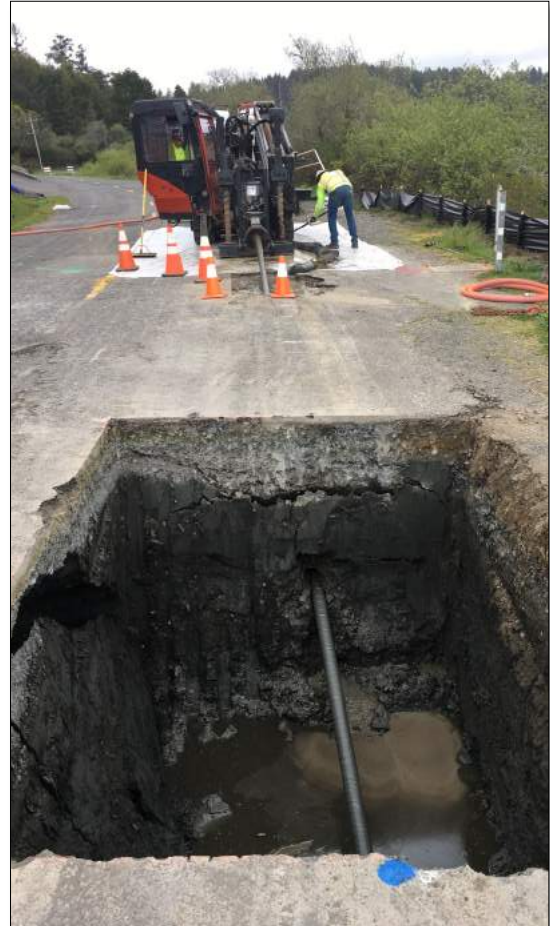
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Municipal Infrastructure Design

Providing design services for municipal infrastructure within the north coast region has been one of SHN's core services since our inception in 1979. We have provided engineering services for nearly every city or services district in Humboldt, Del Norte, and Mendocino counties.

Our municipal infrastructure design experience includes the general areas listed below.

- Water treatment, storage, and distribution
- Wastewater collection and treatment
- Stormwater collection and treatment
- Site development
- Roadway design
- Geotechnical engineering
- Surveying (traditional and UAV)
- Materials testing and inspection



SHN has provided municipal engineering for various North Coast clients, including the Town of Scotia and HCSD.

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Geotechnical Services

SHN offers the largest, most technically competent geosciences staff in Humboldt County. At SHN, geosciences is not considered a niche or specialty market — it is a core competency, and we offer a full team of highly qualified professionals. Our geosciences staff composition reflects our long-time philosophy of a team approach, which involves collaboration between geotechnical engineers and engineering geologists. The geology of California's north coast is some of the most active and challenging in the US. SHN prides itself on staffing a team of geologists that have completed most of their geology education locally. Nearly all of SHN's geologists have graduated with degrees and post graduate degrees from HSU, where learning geology means utilizing the geology of Humboldt County as their classroom.

Subsequently, careers have been developed with continued education and collaboration with a peer group that has developed in that same challenging geologic environment. SHN geologists know the geology and the geotechnical challenges, and have a peer group with decades of experience working in our market areas that we feel is invaluable. SHN built its Geosciences group with this in mind and it has proven to be a huge asset to our clients. These "value added" characteristics can save our clients money by decreasing the time required for us to understand, evaluate, and solve geologic or geotechnical problems.



SHN's Geosciences group is accustomed to working in remote and rugged conditions.

5. Firm Experience



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Materials Testing/Special Inspection

For more than 25 years, SHN has provided materials testing and inspection services for many projects throughout Northern California. SHN offers comprehensive soil testing services to support geotechnical investigations and materials testing services during construction.

We maintain numerous accreditations from a variety of federal and state organizations and foster relationships with testing and inspecting agencies that allow us to stay current on industry standards.

SHN's laboratory certifications will provide the District with the confidence that SHN has the capabilities of performing verification testing and quality assurance during construction activities.



SHN's materials testing laboratory (located in Eureka) is a high volume lab that processes 1,000 to 1,500 samples per year.

SHN maintains three fully-accredited materials testing laboratories in Northern California and Southern Oregon. Our California laboratories are certified through the American Association of State and Highway Transportation Officials (AASHTO) and the Caltrans Independent Assurance (IA) program for soil, concrete, aggregate and HMA testing.

The tables below summarize SHN's laboratory certifications and special inspection capabilities.

SHN's California Laboratory Certifications
Caltrans Certified Lab & Technicians <ul style="list-style-type: none"> Lab #114 & #219
AASHTO Accreditation Program (AAP) <ul style="list-style-type: none"> Materials Reference Laboratory (AMRL) Cement and Concrete Reference Laboratory (CCRL)
California Division of the State Architect (DSA) <ul style="list-style-type: none"> #125 & #250
American Concrete Institute (ACI)
National Institution for Certification in Engineering Technologies (NICET)

SHN Special Inspections
Caltrans <ul style="list-style-type: none"> Concrete Aggregate HMA Earthwork
International Code Council (ICC) <ul style="list-style-type: none"> Reinforced Concrete Structural Masonry Spray-Applied Fire Proofing Structural Bolting
California Division of the State Architect (DSA) <ul style="list-style-type: none"> Masonry Special Inspector
American Welding Society <ul style="list-style-type: none"> Visual Weld Inspection Non-Destructive Testing of Welds (NTD)

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Survey Services (Topographic, Construction Staking, Drones, etc.)

SHN has provided surveying services for over 35 years, and we are now also providing services related to use of unmanned aerial vehicles (UAVs), also known as "drones". In a quickly evolving field, SHN surveyors, pilots, and information technology staff are creating new methods of mapping, measurement, and visualization using drones and supporting data management systems.

SHN's drone program is different because our licensed pilots are professional licensed surveyors and geologists. We combine our expertise in mitigation monitoring, restoration planning, and large-scale earth and materials movement with drones and traditional surveying techniques. We use aerial imagery and video to engage the public and better describe projects.

Traditional surveying services continue to be in demand. Our surveying experience covers a range of land uses, including residential, commercial, and industrial development; urban and rural roads, streets, and bridges; highways; subdivisions; water and wastewater treatment facility sites; private and public forest lands; public and private landfills; and wetlands, estuaries, and bays and rivers (bathymetric surveying).

The following is a partial list of SHN's surveying services.

- Records of Survey; legal descriptions
- ALTA land title surveys
- Bathymetric surveying
- Construction staking and surveying
- Topographic mapping
- Aerial photography control
- Parcel maps and major subdivisions; easement preparation
- Property line surveys and adjustments; boundary surveying



This image presents a UAV drone aerial from a flight over the City of Eureka's Hikshari' Trail.



SHN's UAV equipment includes multi-rotor vehicles, as pictured above. The spatial accuracy, high resolution, and surface modeling obtained from processing UAV data is a powerful asset for survey services.

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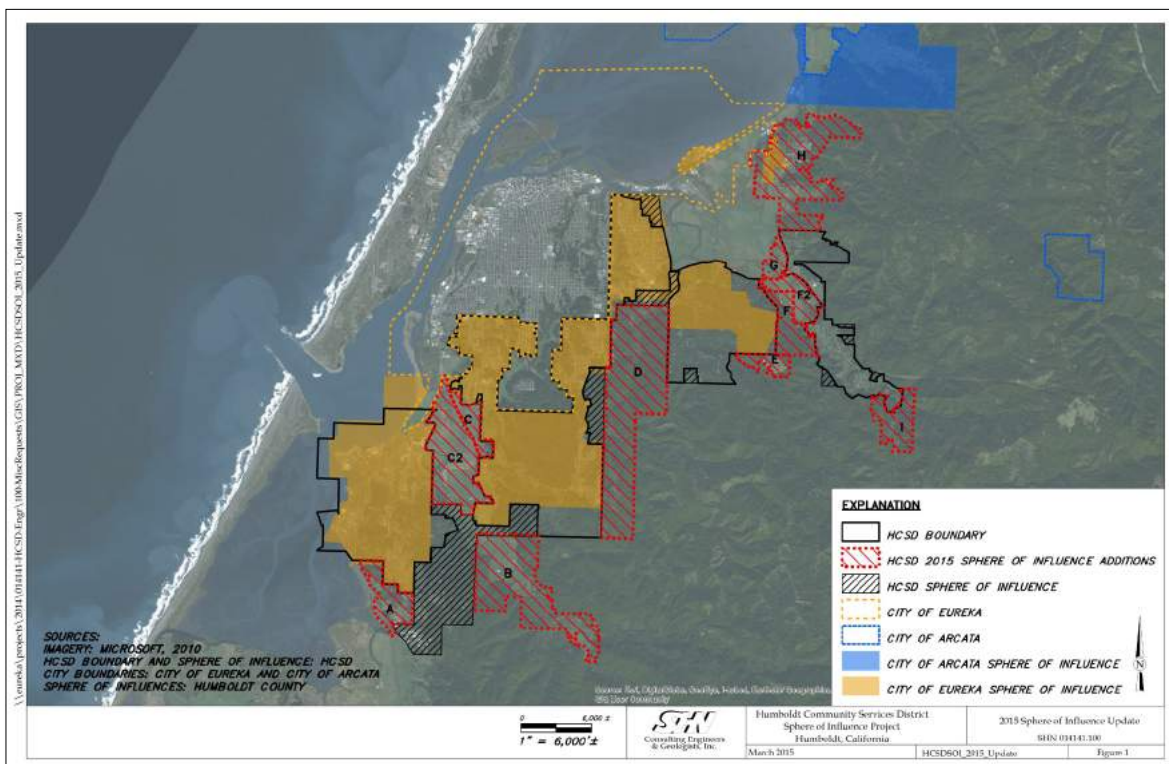
Development and Environmental Services

Conceptual Designs

In its role as a municipal planner, SHN regularly works with applicants to develop conceptual site plans addressing major issue and development restrictions of the our clients' ordinances. SHN's strategy has been to promote and assist good projects through the review process. SHN also has the familiarity with software programs to develop a rendering or superimpose a proposed development elevation onto photographs or site plans onto aerial photos, whatever is necessary to provide our clients the tools to help evaluate a project.

Long Term Planning

SHN's planning staff will assist HCSD with long term planning, depending on and informing the District's long term infrastructure plans, taking into consideration District goals, anticipated private development, evolving regulations, and anticipated future funding opportunities. Various examples of SHN's collaborative long-term planning efforts with HCSD include the 2013-14 Sphere of Influence Update, service extensions, annexations, and the Walnut Corp Yard Master Plan. SHN is also aware that HCSD will require long-term planning for upcoming anticipated infrastructure repairs/maintenance so that the District does not overuse the emergency permitting processes.



This graphic presents a boundary map from the 2013-14 HCSD sphere of influence update.



5. Firm Experience

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Preparation of Development Services Staff Reports, Studies, Correspondence

SHN's staff has prepared staff reports, special studies, and associated correspondence in its role as City Planners for the Cities of Trinidad, Blue Lake, and Crescent City, in addition to various other municipal clients. Our expertise is primarily supported by the hundreds of permit applications and CEQA/NEPA documents that we have authored and/or reviewed, and that have successfully allowed projects to proceed with avoided, minimized, and mitigated impacts. Our expertise is also supported by American Institute of Certified Planners (AICP) certifications held by four of our senior planners. Two of our senior planners are or have been class instructors for the upper division Environmental Impact Analysis (CEQA/NEPA) class offered in the Environmental Resources' Engineering and Sciences majors at HSU.

By selecting SHN, the District will have access to an 8-staff-member planning department to cover workload increases, yet as workloads shrink, the District can quickly reduce SHN's assistance. Our planners are specialists in CEQA/NEPA, coastal development permits, cannabis, housing, as well as federal and state permitting. Using SHN's other services areas, the District will have direct access to geologists, biologists, wetland scientists, civil engineers, hazardous materials specialists, surveyors, and drone pilots who are available to provide input on an as-needed basis. We also work directly with local archeologists, cultural experts, and historians, and subcontract with them based on their availability.

Planning-related Scope of Services Provided to Select Municipal/CSD Clients	City of Eureka	City of Arcata	City of Blue Lake	City of Trinidad	City of Crescent City	City of Redding	Trinity County	Shasta County	Loleta CSD	Weott CSD	Scotia CSD/TOS
	Services to process conditional use/special permits and other projects	✓	✓	✓	✓	✓	✓		✓	✓	✓
Manage environmental review process		✓	✓	✓	✓	✓		✓	✓	✓	✓
Prepare staff reports			✓	✓	✓	✓		✓			
Prepare enviro. docs and technical studies to meet CEQA/local regs	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Attend public hearings		✓	✓	✓	✓	✓		✓	✓	✓	✓
Perform site inspections	✓		✓	✓	✓	✓		✓			
Manage project appeals			✓	✓	✓			✓			
Prepare cultural resource studies, biological and road assessments	✓		✓	✓	✓			✓	✓	✓	✓
Engagement with other agencies	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Engagement with applicants	✓		✓	✓	✓	✓		✓			

The table above describes some of the development services included in the District's potential scope of work, and how the SHN team has provided those services to other municipal/district clients.

5. Firm Experience



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We are experienced with implementing zoning ordinances, subdivision ordinances, general plans and local coastal plans. We are familiar with application completeness requirements, noticing requirements, referrals, and CEQA determinations. Our team quickly adapts to the needs of planning directors, planning commissions, city councils, and the County Board of Supervisors, and we either assist City and County staff or present the staff report on their behalf. SHN is experienced and recognizes the need for presentations at all levels: applicant meetings, community workshops, public hearings, appeal hearings, and depositions. We also maintain excellent working relationships with our responsible and trustee agencies.

Our current workload is flexible and we are experienced in handling multiple project deadlines simultaneously. In over 33 years of handling and processing applications and permits, we reliably meet the numerous Permit Streamlining Act and public noticing deadlines and city council and planning commission meeting schedules. Within the last year, SHN has welcomed a Senior Planner to our team, who was formerly with the County of Mendocino and City of Fort Bragg planning departments.

Geographic Information Systems

In a quickly and constantly evolving field, SHN surveyors and information technology staff are up-to-date and are creating new methods of land mapping, measurement, and visualization through drone aerial photography and video. Drafters and IT staff are experienced in Geographic Information Systems (GIS), database management, and Light Detection and Ranging (LIDAR).

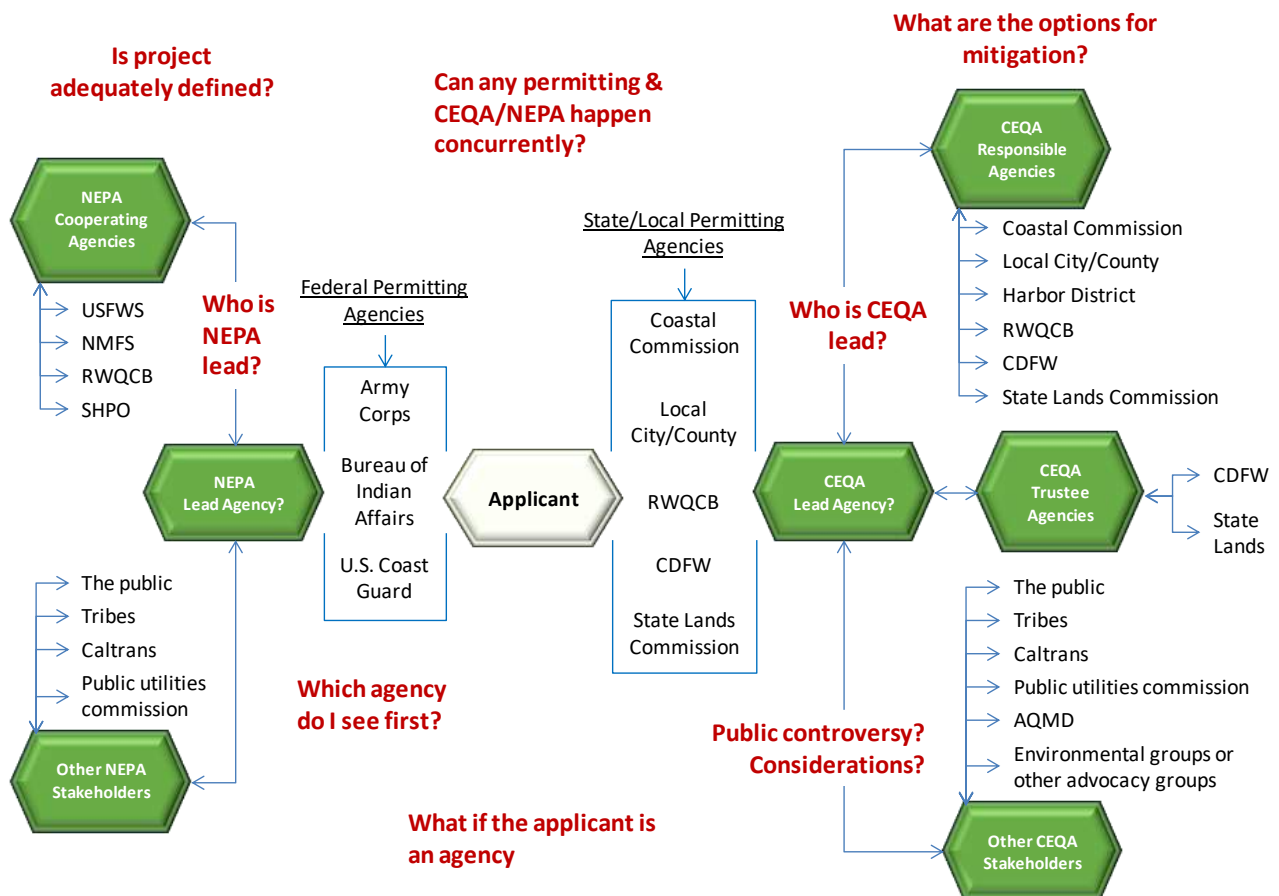
SHN staff is experienced in:

- Collection of data with hand-held GPS units
- Developing/managing GIS systems for municipalities
- ESRI add-ons: Spatial Analyst, 3D Analyst, and Arc Hydro, etc.
- Seamless integration with AutoCAD or other drafting programs

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CEQA and NEPA Compliance Documents

SHN has provided municipalities with full CEQA services for over 30 years. SHN is available to work with the District to complete all the tasks outlined in the RFQ. SHN staff has worked with a number of projects, including gateway design plans, LID stormwater designs, road realignments, trail designs, NEPA compliance for numerous low-income and senior housing development, and Brownfield investigations. Along with its CEQA experience, SHN offers five service areas of expertise for developments or review of special studies or applicant submittals; these service areas include civil engineering, environmental compliance, geology, biology, and surveying. As the District's need for these disciplines arise, SHN has the expertise, which the District can add as a part of individual contracts on an as-needed basis. No other local firm offers the depth of services that SHN can provide.



As presented in this graphic, our team understands the circuitous nature of the permitting and CEQA documentation process. More importantly, we know how to “untangle the knot” and provide straightforward solutions to our clients’ planning, permitting, and environmental documentation needs.

5. Firm Experience



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We have experience preparing Initial Studies, Negative Declarations, Mitigated Negative Declarations and Environmental Impact Reports for our public agency, development, and industrial clients to assist them in meeting their regulatory obligations under CEQA. Our planners have prepared numerous CEQA and NEPA compliance documents that evaluate potential impacts on the environment; consider various project alternatives; provide recommendations to avoid, minimize, and/or mitigate environmental impacts; and address comments raised by stakeholders, including federal, state, and local regulatory agencies, landowners, and the public at large.

SHN's ability to successfully plan for individual project needs is based on our ability to integrate our technical expertise with our understanding of broader client goals and objectives. We believe that our success is based on our technical knowledge of resources, grasp of regulatory requirements and setting, and practical knowledge of engineering and construction. Our experience includes completing joint CEQA/NEPA documents, supplemental documents, addenda, public participation programs, legal notices and filings, and resource agency coordination.

Environmental Permitting Documents

SHN has assisted HCSD with permitting a variety of projects over the last 8 years including the aforementioned emergency repair projects, Sea Avenue Sewer Main Project, and forecasting the permitting requirements associated with the Walnut Yard Master Plan. SHN has assisted with LAFCO coordination on several annexation projects and prospective projects.

Our knowledge of federal, state, and local laws and regulations allows us to effectively manage the planning process. The value that we bring to a project includes expertise in complex regulatory situations; the personnel, infrastructure, and facilities to respond quickly and efficiently to all contingencies; and the ability to design and implement unique cost and time saving approaches to our client's needs. Our team has a solid reputation for producing high-quality technical work completed on time and within budget, and has an excellent reputation and working relationship with key agencies.

Wetland and Biological Surveying Documentation

Accurate, current, and relevant biological information is critical to the success of a project. SHN's in-house biological resource professionals and biological monitors offer valuable expertise. Our surveys are done in a timely manner and according to agency protocol to ensure that standards are met. Our resource specialists and biologists have expertise with numerous sensitive California species, as well as species protected by the federal Endangered Species Act.

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We currently have agency authorization to assess occurrence on habitat needs of many species in California. Because of the diverse experience of our biologists, we have been very successful in obtaining necessary authorizations from regulatory agencies to handle and move sensitive species out of project construction and staging/laydown areas. Our staff can also assist in negotiating mitigation measures and mitigation banking agreements to compensate for unavoidable impacts. SHN provides wetland and biological surveys and documentations for cities, counties, Tribes, and special districts, as well as private clients.



Fish relocation for highway construction at the Willits Bypass project.

CEQA Lead Agency Responsibilities

SHN has been providing full CEQA Lead Agency services to local municipalities for more than 33 years. This has included city or District-generated projects, review of private applicant projects, and commenting as a responsible agency. These services have included initial scoping, conducting (or requesting) necessary special studies, preparation of initial studies, determining screening process and pathway for meeting CEQA requirements, noticing, public review process, response to comments and filing all notices with the State Clearinghouse and County Clerk. SHN is familiar with both the District's CEQA review process and state requirements. We keep up with the latest CEQA case law and annually instruct municipalities on how the previous case law should affect their CEQA practices.

5. Firm Experience



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6. Reference Projects



This section presents SHN’s project and client experience. We first present a summary table of the type of projects and tasks we have performed for various municipal clients, followed by brief project description narratives. **Finally, a table including references and their contact information can be found on page 6-17.**

SHN’s Relevant Experience Compared to HCSDs On-Call Services Scope of Work	Humboldt CSD Engineering	City of Eureka Engineering	Town of Scotia Various Disciplines	City of Blue Lake Engineering	City of Blue Lake Planning/Permitting	Lolita CSD Engineering/Planning	City of Fortuna Engineering	City of Arcata Engineering	City of Arcata Planning/Permitting	City of Trinidad Planning/Permitting	Harbor District Engineering
Public Works											
• Development of Grant Applications				✓	✓					✓	
◦ FRGP				✓	✓						
◦ Proposition 1						✓				✓	
◦ HMPG				✓	✓						
• Preparation of Plans for Public Works Projects											
◦ Water Treatment, Storage, and Distribution	✓		✓	✓	✓	✓	✓	✓	✓		✓
◦ Wastewater Collection and Treatment	✓	✓	✓	✓	✓	✓	✓				✓
◦ Stormwater Management, Conveyance, and Treatment			✓	✓	✓					✓	✓
◦ Transportation Improvements (Motorized & Non-Motorized)		✓		✓	✓		✓	✓	✓	✓	
• Designed/Managed Projects Funded by SHN-assisted Grants	✓	✓	✓	✓	✓			✓	✓		
Engineering											
• Municipal Infrastructure Design	✓	✓	✓	✓	✓		✓	✓	✓		✓
• Geotechnical Services	✓		✓					✓	✓	✓	
• Materials Testing	✓	✓	✓	✓	✓			✓	✓		
Surveying											
• General Survey	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Topographic Survey	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Construction Staking											
Development Services											
• Conceptual Designs	✓		✓	✓	✓						✓
• Expert Advice Regarding Long Term Planning		✓	✓	✓	✓					✓	✓
• Development Service Staff Reports, Studies, Correspondence		✓		✓	✓			✓	✓	✓	
• Geographic Information Systems	✓		✓	✓	✓	✓				✓	✓
Environmental Services											
• CEQA and NEPA	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
• Environmental Permitting Documents	✓	✓	✓	✓	✓	✓				✓	✓
• Wetland and Biological Surveying & Documentation	✓	✓	✓			✓		✓	✓	✓	✓
• CEQA Lead Agency Responsibilities	✓			✓	✓	✓		✓	✓	✓	

6. Reference Projects



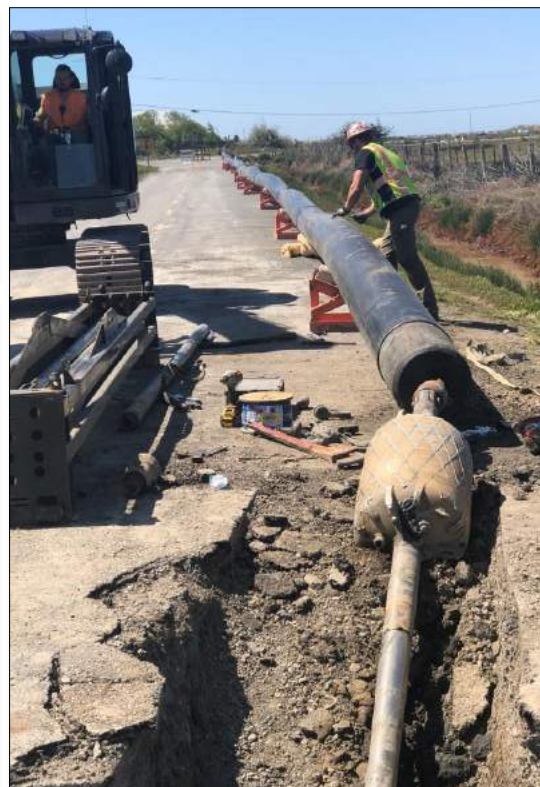
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On-Call Services for Humboldt Community Services District

In 2014, the Humboldt Community Services District (HCSD) designated SHN as the on-call District Engineer, providing services to support and assist the District as needed. Services have ranged from providing general technical advice and construction support, and providing engineering services to facilitate a new high-density polyethylene (HDPE) sewer force main that was installed using horizontal directional drilling. SHN also reviews and approves traffic control plans for all of the HCSD scheduled repair and replacement projects. Some of the services SHN has provided include:

Utility infrastructure services

- Water main replacement and re-routing assistance – SHN provided design and construction assistance
- Sewer force main replacement – SHN provided design services and construction oversight for this project, prepared technical specifications for HDD installation, and acted as the Engineer of Record
- Design recommendations for the repair of failing infrastructure
- Capacity evaluations of utility infrastructure to verify if existing utilities can support development
- HDD – SHN has provided design and construction oversight for a number of HDD projects.



Humboldt Community Services District

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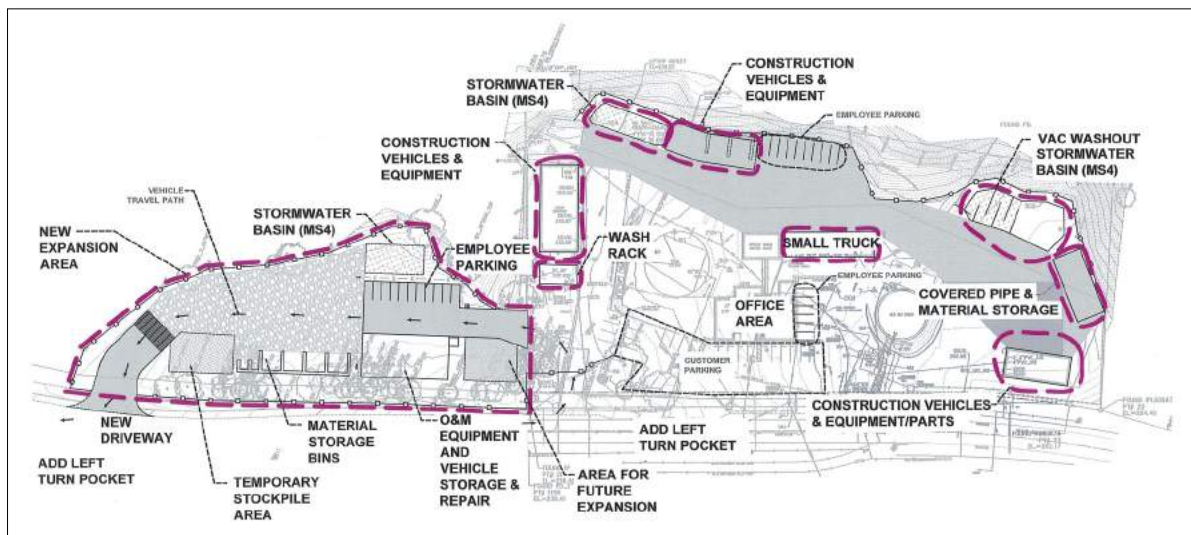
On-Call Services for Humboldt Community Services District (continued)

Slope stabilization – SHN designed a Hilfiker spiral nail wall as an emergency repair to a 25-foot-high slope that was failing and posing a threat to one of HCSD's water storage tanks.



Site development assistance consisting of:

- Utility fee assessment for subdivisions
- Evaluating various sites for their suitability as potential fill sites, and providing closure assistance for existing fill sites
- Fatal flaw evaluation of sites for potential development potential
- Developing master plan for HCSD's corporation yard expansion



Humboldt Community Services District

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Engineering Services for the City of Eureka

SHN has provided various services in the areas of engineering, construction management, and aerial photography for the City of Eureka.

Water Main Replacement Projects (2016–2019)

The City implemented multiple water system improvement projects; one is a water main replacement that serves numerous medical facilities. As part of the construction management, SHN verified the processes and activities of the construction contractors, which included disinfecting the temporary service main line and laterals, compacting trenches, maintaining accessibility to businesses, maintaining traffic control and flow during peak hours, and properly installing pipe, valves and fittings. To provide continuous water supply during construction, SHN devised an installation plan of temporary main lines and laterals.



Elk River WWTP Outfall Inspection

The report summarizes surface and subsurface investigations of the outfall and provided recommendations for its future operation. Work included coordination with a underwater inspector to make a visual inspection of the outfall structure, including the diffuser ports, and to verify operational status of the outfall. SHN also conducted a bathymetric survey of the outfall, and an aerial survey of the spit which the outfall crosses. The benefit of using an UAV aerial survey was that the changes in topography, vegetation, and spatial extent of this dynamic system could all be measured with a much higher degree of accuracy than ever before.



Lundbar Hills Water Boosting Pump

The City required replacement of an aging domestic water booster pump system serving a 167-residence subdivision. The existing system had insufficient redundancy and excessive cycling due to the lack pressure management. SHN produced a basis of design report evaluating current and projected demand flows for sizing of a packaged booster skid with variable speed drive. SHN developed the project plans and specifications for installing the new skid, electrical and communication upgrades, and selective demolition and repair of the building to accommodate the new system.



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Broadway/Del Norte Sewer Lift Station

One of the City's last remaining pneumatic sanitary sewer lift stations required replacement due to a lack of available replacement parts, inefficient operation, and challenging maintenance procedures. SHN developed a basis of design report to determine pumping design parameters, and then produced plans and specifications for converting the existing structure into a modern wetwell with efficient submersible pumps and a prefabricated slip-in fiberglass liner with hydraulically optimized base. SHN worked closely with the City to coordinate a new control system with the required customization and integration, and also to coordinate the visual design of the new station which was of particular importance due to its location at a major intersection. SHN also performed observation and documentation of the construction work which included a new forcemain installed via horizontal directional drilling, new discharge manhole, valve vaults and control enclosures with generator hookup.

Aerial Photography Projects

SHN has provided aerial photographic, video and survey services on a variety of City projects including:

- Emergency erosion rip-rap repair of the waterfront property to protect a wastewater line
- Pre-evacuation aerial photos for Eureka Police Department on the waterfront between the Bayshore Mall and the Del Norte Pier
- Under-canopy aerial photographs of a portion of the proposed alignment of the Bay to Zoo trail
- Cooper Gulch park
- The Myrtle Grove Memorial Cemetery
- Aerial video of the entire length of the Waterfront Trail
- Helped to facilitate the Lidar and Imagery services of Access Geographic.
- Wetland Delineations and/or Reduced Buffer justifications for:
 - Hilfiker Lane
 - Sunny Avenue
 - Waterfront Drive at the Samoa Bridge boat launch
 - 7th Street and Myrtle Ave
 - Eureka Zoo wetland and Biology.



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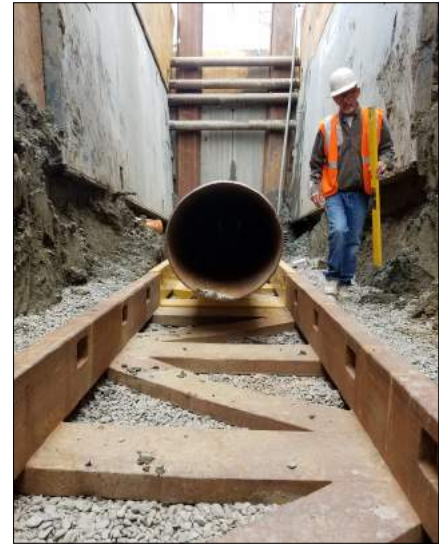
Engineering Services for the Town of Scotia

Town of Scotia, LLC (formerly Pacific Lumber Company), is maintaining its historical nature as a former lumber town, while subdividing the town into parcels for sale to individual owners and providing public utilities and facilities. In addition to planning/permitting and special studies, SHN has provided services on various civil engineering projects for the community.

Utility Design/Modeling

Rehabilitating the TOS's infrastructure to meet current standards has been a challenging task due to the condition of existing infrastructure, and the uncertainty of infrastructure locations. The main challenges for this project are to keep the TOS's existing infrastructure operational and minimize conflicts while installing the new infrastructure.

Additional relevant work performed by SHN includes hydraulic modeling of storm drain, drinking water, and wastewater collection and distribution systems. SHN designed the new infrastructure, prepared the bid documents (including plans and specifications), provided an Engineer's Estimate, and provided bidding assistance to the project owner.



Wastewater Compliance

SHN prepared a 20-year facility plan for the entire treatment, storage, and disposal system. SHN successfully worked with TOS to eliminate summertime discharges to the percolation ponds adjacent to the Eel River and to use the existing log pond to manage summertime effluent flows. SHN has made recommendations for more improvements at the WWTP, and also prepared the WWTP's O&M manual.

Roads and Sidewalks

Adding to the complexity of the project are narrow streets that pre-date the automobile. SHN incorporated ADA requirements into the existing sidewalk system, as well as coordinated with Stanwood Murphy Elementary School on critical elements such as location of crosswalks, bus stops, parking, and signage.

Construction Management and Inspection

As the project Resident Engineer, SHN has overseen the Contractor as they demolished existing domestic and fire water, sanitary sewer, storm drain, and abandoned steam utility structures and appurtenances. While this work was being done, SHN has coordinated with the Contractor to keep existing operational utility infrastructure in service to all areas while constructing new water-related infrastructure.

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Engineering Services for the City of Blue Lake

As City Engineer for the City of Blue Lake, SHN has provided various services in the areas of engineering, wastewater improvements, roadway improvements, City planning, construction management, and funding assistance. SHN has also represented the City at Humboldt County Association of Government's Technical Advisory Committee for 10+ years.

Wastewater Treatment Plant Improvements

SHN's cost-effective solution for improving the WWTP saved the rate payers an estimated \$5-7 million by strategically addressing the City's wastewater issues on multiple fronts, including pre-treatment, permit negotiation, and WWTP improvements. Improvements included installation of a baffle curtain in the treatment pond, and replacement of aeration equipment. SHN also prepared plans, specifications, and oversaw the dike repair of the existing WWTP levees.

Roadway and Pedestrian Improvements

The City of Blue Lake has limited funds for pedestrian and roadway improvement projects. In addition, the City's sidewalk and storm drain collection systems are intermittent. The challenge is to provide safe pedestrian access and storm drain features that are both aesthetically welcoming and fit the limited budgets. SHN has been using a priority list established for the City through the Technical Advisory Committee (TAC). Several roadway and pedestrian projects have been identified, and SHN has been securing funding and addressing problematic areas over time.

Services for the Annie & Mary Trail

SHN provided permitting, design, and construction management services for the Blue Lake segment of the trail, which was completed in 2020. Also, we have prepared conceptual designs for the trail segment from Blue Lake to Glendale. Additional work includes community outreach, bike and pedestrian counts, and preparing preliminary plans and cost estimates.

Construction Management

SHN has provided construction management for various projects for the City, including the WWTP dike repair, "I" Street pedestrian improvements, and Greenwood Avenue pedestrian improvements.



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Planning Services for the City of Blue Lake

SHN's experience includes providing a wide range of municipal land use planning and CEQA and NEPA services for the City of Blue Lake for more than 30 years.

This has included processing both City and private applications, CEQA and NEPA determinations, completion of special studies, and numerous grant applications. We have provided stakeholder collaboration and many forms of public engagement (for example, City Council, Planning Commission, Community Visioning, informational workshops). We have facilitated over 400 public meetings, and processed and written staff reports for more than 200 permit applications.

Planning, Permitting and Environmental Services

As City Planner, SHN's services have included permitting development projects such as single and multi-family residential housing; and commercial, industrial, public utility, open space, recreational and public access projects. SHN continues to be instrumental in business district development, walkability and sustainability studies, creek restoration, general plan and zoning amendments, and annexation studies.

Powers Creek District Improvement Program: Specialized Studies and Grants

SHN obtained two Community Development Block Grants (CDBG grants) and two Humboldt County Headwater Fund grants so the City can develop its Powers Creek District, a former lumber mill site.



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Planning Services for the City of Blue Lake (cont.)

Powers Creek Fish Barrier Removal, Bridge Replacement, and Habitat Enhancement Project
SHN obtained a State River Parkway grant and a Habitat Conservation Fund grant for two separate but adjoining projects that enabled removal of salmonid fish barriers and construction of two bridges over Powers Creek.

SGC Grant Funded Climate Action Plan (CAP)
SHN and Redwood Coast Energy Authority developed a Climate Action Plan and Greenhouse Gas Inventory for Blue Lake. SHN updated relevant portions of the General Plan and zoning ordinance to incorporate sustainable development policies and standards.



In addition to the work previously described SHN has also assisted the City in:

- Annexation Study and Fiscal Impact Analysis related to the annexation of property in the City's Sphere of Influence
- Creation of a Mixed-Use (MU) Zone that was applied to the edges of the Downtown area to allow a variety of commercial and residential uses and promote a live-work type environment
- Revisions to the Zoning Ordinance to allow more principally permitted uses in commercial and industrial zones subject to performance standards
- Revisions to the Light Industry (ML) zone to allow retail commercial uses associated with craft-type manufacturing businesses in the Business Park
- Housing Element Updates to achieve compliance with State Housing Law
- Downtown Parking Study to focus on maximizing on-street parking and reducing off-street parking requirements
- Update of the General Plan Land Use and Circulation Elements as part of the SGC Grant
- Creation of a General Plan Energy Element as part of the SGC Grant
- Climate Action Plan and GHG Inventory as part of the SGC Grant
- Community Development Block Grant Planning & Technical Assistance (PTA) grant that included the preparation of studies and development plans for the Business Park

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Engineering Services for the City of Fortuna

Sanitary Sewer Evaluation Study

In 2018, SHN conducted a thorough evaluation of the City of Fortuna's sewer collection system in order to identify sources of inflow and infiltration (I/I) throughout the City.

The City of Fortuna owns and maintains over 50 miles of sewer mains which are organized into seven gravity-segregated basins. Sewer flows measured at the City's WWTP indicated that significant sources of I/I exist in the system. A thorough CCTV evaluation of the entire system would have been cost prohibitive. Therefore, SHN worked with the City to select strategic areas in which to install continuous flow monitoring during the winter months. SHN also conducted flow poking efforts to locate areas with abnormally high flows and clear water. The data collected from the flow metering allowed SHN to narrow our focus to a single basin. Once a single basin was selected, approximately six miles of collection system piping were identified for CCTV evaluation.



Once the evaluation of the collection system was complete, SHN developed recommended projects for the rehabilitation of the sewer system. These recommendations included both cured-in-place pipe (CIPP) rehabilitation, and open-trench replacement of pipe in areas where CIPP was not suitable. SHN's evaluation also included construction cost estimates for the recommended projects.

Rohnerville Airport Connectivity Study

In 2017, the Humboldt County Association of Governments and City of Fortuna selected SHN and TJKM to provide a connectivity study and provide recommended alternatives to connect the Rohnerville Airport to State Highway 36. The goals of developing an alternative route to the airport were to establish a more direct route than currently exists and reduce impacts to residents by re-routing private, commercial, and emergency vehicles away from residential areas.



The SHN and TJKM team provided services encompassing preliminary engineering, geologic, environmental, and planning studies that were conducted to identify the various opportunities and constraints associated with potential access routes to the airport.

6. Reference Projects



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Engineering Services for the City of Arcata

SHN has provided various engineering services for the City, represented by these recent projects:

Old Arcata Road Design Charrette and Alternatives Analysis

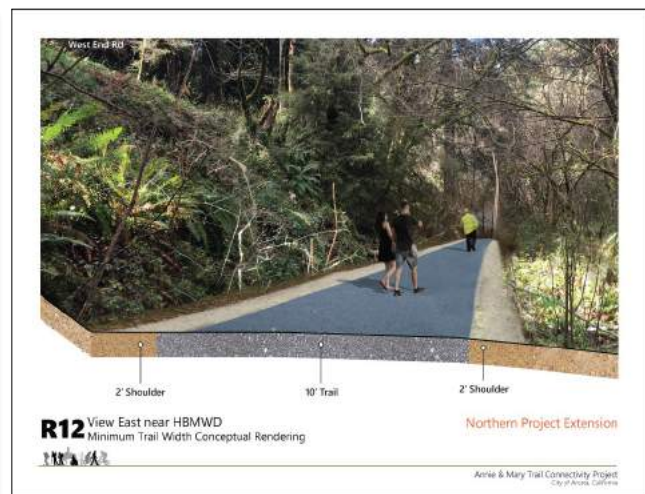
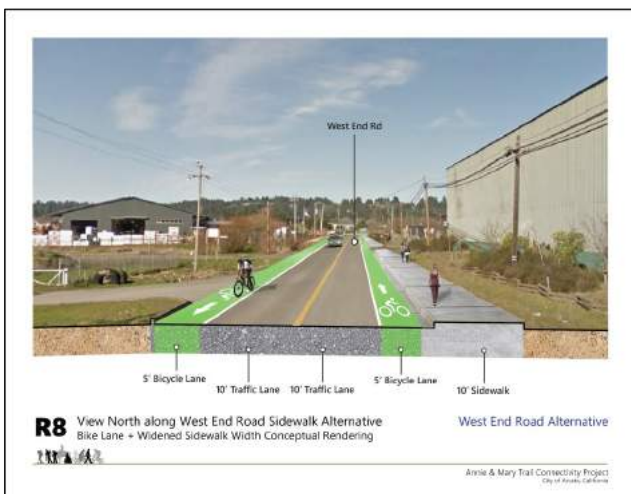
In an effort to improve pedestrian, bicycle, and alternative modes of travel along Old Arcata Road, the City selected the SHN team to work with the community to understand the issues and challenges with the existing roadway, and develop community-driven design alternatives for possible roadway improvements. The result of this effort was a conceptual design that had significant community support. SHN's effort on this project was a key component to helping the City secure funding for moving this project forward.

Upper Panorama Water Tank and California Avenue Water Tank Projects

In the initial stages of this project, SHN assisted the City with identifying suitable sites for the potential installation of new water storage tanks. SHN assisted the City in identifying two preferred sites for the placement of new water tanks, conducted topographic surveys, and conducted a geotechnical investigation for these sites. SHN provided site civil design (plans and specifications), bidding assistance, construction administration services, materials testing, and inspection to facilitate the installation of the new welded steel tanks.

Annie and Mary Trail Connectivity Project, Arcata Segment

Teaming with Trail People, SHN provided various multi-disciplinary services for the City's project. The project involved an assessment of current opportunities and constraints for walking and biking between downtown Arcata, the Valley West neighborhood, and HSU; robust public participation; and development of concept design alternatives for a trail and/or on-street facilities for safe walking and biking connectivity between these important community destinations. One challenge was obtaining community support and support from the residents and business owners along the corridor. Our team addressed this challenge by thoroughly engaging with the community and allowing their input to help guide decisions.



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Planning Services for the City of Arcata

SHN has provided various planning and permitting services for the City of Arcata, represented by these projects:

Arcata Wastewater Treatment Facility Upgrades Project

SHN was instrumental in developing the Initial Study/MND for this important upgrade project. SHN is also assisting the City in development of the NEPA EA, the SRF package and Coastal Development Permit application. The project included modeling for air quality and greenhouse gas emissions and addressing FEMA's Eight-Step planning process.



Arcata Gateway Project

Managed the policy planning and detailed site analysis as part of a group of consultants working together to redesign and enhance the gateway entrances into the City of Arcata. Responsible for coordinating activities of the design group. The project is designed to incorporate multimodal transportation alternatives and wayfinding concepts into the project that will reflect and enhance the unique environmental character of Arcata and the Redwood forest.



Additional Planning Services (since 1988)

- Permitting/CEQA Footprint Recycling Biodiesel Relocation
- Permitting/CEQA Cypress Grove Chevre Goat Cheese Manufacturing and Expansion
- Permitting/ NEPA/ CEQA for Plaza Point 23-Unit Senior Housing Complex
- Permitting/CEQA Robert Goodman Winery in the former Humboldt Machinery building
- Permitting/CEQA for Schmidbauer Lumber – Los Harbors 12-acre Mixed Use Business Park EA on Former Mill Site, Arcata, CA.



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Planning Services for the City of Trinidad

SHN's experience includes providing a wide range of municipal land use planning and CEQA and NEPA services for the City of Trinidad since 1988. These aforementioned services include coastal development permits, subdivisions, annexations, trails plans, vegetation management plans, tribal consultations, water quality sampling, and septic management programs. Our team has provided stakeholder collaboration and many forms of public engagement. Our experience in Trinidad includes over 400 meetings and more than 100 permit applications.

General Plan. SHN is currently spearheading a comprehensive Trinidad General Plan update and updating the land use ordinances. We held over 50 public meetings and outreach activities for this project, and also received two Local Coastal Program update assistance grants from the California Coastal Commission.

Water Resiliency Planning. Trinidad has recently embarked on a series of projects to plan for droughts and increase resiliency in its water system. As part of these efforts, SHN authored a water demand assessment to characterize future water use. SHN also worked with the Planning Commission and other staff to develop policies for evaluating water connection requests from outside City limits. We also created a Water Shortage Contingency Plan, which was partially implemented during last year's dry season, prior to the plan being officially adopted. We are currently drafting an ordinance to fully implement the Water Shortage Contingency Plan. SHN will continue to participate in the City's ongoing water resiliency planning efforts.





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Planning Services for the City of Trinidad (cont.)

Trinidad-Westhaven Integrated Coastal Watershed Management Plan. SHN has been involved in the submittal, administration, and/or implementation of \$500,000 in grant funding that supported this Integrated Coastal Watershed Management Plan.

SHN took a lead role in coordinating the planning process and preparing the plan, which is a comprehensive planning document that identified problems, solutions, and partnerships to address water quality within a 6,300-acre, 7 watershed area. With the City, we coordinated stakeholder collaboration with community members, City Council, Trinidad Rancheria, Westhaven CSD, California State Parks, Green Diamond, the Redwood Community Action Agency, GHD, property owners, and local, state and federal agencies. SHN was also involved in the submittal, administration, and/or implementation of an additional several million dollars in grant funding so the City could enact the Trinidad Watershed Action Plan. Viewpoints often different within the diverse group of stakeholders that included various state and federal agencies such as the California Coastal Commission, Coastal Conservancy, State Parks, North Coast Regional Water Quality Control Board, State Water Resources Control Board, State Department of Fish and Wildlife, Bureau of Land Management, Army Corps of Engineers, National Marine Fisheries Service, and local Tribal members.

The plans received a 2011 Comprehensive Planning Award from the California Chapter of the American Planning Association (APA).

In addition to the work previously described SHN has also assisted the City in:

- Trail litigation support and assistance
- Adopting and implementing a Views and Vegetation Ordinance
- Adopting a Nuisance Abatement Ordinance and supporting enforcement activities
- Writing CEQA documentation (as applicable) for City and private projects
- Permitting a wide range of projects from complicated infrastructure replacement (Trinidad Pier) to a simple sunroom addition on a house
- Providing support for the City's appeal of the Moss subdivision within the Luffenholtz Creek watershed, before the County Board of Supervisors in order to protect the City's water supply
- Developing and administering an onsite wastewater treatment system management program
- Achieving certification from the Coastal Commission on a short-term rental ordinance that has been cited as an example to follow by Coastal Commission staff
- Assistance with stormwater compliance and providing Low Impact Development (LID) policy and design guidance
- Trails planning, maintenance, and permitting
- Water quality sampling and assessment
- Watershed planning and assessment
- Outreach for major projects at community events such as the Trinidad Fish Festival

6. Reference Projects



Section 01 HCSD's Cover Sheet	Section 02 Organizational Chart	Section 03 Firm Description	Section 04 Key Personnel	Section 05 Firm Experience	Section 06 Reference Projects	Section 07 Litigation History	Section 08 Understanding & Management	Section 09 Value and Fee Schedule	Section 10 Other Requirements
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Engineering Services for the Humboldt Bay Harbor District

SHN has provided various services as the District Engineer for the Humboldt Bay Harbor, Recreation & Conservation District.

Assessment of Infrastructure at RMT-II (Water & Wastewater)

SHN lead a team that reviewed the condition of the existing infrastructure at the former pulp mill including the water treatment plant (clarifiers and filters), and the onsite disposal system.



Assessment of Ocean Outfall

The SHN team also assessed the ocean outfall at the former pulp mill including the condition of the discharge pumps, and the outfall. Assessment included reviewing existing plans, and inspection reports submitted by professional divers.



Assessment of Wastewater Loads from RMT-II

SHN assessed various scenarios for potential loads from potential development at RMT II including fixture counts, and potential industrial and commercial activities.

Development of Water Supply (System Supply Well)

As part of aquaculture development at RMT II, SHN installed a test well in order to supply saltwater for Aquaculture use. SHN's geosciences group provided the expertise and understanding of the regional geology on the Samoa peninsula to target the depth and desired well screen interval. The test well was installed using a mud rotary drill rig.



Permitting for Wastewater Sewer Lines (RMT-II/Samoa Peninsula)

SHN conducted the botanical and wetland special studies, and coordinated the cultural special studies as part of the permitting effort for installation of new sanitary sewer lines to run between RMT II and the new town of Samoa wastewater treatment plant. Permitting agencies included the Army Corp of Engineers, RWQCB, the California Coastal Commission, and the County of Humboldt.

Site Development of RMT-II for Aquaculture/Industrial/Commercial Use

As the District Engineer for the Harbor District, SHN has been involved in assessing different potential industrial commercial uses at RMT II including aquaculture, biofuels production, butane and CO2 storage, and the business park.



6. Reference Projects

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Client References

We have included the following references to highlight several project elements relevant to the scope of the District's RFQ. Please feel free to discuss our team's track record for reliability, effectiveness, and quality.

Our clients often tell us that we have saved them time, money, and headaches by helping them with their projects in a reliable and professional manner.

Client	Town of Scotia (Various Services)
Contact Name	Frank Bacik
Address	108 Main Street Scotia, CA 95565
Phone Number	707-845-4995 (mobile)
Email	fbacik@townofscotia.com

Client	City of Arcata (Engineering)
Contact Name	Netra Khatri
Address	736 F Street Arcata, CA 95521
Phone Number	707-825-2128
Email	nkhatri@cityofarcata.org

Client	City of Blue Lake (Engineering/Planning)
Contact Name	Amanda Mager
Address	P.O. Box 458 Blue Lake, CA 95525
Phone Number	707-668-5655
Email	citymanager@bluelake.ca.gov

Client	City of Trinidad (Planning)
Contact Name	Eli Naffah
Address	409 Trinity Street Trinidad, CA 95570
Phone Number	707-677-3876
Email	citymanager@trinidad.ca.gov

Client	City of Arcata (Planning)
Contact Name	David Loya
Address	736 F Street Arcata, CA 95521
Phone Number	707-825-2045
Email	dloya@cityofarcata.org

Client	City of Fortuna (Engineering)
Contact Name	Kevin Carter
Address	P.O. Box 545 Fortuna, CA 95540
Phone Number	707-725-7650
Email	kcarter@ci.fortuna.ca.us

Client	Loleta CSD (Engineering/Planning)
Contact Name	Manny Fonseca
Address	P.O. Box 236 Loleta, CA 95540
Phone Number	707-733-1717
Email	loletacsd@att.net

Client	City of Eureka (Engineering)
Contact Name	Kelly Allen
Address	531 K Street, Third Floor Eureka, CA 95501
Phone Number	707-443-4558
Email	kallen@ci.eureka.ca.gov

6. Reference Projects



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7. Litigation History

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Litigation History

SHN opens approximately 900 projects per year. In the last 10 years, 0.06% of projects have resulted in some form of litigation.

As requested in the RFQ, the following section provides information regarding SHN's litigation history during the past 10 years.

- One wastewater infrastructure project resulted in litigation between SHN and a directional drilling contractor (Apex Drilling). The suit was settled before "going to discovery," so no judgment of fault was rendered. However, SHN's engineering, geotechnical, and construction inspection and management services on this project were recognized by the American Council of Engineering Companies, who awarded the client and SHN with a Commendation Award in February 2017.
- One water tank project resulted in litigation between SHN and the City of Fortuna. The suit was settled before "going to discovery," so no judgment of fault was rendered.
- One water supply project resulted in litigation between SHN and the City of Rio Dell. The suit was settled before "going to discovery," so no judgment of fault was rendered.
- One water supply project resulted in litigation between SHN and the AECOM. The suit was settled before "going to discovery," so no judgment of fault was rendered.
- SHN is currently involved in a non-performance-related litigation brought by an individual; SHN ended its contract per the contract terms, which prompted action by the individual. The U.S. District Court in San Francisco dismissed the suit with prejudice.

7. Litigation History



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8. Understanding and Management

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Understanding and Management

SHN understands that HCS D requires engineering and planning/permitting assistance that ranges from large comprehensive design projects to minor supporting assistance. SHN has demonstrated that we can adapt to both extremes based on HCS D's needs and desires. We also understand that many of HCS D's projects have limited budgets, and we work collaboratively with HCS D to take advantage of the resources that they have in-house. SHN has successfully helped many of our local communities and districts obtain funding for their projects and can help HCS D seek funding for larger projects that they wish to pursue.



We have been fortunate to have assisted HCS D since 1993, when the District needed assistance in revenue forecasting. SHN was involved in many historical (1993 to 2010) District projects; representative projects include:

- Water system modeling
- GIS research
- Underground storage tanks services on South Broadway and the corporation yard
- Groundwater assessment in the Elk River aquifer
- Embankment failures on Beechwood and Walnut streets
- Sanitary sewer survey in King Salmon
- Topographic surveys for Ivy Lane, Humboldt Hill tank, King Salmon right-of-way, Mike Lane, and Sea Avenue
- Noise evaluation for the Humboldt Hill water tank booster station
- Spoils and fill studies at Brauning Lane, Goat Farm site, Artino Avenue

8. Understanding and Management



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In 2014, HCSD designated SHN as their on-call District Engineer, providing both engineering and permitting support as needed. Services have ranged from providing general technical advice and construction support, to engineering services for a new HDPE sewer force main installed via horizontal directional drilling (HDD). SHN has also reviewed and approved traffic control plans for all District repair and replacement projects.

Planning and permitting assistance provided by SHN includes:

- 2013-14 Sphere of Influence update, providing the Initial Study and Negative Declaration.
- Walnut Yard Master Plan, where we planned and forecasted the permitting requirements.
- Expedited emergency permitting of several emergency repairs, where we prepared Categorical Exemptions for the Elk River water main emergency repair, the Pine Hill Road sewer lift station bank failure, and Martin Slough wastewater pipe emergency protection project.
- Several annexations and LAFCO coordination, for the Indianola, Langlois Lane and Mitchell Road areas.
- Satisfying CEQA requirements for HCSD as the Responsible Agency, for the Sea Avenue project.



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Engineering assistance provided by SHN includes:

- Utility infrastructure services.
- Water main replacement and re-routing assistance, provided design and construction oversight.
- Sewer force main replacement, provided design services and construction oversight.
- Design recommendations for repair of failing infrastructure.
- Slope stabilization (Dana Lane Tank site).
- HDD design and construction oversight. SHN has assisted HCSD with a number of HDD projects.



Site development assistance

- Utility fee assessments for subdivisions
- Evaluated various sites for suitability as fill sites, and provided closure assistance for existing fill sites
- Fatal flaw evaluation of sites for potential development



8. Understanding and Management



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Responding to Task Orders

Often, when HCSD contacts us for assistance, they need our assistance on a quick timeline. We are responsive to HCSD's urgent needs. On larger projects that have longer timeframes, SHN's first step is to develop a thorough understanding of what is needed for the project, and then map out a plan for the permitting, design, and construction of the project. SHN can adapt to the specific needs of each project.

We understand that on-call services can vary substantially in terms of discipline, level of effort, and urgency. Our role in providing on-call services for the District will be to help the District as is needed for each project. In some cases, our services may be very minor, where we may only be needed to provide assistance on a small portion of a larger project; and in other cases, the District may rely on us to provide a more comprehensive solution. The District will determine what role SHN should play on each project, and we will follow the direction of the District regarding how involved we get with each project.

We will view SHN as an extension of District staff and our role will be to augment the District's technical services when the need arises. We can help as much or as little as the situation requires.

Management Strategies

SHN staff work as a close, tight-knit group with frequent, open communication. Environmental projects can be complex from conceptualization to implementation; therefore, close communication is the key to effective project completion. SHN holds weekly staffing meetings to coordinate our staff, maintain project schedules, and keep over-lapping tasks moving forward.

Quality Controls and Senior Oversight

Our team has project management tools and stringent procedures that ensure the quality of our clients' projects. Senior professionals oversee all phases of the work.

SHN uses a series of internal project management tools that enable our project managers to more easily plan and execute their assignments. A quality advisor (QA) provides guidance, support, and quality assurance to the project manager throughout each project. SHN uses a system of peer and senior reviews at various stages of each project. SHN project managers attend a training academy that includes lessons and strategies for communication, scheduling and cost estimating, and a review of SHN's project management tools and resources that include the need for senior review to manage risks.



8. Understanding and Management

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Approach to Providing On-Call Consulting Services

The SHN team will provide on-call consulting services for the District with a team that will provide a wide variety of technical services and understands the role of serving the public. Our municipal clients' success is attributed to SHN's:

- **Engagement** – It is critical for the on-call consultant to work closely with District staff, providing immediate access via phone or email. By developing this strong and collaborative relationship with HCSD staff, SHN will better understand and anticipate the needs of the District.
- **Adaptability** – Our philosophy is to serve as a consultant who can adapt to varying needs. Some projects will require plans and specifications, others will require consultation in the field during construction, and some projects may be very conceptual and broad in scope and require more of a “big picture” approach.
- **Appropriate Solutions** – Choosing the right tool for the job is critical in ensuring the job gets completed as efficiently and effectively as possible. While SHN has the ability to provide high-end technical solutions, we strive to provide practical solutions that are appropriate for the need. A simple and pragmatic approach is often the most appropriate.
- **Experience and Expertise** – SHN offers a broad spectrum of services, and can cover nearly every aspect of a project from planning through construction. When unexpected conditions arise, we have the people to find the solution. Whether it is a geotechnical concern, or if contaminated soils have been encountered, we have the experience and expertise to help the District get the project completed.
- **Funding Knowledge** – SHN has been successful in obtaining and managing grant funds and low interest loans for municipal clients. We have assisted our clients in acquiring millions of dollars in grant funding and loans for various types of projects, including water and wastewater treatment and conveyance improvements, and transportation improvements.
- **Communication Skills** – Clear and consistent communication is the key to success on every project. Failure to communicate can doom even the most simple and straightforward projects. We commit to have open and honest correspondence with District staff on every project.
- **Project Management** – Jared O'Barr, PE, and Stein Coriell, AICP, are proposed as the Project Managers responsible for overall management of the on-call services contract. Depending on the type of project, Bob and Stein will be responsible for project budgets and timelines, and they will ensure that the necessary deliverables are provided to the District.

8. Understanding and Management



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9. Value and Fee Schedule

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Value and Fee Schedule

SHN intends to provide efficient, effective, timely, and cost-conscious services by:



- 1. Being honest and upfront with the HCSD regarding our abilities.** If there is a project that we can't serve efficiently and effectively, SHN will be honest and upfront with the District. This may result in SHN proposing to team with another consulting firm in order to bring the necessary level of experience and expertise to the project, or it may result in SHN providing the District with a recommendation for another firm that can provide these services.



- 2. Selecting the appropriate staff for each project.** SHN will staff projects with individuals who have the appropriate skills and experience to work on projects for the District.



- 3. Coordinating closely with the District.** SHN will work closely with HCSD throughout the duration of all projects. We will seek to obtain District input and guidance at key milestones, and we will obtain District buy-in before moving forward with our efforts.



- 4. Communicating well.** Communication is the key to success on every project. SHN understands this reality and we will strive to maintain good communication with the District and their staff on each project that we are involved with.

Fee Schedule

As requested in the RFQ, we have included our 2021 fee schedule in a separately sealed envelope.

9. Value and Fee Schedule



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10. Other Requirements

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Other Requirements

SHN affirms there are no known or potential conflicts of interest to HCSD for the On-Call Consulting Services project. We declare there are no business associations, interests, or other circumstances that could influence or appear to influence the judgment or quality of our team's services to the District.

Also, we affirm that SHN is operating under a legitimate business license and that we have all of the required insurance to work on the City's projects. Certifications will be furnished upon request. Finally, our cover letter has been signed by Jared O'Barr, an authorized representative of our firm.

Evaluation Criteria

As a summary of our submittal, we have provided the District's evaluation criteria and include elements within our SOQ which provide support for our team's responsiveness to the information requested by the District.

Evaluation Criteria	Pages where evaluation criteria are addressed	Key elements supporting evaluation criteria
Cover Sheet (5 pt)	At the beginning of document	In addition to the District's cover sheet, our cover letter outlines our interest in continuing our working relationship with HCSD.
Firm Experience and Qualifications (40 pt)	Throughout the SOQ, and our HCSD experience is shown on pages 6-2 and 6-3	Through our 28 years of experience with the District, our expertise in regard to scope related items, and our ability to be flexible in our approach, we are confident that we understand what the District requires for future projects.
Understanding/Management (30 pt)	Pages 8-1 through 8-4	We understand that the District's on-call projects may have limited budgets and short timelines, which is why we advocate simple and pragmatic approaches, and use of District staff to the greatest extent possible.
Value and Fee Schedule (20 pt)	Value discussion on page 9-1; Fee Schedule provided separately	We also want to ensure that each task order is the right-fit for both SHN and the District so that the District receives the best possible services from its on-call partners. Our 2021 Fee Schedule is submitted with this SOQ in a separately sealed envelope.
Other Requirements (5 pt)	Page 10-1	We are a fully certified and insured firm that is ready to provide all services that the District may require.

10. Other Requirements



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Humboldt Community Services District

Dedicated to providing high quality, cost effective water and sewer service for our customers

AGENDA REPORT

For HCSD Board of Directors Regular Meeting of: January 11, 2022

AGENDA ITEM: F.3 (New Business)

TITLE: Consideration of Awarding Rate Study Services Contract

PRESENTED BY: Terrence Williams, General Manager

Recommendation:

Discussion followed by motion to award Rate Study Services Contract to NBS

Summary:

Two firms responded to the recent joint Request for Proposals (RFP) with the City of Eureka for Water and Wastewater Rate Study Services; NBS and HF&H. Both firms presented strong proposals and both firms are qualified to perform municipal rate studies of the type and scale needed by the District and City of Eureka. The two proposals were reviewed and evaluated by District and City staff based on the performance criteria spelled out on pages 16 and 17 of the RFP. The RFP is available for review on the City's website at the following location (<https://www.ci.eureka.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23749>).

As is specified in the RFP, staff from both the District and the City of Eureka reviewed and evaluated the proposals before looking at the fee schedules from the proposers. Staff from both the District and the City of Eureka determined that NBS provided a superior proposal. As is indicated on page 16 of the RFP, the "Statement of Compensation" for the two highest ranking firms was reviewed. Being that only two firms submitted proposals, both Statements of Compensation were reviewed. After reviewing both Statements of Compensation, NBS was identified as the clear winner with a total fee estimate over \$100,000 less than HF&Hs.

Based on the information provided by the proposing firms, staff recommends awarding the Rate Study Services contract to NBS.

Fiscal Impact:

\$70,000 to be split between the water and sewer funds.

Attachments:

NBS Response to RFP
HF&H Response to RFP

Aerial view of City of Eureka and Humboldt Community Services District via Google Earth



CITY OF EUREKA AND HUMBOLDT COMMUNITY SERVICES DISTRICT

Technical Proposal for:

**Consulting Service for Water and Wastewater
Rate Study**

December 3, 2021



nbsgov.com



870 Market Street, Suite 1223
San Francisco, CA 94102
Toll free: 800.434.8349

nbsgov.com

December 3, 2021

LETTER OF TRANSMITTAL

Brian Issa
Deputy Director of Public Works – Field Operations
City of Eureka
531 K Street
Eureka, CA 95501

RE: Proposal for Consulting Service for Water and Wastewater Rate Study

Dear Mr. Issa,

Thank you for the opportunity to submit this proposal to prepare a joint Water and Wastewater Rate Study for the City of Eureka (City) and Humboldt Community Services District (District). Having prepared the previous rate studies, we are familiar with both agencies and developing these studies concurrently, including shared data and coordinating tasks between the two agencies.

Some of the broader objectives of this study are to develop rates and fees that provide long term revenue stability, are fair and equitable, and comply with Proposition 218 (Prop 218). Transparently communicating with the residents and businesses are also high priorities for the City and District, including communicating the impacts of rate design alternatives and monthly bills. We understand some customers would like less revenue recovered from fixed charges and more recovered from volumetric rates. Therefore, we will work with City and District staffs to develop appropriate rate and fee alternatives and clearly communicate the pros and cons of each option.

The following are a few of the benefits and advantages NBS’ proposal offers the City and District:

- 1. An Experienced Project Team:** NBS offers the same project manager who conducted the 2016 rate study. This means our team brings invaluable experience and insights to this study from the beginning. Along with our team of proven and experienced consultants, our team is well equipped to build on the previous work and efficiently complete the various technical challenges of this study.
- 2. Study Tasks Tailored To Each Agency:** Based on our work on the previous study, we have tailored our project tasks in a manner that maximizes the value and success of this study, including:
 - **Evaluation of Current Rate Design** – The current City and District water rates are based on a uniform rate design. Although tiered water rates are required to demonstrate their cost-basis, and uniform rates still make sense, we will discuss whether the City/District want to retain the current rate designs or evaluate alternatives that may better meet customers’ needs. If so, we

helping communities fund tomorrow

will clearly outline the pros and cons of the current and alternative rate structures and provide the necessary guidance and advice so that each agency can make an informed decision.

- **Examine Overall Customer Equity** – Just as volumetric/tiered rates must demonstrate their cost basis under Prop 218, *customer equity* also needs to be demonstrated in a clear and logical manner. That is, customers need (and deserve) to know *why* the rate increases are needed and be able *see* how they are equitable. NBS will work with City/District staff to carefully reexamine customer classes, rate design, and equity with the intent of developing the rate alternatives that work best for each agency.
- **Understanding Recent Changes and Trends** – For many reasons, water consumption, rate revenue, and related cost-of-service factors may have veered from those projected in the 2016 rate study. It is important to understand why, and we are committed to answering those questions. Also, Covid-19 impacts and other economic factors have impacted consumption patterns throughout the State. Because of this, building a concrete understanding of these trends is important for making projections over the next five years.

3. Offering Innovative Solutions: Working with similar agencies throughout the State over the last 40 years, our project manager understands the various approaches that can be and have been successfully used in similar studies. For example, NBS develop the first revenue-stabilization rates (which are similar to drought rates), and our continuous analysis of billing and consumption data is helpful in understanding the number of customers at each consumption level and how rate designs impact customer bills. Based on our many years of experience and our close ties to legal experts in the water industry, our proposal offers sound and implementable solutions.

As requested in the RFP, this proposal and fee schedule are valid and binding for 120 days from the date of this letter. Furthermore, this letter is signed by NBS President Michael Rentner who is authorized to bind the firm. While NBS' San Francisco office address is included above on the letterhead, our project manager is located in Davis and our lead consultant is located in Temecula.

Thank you for considering our proposal. We look forward to a more detailed discussion of our ideas for meeting the challenges of this study. Please do not hesitate to contact Greg Clumpner, our proposed Project Manager for this study, at either 530.297.5856 (cell) or at gclumpner@nbsgov.com if you have any questions.

Sincerely,



Greg Clumpner
Director



Michael Rentner
President, Authorized Signer

helping communities fund tomorrow

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1 | SUMMARY

Key Provisions

NBS's proposal offers a dedicated team of consultants that have a long history of successfully completing similar studies, with excellent client references to support this claim. Key provisions of our proposal include:

- Refining our approach and tailoring the schedule to what works best for the City/District.
- Understanding how recent changes to laws and regulations may affect the study.
- Working with you as partners and attending to your concerns.
- Advising you on the pros and cons of alternative rate designs and developing drought rates
- Striving to educate City/District staff and key stakeholders throughout the process.
- Soliciting your active involvement in the study but not burdening you with unnecessary requests.
- Our commitment to understand how and why rate revenues, water consumption, and other key factors may have veered from the projections in the 2016 rate study.

Key Personnel and Structure

The NBS project team brings together the key attributes that we believe will be critical to the success of this project. Greg Clumpner, our project manager and key point of contact, is an industry leader in utility rate study issues and brings more than 40 years of experience to this study. *(Detailed resumes for the project team are included in the Appendix).*

Senior Project Management Team – In addition to our senior project manager, our principal consultant and technical reviewer, Allan Highstreet, also brings over 40 years of experience to this study. Greg and Allan previously worked together for 13 years at CH2m Hill (now Jacobs Engineering) and represent two of the most experienced rate consultants in the industry today. Together they have completed over 600 similar studies for public utility clients as well as a wide-range of water and sewer-related financial, operational, and utility management studies.

Utility Rate Consultants - Alice Bou and Jordan Taylor will support the project team in performing large scale data analysis and validation, data input, and will also help develop the models for this study. As needed, they will facilitate data collection and reminders for City/District staff in order to move projects forward on the agreed-upon timeline for completion.

Alice Bou has a Bachelor of Arts degree and offers more than two decades of experience working in accounting and financial management performing data analysis, variance analysis, budgeting, and forecasting, financial modeling, and managerial reporting.

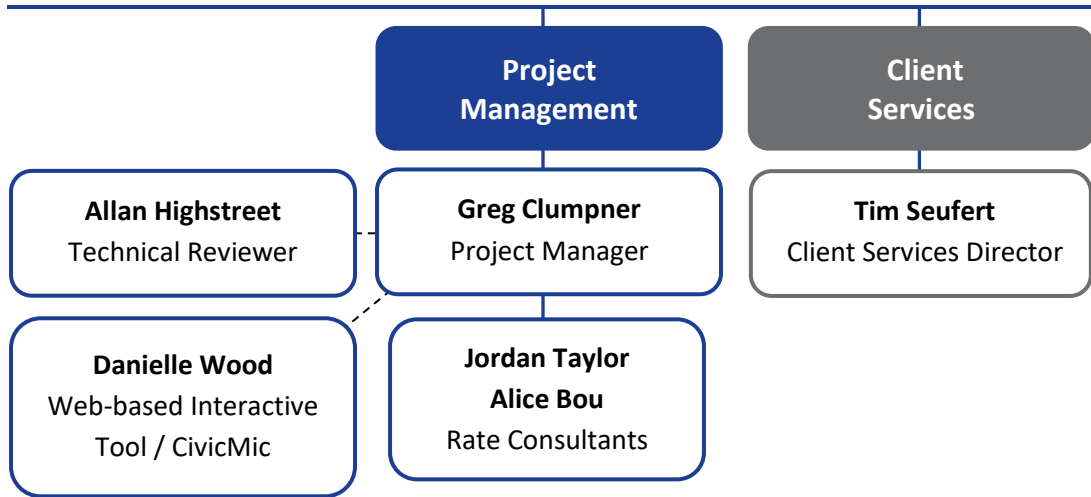
Jordan Taylor has a Bachelor of Science degree in Chemistry and a master's degree in Business Administration with an emphasis in Finance. She offers more than 10 years of accounting experience along with extensive knowledge of financial analysis and budget planning.

Web-Based Services & Rate Calculator: Danielle Wood will lead the NBS effort to develop the web-based tools. Danielle leads our Public Outreach and Communications practice (CivicMic) and specializes in creating programs and plans for effectively reaching customers and the public at large through printed, web-based, and in-person workshops. She will be the lead on developing web-based rate calculators.

Project Organizational Chart



City and District Stakeholders, Management and Staff



All work will be performed in-house by the above employee-owners of NBS. Brief biographies begin on page 24; full resumes are in the Appendix.

2 | STATEMENT OF UNDERSTANDING

Project Understanding

We acknowledge the City's and District's priority of maintaining financially healthy water and sewer utilities and ensuring rates remain stable and as low as possible. To that end, this water and sewer rate study will focus on the key components critical for the success of this study:

- **Revenue Sufficiency and Stability** – Preparing annual revenue requirements that will fully fund O&M and capital improvement needs is the task of first importance, beginning with the financial plans. This addresses revenue *sufficiency*. In contrast, revenue *stability* is significantly impacted by the rate design the City/District chooses; the right combination of fixed and volumetric rates (i.e., the percent of revenue collected from each), is critical. Related factors affecting the financial health of the agencies include whether a tiered rate design (vs. a uniform volumetric rate) is ultimately chosen, whether customer classes are modified, and how well the selected rate design will perform under future consumption levels.
- **Rate Design and Changes in Consumption Patterns** – Rate studies are the ideal time to reexamine some fundamental study components, such as rate design, consumption patterns, customer classes, and cost allocation factors. We will examine these factors to ensure they are accurately reflected in the new rates:
 - **Rate Design** – The current water rates are based on a uniform rate design. While a uniform rate design still makes sense given the legal requirements to demonstrate the cost-basis of tiered water rates, the City/District may still wish to evaluate new rate designs. We will clearly outline the pros and cons of each option and provide the necessary guidance and advice for both staff and governing bodies to make the informed decisions.
 - **Consumption Patterns** – Understanding the implications of recent changes in consumption patterns, including those caused mandated conservation, Covid-19 mandates, and other socioeconomic changes will be important. NBS will fully vet these issues with City and District staff as part of selecting and designing new rates.
 - **Customer Classes** – Sometimes access to better data, or changes in customer characteristics, may warrant reexamination of customer classes. NBS will consider and discuss potential improvements that could be made to customer classes.
- **Defensibility and Meeting Prop 218 Requirements** – Lawsuits by customers are becoming more common partly in response to increasing rates, more expensive capital replacement projects, and legal decisions affecting how fairness and equity in rates are defined. We understand these trends and concerns and will ensure that proposed rates comply with legal requirements in a manner that minimizes the risks of being challenged in court.
- **Outreach and Communication** – The City and District understand that there needs to be a high priority on maintaining transparent communications with their residents and businesses. More than ever, bringing the utility customers along in the decision process is a critical part of adopting new rates, particularly if larger rate increases are needed. NBS believes that this is far more of an “art” than it is “science,” and it requires a well-designed approach to promote community acceptance.

Services Not Provided

We want to clarify that NBS does not provide legal advice or opinions, as we are not attorneys. Therefore, we will expect the City/District to provide adequate legal review of the study.

Scope of Services – Water and Sewer Rate Study

The scope of services NBS offers for completing the water and sewer rate studies is presented in this section. We will also be prepared to make adjustments during the course of the study to better reflect the direction of City/District staff, stakeholders, and council/board as the study progresses. NBS will provide the leadership necessary to guide you through the various options, key issues, and explain the issues involved. This includes the nuances of the San Juan Capistrano Appellate Court decision.

This scope of work is intended to develop stand-alone rate studies for water and sewer rates, for both the City and District; tasks address the specific study requirements identified in Section 3 (Study Elements) of the City's and District's RFP. These tasks serve as the basis for the proposed budget for this study.

Task 1. Kickoff Meeting and Data Collection

Task Objectives: Clearly communicate and work with City/District staff to obtain necessary data and review study objectives, tasks, and schedule.

Task Deliverables:

- Data request provided to City/District staff one week prior to the kick-off meeting.
- Review of initial data provided.
- Kick-off meeting with City/District staff.
- Preliminary schedule for meetings and workshops.

The kick-off meeting will be used to review and discuss the data from the City's billing and accounting system and data requirements in general. The water and sewer data the City/District will need to provide includes customer accounts, meter sizes, monthly consumption records for each customer, total rate revenue collected, and financial data typically reported in financial statements.

Task 2. Review of Current Rates and Policies

Task Objectives: Work with City/District staff to review and evaluate current water and sewer rate structures, and rate-related policies at the beginning of the study, as well as broader financial policies. This will help set the direction for the study with a greater degree of clarity and avoid unnecessary complications when the final results are presented to the Council/Board and public. For example, policies related to basic equity and fairness, revenue stability, and the level of funding for capital repair and replacement costs should be reviewed.

Task Deliverables:

- Assessment of *current rate structures* (pros and cons, areas for improvement, etc.).
- Assessment of the actual versus projected revenues from the 2016 rate study, explaining any major differences.
- Assessment of *equity* of the rates for the various customer classes.
- Assessment of current *rate-related policies* compared to industry practices and how they may relate to possible rate alternatives.

- Recommendations for changes to and/or additional policies for the Council to consider adopting, as well as a greater degree of direction on rate alternatives for further evaluation.

Task 3. Financial Plan and Revenue Requirements Analysis

Task Objectives: Prepare a detailed financial plan that details water and sewer revenues, expenditures, reserves, debt coverage ratios, capital improvement costs, repair and replacement costs and net revenue requirements. The analysis will also look at the impacts of changes in NPDES discharge requirements from the Regional Water Quality Control Board or other potential regulatory impacts that would need to be incorporated into financial plans or rate structures. Any changes will be incorporated into the financial plan in order to better evaluate each utility’s current financial management concerns.

Task Deliverables:

- A 20-year financial projection model that will serve as a financial “roadmap” for the water and sewer utilities.
- Summary of current and projected net revenue requirements.
- Update reserve fund policies and targets potentially including reserves for operations, rate stabilization, repair and replacement, debt service and capital projects.
- Projected year-end reserve fund levels.
- Calculated debt service coverage ratios.

This financial plan will lay the groundwork for the cost-of-service and sewer and water rate design analyses addressed in Tasks 4 and 5. The following subtasks are anticipated:

- **Assess the Discrepancies in 2016 Projections** – NBS will evaluate the causes of any difference between the 2016 rate revenue projections and actual projects to determine the basic causes (water consumption, costs or revenues were higher or lower than expected, etc.).
- **Projected Revenues and Expenditures** – Using a cash-basis reflecting the City’s system of accounts, NBS will prepare a 20-year projection of revenues, expenses, and increases in rate revenue needed to meet all obligations. This will provide the City/District with the financial planning tools needed for smoothing out future rate increases and maintaining appropriate reserve fund levels in light of revised budget projections.
- **Evaluate Reserve Fund Sufficiency** – NBS will evaluate the sufficiency of existing reserve funds, target reserves, reserve fund policies, and related issues such as debt service coverage ratios. We will provide recommendations for reserve fund targets that are tailored to each utility’s specific needs such as operating, capital rehabilitation/replacement and rate stabilization.
- **Review Capital Improvement Funding** – NBS will incorporate the capital improvement plans, and evaluate the timing, costs, and available reserves used to fund various projects. We will work with City/District staff to develop a well-conceived approach to funding these capital needs. This includes an appropriate balance between debt-funded and cash-funded projects.

Figures 1, 2 and 3 are examples of the types of charts and tables we use to summarize these results (City’s chart of accounts will serve as the basis for the actual analysis and tables).

Figure 1. Summary of Five-Year Revenue Requirements and Rate Increases

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget		Projected			
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
Sources of Water Funds						
Rate Revenue Under Prevailing Rates	\$ 7,091,600	\$ 7,606,000	\$ 7,606,000	\$ 7,606,000	\$ 7,606,000	\$ 7,606,000
Non-Rate Revenues	133,750	296,500	296,500	296,500	296,500	296,500
Interest Earnings	45,125	29,163	37,340	55,894	73,691	98,558
Total Sources of Funds	\$ 7,270,475	\$ 7,931,663	\$ 7,939,840	\$ 7,958,394	\$ 7,976,191	\$ 8,001,058
Uses of Water Funds						
Water Supply & Distribution Expenses	\$ 6,623,057	\$ 6,596,874	\$ 6,654,871	\$ 6,820,387	\$ 6,973,654	\$ 7,127,186
Debt Service	1,766,547	1,406,381	1,409,586	1,399,416	1,405,713	1,879,720
Rate-Funded Capital Expenses	-	-	-	-	-	-
Total Use of Funds	\$ 8,389,604	\$ 8,003,255	\$ 8,064,458	\$ 8,219,802	\$ 8,379,366	\$ 9,006,905
Surplus (Deficiency) before Rate Increase	\$ (1,119,129)	\$ (71,593)	\$ (124,618)	\$ (261,409)	\$ (403,176)	\$ (1,005,847)
Additional Revenue from Rate Increases (1)	-	344,375	705,108	1,082,975	1,478,792	1,893,409
Surplus (Deficiency) after Rate Increase	\$ (1,119,129)	\$ 272,782	\$ 580,490	\$ 821,567	\$ 1,075,616	\$ 887,562
Projected Annual Rate Increase	0.00%	4.75%	4.75%	4.75%	4.75%	4.75%
Cumulative Rate Increases	0.00%	4.75%	9.73%	14.94%	20.40%	26.12%
Net Revenue Requirement (2)	\$ 7,868,614	\$ 7,321,593	\$ 7,374,618	\$ 7,511,409	\$ 7,653,176	\$ 8,255,847

Figure 2. Summary of Five-Year Reserve Fund Balances

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget		Projected			
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
Operating Reserve						
Ending Balance	\$ 3,312,000	\$ 3,298,000	\$ 3,327,000	\$ 3,410,000	\$ 3,487,000	\$ 3,564,000
<i>Recommended Minimum Target</i>	<i>3,312,000</i>	<i>3,298,000</i>	<i>3,327,000</i>	<i>3,410,000</i>	<i>3,487,000</i>	<i>3,564,000</i>
Capital Rehabilitation & Replacement Reserve						
Ending Balance	\$ 5,092,224	\$ 4,170,007	\$ 4,125,497	\$ 3,959,064	\$ 4,397,680	\$ 5,208,242
<i>Recommended Minimum Target</i>	<i>1,738,500</i>	<i>1,763,600</i>	<i>1,752,200</i>	<i>1,759,200</i>	<i>1,920,400</i>	<i>1,952,700</i>
Total Ending Balance	\$ 8,404,224	\$ 7,468,007	\$ 7,452,497	\$ 7,369,064	\$ 7,884,680	\$ 8,772,242
Total Recommended Minimum Target	\$ 5,050,500	\$ 5,061,600	\$ 5,079,200	\$ 5,169,200	\$ 5,407,400	\$ 5,516,700

Figure 3. Summary of Revenue Requirements and Existing vs. Proposed Rates

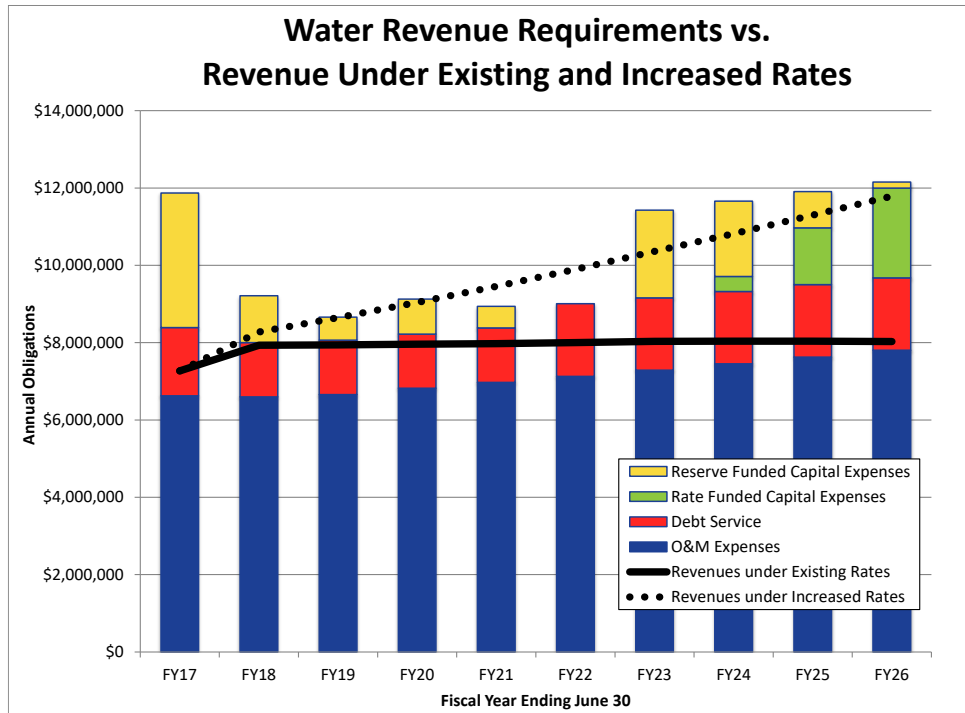


Figure 4 provides an example of a recent rate study NBS performed in which we worked with City/District staff to define the most preferable scenarios for funding capital improvement costs. These alternatives were linked to their individual scenario number (that is, 1 through 4) so that any of these alternatives could be “plugged into” the analysis to change the rate increase outcomes linked to each option.

Figure 4. Summary of CIP Alternative Scenarios

Summary of Annual Rate Increases & CIP Costs		Budget	Projected				5 Year Total FY1 15/16 - FY 19/20
		FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	
1	Full Funding of Necessary CIP Improvements						
	Annual Rate Increases to Meet Revenue Requirements	45%	40%	5%	4%	2%	-
	Capital Improvement Plan Program Funding	\$5,124,250	\$23,136,638	\$26,321,062	\$27,736,476	\$23,728,601	\$106,047,027
2	Funding of Immediate CIP Needs						
	Annual Rate Increases to Meet Revenue Requirements	25%	25%	15%	15%	5%	-
	Capital Improvement Plan Program Funding	\$3,700,000	\$8,000,000	\$10,000,000	\$10,000,000	\$15,000,000	\$46,700,000
3	Status Quo CIP Funding						
	Annual Rate Increases to Meet Revenue Requirements	25%	20%	10%	6%	3%	-
	Capital Improvement Plan Program Funding	\$3,090,000	\$3,182,700	\$3,278,181	\$3,376,526	\$3,477,822	\$16,405,230
4	Pipeline Replacement & 80% of Full Funding						
	Annual Rate Increases to Meet Revenue Requirements	35%	35%	8%	8%	8%	-
	Capital Improvement Plan Program Funding	\$4,099,400	\$18,509,310	\$21,056,849	\$22,189,181	\$18,982,881	\$84,837,622

Task 4. Cost of Service Analysis

Task Objectives: Equitably allocate the revenue requirements to each customer class and determine the cost of providing water and wastewater services to each of these classes. This analysis provides a critical component necessary for establishing a *defensible administrative record for cost-based water rates*.

Task Deliverables: Cost of service summary tables will be developed and incorporated into the rate design and rate study report.

4.1 Cost of Service Analysis (Water)

The revenue requirements will be equitably allocated to individual customer classes based on industry standard methodologies. We will review existing customer classes and analyze the historical characteristics of each customer class, including changes in consumption due to conservation, to determine if any changes should be made in order to comply with industry standards. The main components of the cost-of-service analysis are as follows:

Functionalization/Classification of Expenses – Functionalizing the expenses means arranging costs into basic categories, such as source of supply, treatment, transmission, and distribution, as well as administrative and overhead costs. Once the costs have been functionalized, they are then classified to their various cost components, such as fixed capacity, variable (commodity), or customer related costs, as illustrated in Figure 5.

Figure 5. Example of Classification of Water Revenue Requirements

Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Basis of Classification		
	FY 2017/18	(COM)	(CAP)	(CA)	(COM)	(CAP)	(CA)
Finance Expenses	\$ 370,214	\$ 37,021	\$ 148,086	\$ 185,107	10.0%	40.0%	50.0%
Engineering Admin Expenses	\$ 408,084	\$ 183,638	\$ 204,042	\$ 20,404	45.0%	50.0%	5.0%
Public Works Admin Expenses	\$ 224,417	\$ 88,397	\$ 93,322	\$ 42,698	39.4%	41.6%	19.0%
Water Distribution Maintenance Expenses	\$ 1,602,904	\$ 570,162	\$ 1,032,742	\$ -	35.6%	64.4%	0.0%
Water Treatment Expenses	\$ 3,863,817	\$ 3,640,854	\$ 222,963	\$ -	94.2%	5.8%	0.0%
Development Services and Capital Projects Expenses	\$ 126,668	\$ -	\$ 126,668	\$ -	0.0%	100.0%	0.0%
Total Water Expenses	\$ 6,596,874	\$ 4,520,418	\$ 1,828,208	\$ 248,248	68.5%	27.7%	3.8%
Debt Service Payments	\$ 1,406,381	\$ -	\$ 1,406,381	\$ -	0.0%	100.0%	0.0%
TOTAL REVENUE REQUIREMENTS	\$ 8,003,255	\$ 4,520,418	\$ 3,234,589	\$ 248,248	56.5%	40.4%	3.1%
<i>Less: Non-Rate Revenues</i>	\$ (681,663)	\$ (385,018)	\$ (275,500)	\$ (21,144)	56.5%	40.4%	3.1%
NET REVENUE REQUIREMENTS	\$ 7,321,593	\$ 4,135,400	\$ 2,959,089	\$ 227,104			
<i>Allocation of Revenue Requirements</i>	100.0%	56.5%	40.4%	3.1%			

Allocation of Costs to Customer Classes – These costs are then allocated to individual customer classes based on allocation factors specific to each cost classification, producing fixed and variable revenue requirements for each customer class. These allocations will be used for the actual rate calculations. Figure 6 describes the allocation factors that will be developed in this phase of the analysis and used to allocate water utility costs.

Figure 6. Example of Water Allocation Factors

Cost Classification Category	Commodity	Capacity	Customer
Allocation Factors	Water Consumption by Customer Class	Peak Water Use	Number of Accounts by Customer Class
Types of Costs	<i>Costs associated with the consumption of water over time.</i>	<i>Costs associated with the maximum demand required at one point in time or the maximum size of facilities required to meet this demand.</i>	<i>Costs associated with having customers connected to the system.</i>
Examples of Costs	<ul style="list-style-type: none"> • Variable Cost of Purchased Water • Electricity • Chemicals 	<ul style="list-style-type: none"> • Primarily capital facilities • Fixed cost of purchased water 	<ul style="list-style-type: none"> • Meter Reading • Customer Billing • Customer Service

As a result of applying these allocation factors to the cost classifications, the revenue required from each customer class is accumulated by customer class, as shown in Figure 7.

Figure 7. Example of Allocation of Revenue Requirements to Customer Classes

Customer Classes	Classification Components			Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	Commodity-Related Costs	Capacity-Related Costs	Customer-Related Costs		
Residential - City	\$ 1,219,454	\$ 2,304,627	\$ 183,140	\$ 3,707,221	48.8%
Residential - Outside	26,738	59,943	688	87,369	1.2%
Multi-Family	306,488	519,845	17,876	844,209	11.1%
Commercial	953,464	1,975,985	26,127	2,955,576	38.9%
Total Net Revenue Requirement	\$ 2,506,144	\$ 4,860,400	\$ 227,831	\$ 7,594,375	100%
<i>Total Net Revenue Requirement by Classification Component</i>	<i>VARIABLE</i> \$2,506,144	<i>FIXED</i> \$5,088,231		\$7,594,375	

4.2 Cost of Service Analysis (Sewer)

The proposed scope of work assumes that the costs due to changes in regulatory/discharge requirements will be addressed. The following are some of the differences in the technical analysis necessary for equitably allocating sewer revenue requirements to each of the customer classes.

Sewer Classification of Expenses – Classifying expenses involves arranging costs into basic categories, including flow and strength characteristics (that is, BOD and TSS), as well as customer costs. Figure 8 illustrates this process NBS used for a recent client.

Figure 8. Example of (Partial) Classification of Sewer Revenue Requirements

Classification of Expenses									
Budget Categories	Total Revenue	Flow	Strength		Customer	Basis of Classification			
	FY 2017/18	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
WASTEWATER TREATMENT									
Regular salaries	\$ 700,645	\$ 420,387	\$ 140,129	\$ 140,129	\$ -	60%	20%	20%	0%
Temp salaries-gen	\$ 65,769	\$ 39,461	\$ 13,154	\$ 13,154	\$ -	60%	20%	20%	0%
Life insurance	\$ 299	\$ 179	\$ 60	\$ 60	\$ -	60%	20%	20%	0%
PERS-employer contribution	\$ 243,739	\$ 146,244	\$ 48,748	\$ 48,748	\$ -	60%	20%	20%	0%
Health insurance	\$ 156,400	\$ 93,840	\$ 31,280	\$ 31,280	\$ -	60%	20%	20%	0%
Medicare	\$ 10,519	\$ 6,311	\$ 2,104	\$ 2,104	\$ -	60%	20%	20%	0%
Workers Comp	\$ 76,048	\$ 45,629	\$ 15,210	\$ 15,210	\$ -	60%	20%	20%	0%
Dental & Vision	\$ 942	\$ 565	\$ 188	\$ 188	\$ -	60%	20%	20%	0%
Oper suppl-miscell.	\$ 30,400	\$ 18,240	\$ 6,080	\$ 6,080	\$ -	60%	20%	20%	0%
Chemicals	\$ 129,000	\$ 77,400	\$ 25,800	\$ 25,800	\$ -	60%	20%	20%	0%
Laboratory supplies	\$ 14,600	\$ 8,760	\$ 2,920	\$ 2,920	\$ -	60%	20%	20%	0%
Office supplies	\$ 5,630	\$ 3,378	\$ 1,126	\$ 1,126	\$ -	60%	20%	20%	0%
Subscriptions/books	\$ 1,640	\$ 984	\$ 328	\$ 328	\$ -	60%	20%	20%	0%
Dues/memberships	\$ 2,190	\$ 1,314	\$ 438	\$ 438	\$ -	60%	20%	20%	0%
Postage/freight	\$ 1,690	\$ 1,014	\$ 338	\$ 338	\$ -	60%	20%	20%	0%
Repair parts	\$ 109,275	\$ 65,565	\$ 21,855	\$ 21,855	\$ -	60%	20%	20%	0%
Janitorial/cleaning	\$ 1,805	\$ 1,083	\$ 361	\$ 361	\$ -	60%	20%	20%	0%
Uniforms/protective	\$ 1,125	\$ 675	\$ 225	\$ 225	\$ -	60%	20%	20%	0%
Bldg/grounds suppl	\$ 800	\$ 480	\$ 160	\$ 160	\$ -	60%	20%	20%	0%
Lubricants	\$ 8,190	\$ 4,914	\$ 1,638	\$ 1,638	\$ -	60%	20%	20%	0%
Misc. fuel	\$ 5,150	\$ 3,090	\$ 1,030	\$ 1,030	\$ -	60%	20%	20%	0%
Prof/tech-miscell.	\$ 45,000	\$ 27,000	\$ 9,000	\$ 9,000	\$ -	60%	20%	20%	0%
Outside legal	\$ 150,000	\$ 105,000	\$ 7,500	\$ 7,500	\$ 30,000	70%	5%	5%	20%
All funds audit	\$ 1,800	\$ 1,080	\$ 360	\$ 360	\$ -	60%	20%	20%	0%
Arbitrag rebate calc	\$ 2,490	\$ 1,494	\$ 498	\$ 498	\$ -	60%	20%	20%	0%
Fiscal agent fees	\$ 3,175	\$ 1,905	\$ 635	\$ 635	\$ -	60%	20%	20%	0%
Misc. financial svcs	\$ 710	\$ 426	\$ 142	\$ 142	\$ -	60%	20%	20%	0%
Printing-outside	\$ 360	\$ 216	\$ 72	\$ 72	\$ -	60%	20%	20%	0%
Testing services	\$ 1,125	\$ 675	\$ 225	\$ 225	\$ -	60%	20%	20%	0%
Laboratory Testing - Outside	\$ 36,000	\$ 21,600	\$ 7,200	\$ 7,200	\$ -	60%	20%	20%	0%
Haz mat transp/clean	\$ 600	\$ 360	\$ 120	\$ 120	\$ -	60%	20%	20%	0%
Laundry services	\$ 6,750	\$ 4,050	\$ 1,350	\$ 1,350	\$ -	60%	20%	20%	0%
Miscell. consultants	\$ 54,640	\$ 32,784	\$ 10,928	\$ 10,928	\$ -	60%	20%	20%	0%
Environmental svcs.	\$ 570	\$ 342	\$ 114	\$ 114	\$ -	60%	20%	20%	0%
Biosolids Transportation	\$ 314,000	\$ -	\$ 157,000	\$ 157,000	\$ -	0%	50%	50%	0%
Maint/rep-miscell.	\$ 142,000	\$ 85,200	\$ 28,400	\$ 28,400	\$ -	60%	20%	20%	0%
Grnds/Imprv-repairs	\$ 545	\$ 327	\$ 109	\$ 109	\$ -	60%	20%	20%	0%
Misc eqpt rent/lease	\$ 4,370	\$ 2,622	\$ 874	\$ 874	\$ -	60%	20%	20%	0%
Travel-general	\$ 4,380	\$ 2,628	\$ 876	\$ 876	\$ -	60%	20%	20%	0%
Business entertainment	\$ 260	\$ 156	\$ 52	\$ 52	\$ -	60%	20%	20%	0%
Training-general	\$ 8,745	\$ 5,247	\$ 1,749	\$ 1,749	\$ -	60%	20%	20%	0%
Electricity	\$ 384,160	\$ 230,496	\$ 76,832	\$ 76,832	\$ -	60%	20%	20%	0%
Alarm line charges	\$ 7,000	\$ 4,200	\$ 1,400	\$ 1,400	\$ -	60%	20%	20%	0%
Public notice-general	\$ 580	\$ 348	\$ 116	\$ 116	\$ -	60%	20%	20%	0%
Pub. Not.-Recruit.	\$ 1,545	\$ 927	\$ 309	\$ 309	\$ -	60%	20%	20%	0%
To State-Regul. fees	\$ 50,000	\$ 30,000	\$ 10,000	\$ 10,000	\$ -	60%	20%	20%	0%
Fleet lease	\$ 113,513	\$ 68,108	\$ 22,703	\$ 22,703	\$ -	60%	20%	20%	0%
Inf Tech Repl Costs	\$ 26,538	\$ 15,923	\$ 5,308	\$ 5,308	\$ -	60%	20%	20%	0%
Liability Insurance	\$ 58,096	\$ 34,858	\$ 11,619	\$ 11,619	\$ -	60%	20%	20%	0%
General Administration	\$ 113,734	\$ 68,240	\$ 22,747	\$ 22,747	\$ -	60%	20%	20%	0%
General Government	\$ 90,515	\$ 54,309	\$ 18,103	\$ 18,103	\$ -	60%	20%	20%	0%
Fac maint costs	\$ 66,758	\$ 40,055	\$ 13,352	\$ 13,352	\$ -	60%	20%	20%	0%
Communications	\$ 3,053	\$ 1,832	\$ 611	\$ 611	\$ -	60%	20%	20%	0%
Equipment components	\$ 252,350	\$ 151,410	\$ 50,470	\$ 50,470	\$ -	60%	20%	20%	0%
Misc. tools/mach/eqp	\$ 83,320	\$ 49,992	\$ 16,664	\$ 16,664	\$ -	60%	20%	20%	0%
Software	\$ 14,500	\$ 8,700	\$ 2,900	\$ 2,900	\$ -	60%	20%	20%	0%
TOTAL - WASTEWATER TREATMENT	\$ 3,609,038	\$ 1,992,023	\$ 793,508	\$ 793,508	\$ 30,000	55%	22%	22%	1%

Allocations to Sewer Customer Classes – The next step in the sewer cost-of-service analysis is allocating the sewer costs to each of the customer classes using the allocation factors for each of the classes of costs, which are shown in Figure 9.

Figure 9. Example of Allocation Factors (Sewer)

Cost Classification Category	Flow/Effluent Volume	Strength Factors		Customer
		BOD	TSS	
Allocation Factors	Water Consumption by Customer Class	BOD Effluent levels (in Mg/L)	TSS Effluent levels (in Mg/L)	Number of Accounts by Customer Class
Types of Costs	<i>Amount of Effluent generated by each Customer Class</i>	<i>BOD-Related WWTP Processing</i>	<i>TSS-Related WWTP Processing</i>	<i>Costs associated with having customers connected to the system.</i>
Examples of Costs	<ul style="list-style-type: none"> • Hydraulic Capacity of WWTP • Effluent Pumping Stations • Collection System Costs 	<i>BOD-Related WWTP Equipment</i>	<i>TSS-Related WWTP Equipment, Sludge Handling</i>	<ul style="list-style-type: none"> • Meter Reading • Customer Billing • Customer Service

As a result of applying the allocation factors to the cost classifications (that is, the Volume, BOD, TSS, and customer costs), the revenue required from each customer class is accumulated by customer class, as shown in Figure 10.

Figure 10. Example of Allocation of Revenue Requirements to Customer Classes (Sewer)

Allocation of FY 2017/18 Revenue Requirements by Customer Class						
Customer Class	Cost Classification Components				Cost-of-Service Net Revenue	% of COS Net Revenue Reqts.
	Volume	Treatment		Customer Related		
		BOD	TSS			
Net Revenue Requirements (1)	\$ 4,649,520	\$ 1,224,469	\$ 1,224,469	\$ 190,041	\$ 7,288,500	--
	63.8%	16.8%	16.8%	2.6%	100.0%	
SINGLE FAMILY	\$ 2,181,507	\$ 445,278	\$ 509,101	\$ 147,896	\$ 3,283,782	45.1%
MULTIPLE	913,651	186,490	213,220	19,504	1,332,865	18.3%
COMMERCIAL LIGHT	991,810	151,832	173,595	19,756	1,336,992	18.3%
COMMERCIAL MEDIUM	186,530	57,110	65,296	620	309,556	4.2%
COMMERCIAL HEAVY	376,022	383,758	263,258	2,266	1,025,304	14.1%
	\$ 4,649,520	\$ 1,224,469	\$ 1,224,469	\$ 190,041	\$ 7,288,500	100%

Calculate Miscellaneous Fees – NBS will evaluate current fees for back-flow devices, fire service charges, shut-offs, etc., and determine whether changes should be made and the potential associated risks. However, we are not attorneys and cannot provide legal opinions regarding potential legal liabilities.

Task 5. Rate Design Analysis

Task Objectives: NBS will work with City/District staff to develop the best suited rate structures for the water and sewer utilities by incorporating each utility’s broader rate design goals and objectives. Pass-throughs will be included in all rate structures (HBMWD costs to the City and District, and City costs to the District). While there are no compelling reasons for abandoning the current uniform volumetric rates, we will work with City/District staff to determine the level of interest in developing tiers rates.

Task Deliverables: NBS will provide rate alternatives for water and sewer rate structures, including the evaluation of the pros and cons of various rate structure alternatives.

Develop Rate Design Recommendations – Water rates will be developed based on the cost-of-service analyses and include a discussion of the relative merits (pros and cons) of the current water and sewer rate structures and the new alternatives. This discussion and analysis will include issues such as the amount of revenue collected from fixed vs. volumetric charges, the percentage rate increases between tiers, total quantities of water included in each tier, and amount of revenue collected in each tier. While we believe rate design is more applicable to water rates, we will also review the sewer rate design.

Criteria for Improving the Rate Design – Revenue sufficiency and stability are critical components to consider when evaluating rate designs. In projecting future rates and rate increases, NBS’ approach is a generally a conservative one in which we want to ensure that there are no significant *under-collections* of rate revenue, which represents a “worst-case” scenario.

Erring on the conservative side (that is, one where there is a minimal chance of under-collecting) would potentially enable each utility to potentially reduce future rate increases, without leaving reserves underfunded. There are a number of criteria that NBS will discuss with City/District staff in considering new rate structures, including:

- How costs allocated to fixed and volumetric rates affect revenue stability.
- How decreased water usage (conservation) affects new rates.
- How summer peaking patterns are reflected in water rate design.
- How meter sizes are used in calculating fixed charges.
- The number of tiers that should be implemented (based on *San Juan Capistrano concerns*).
- The amount of revenue that should be collected within each tier.
- How “price elasticity” responses to rate increases may impact rates.
- Impacts on customer monthly bills.

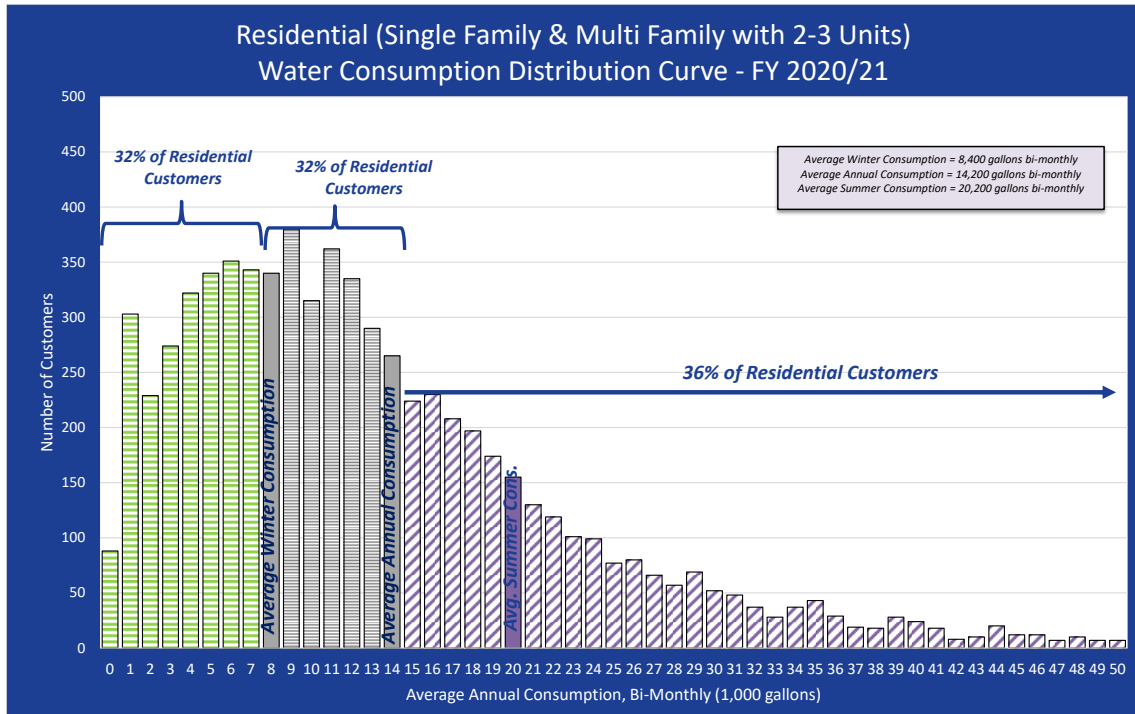
The rate structure alternative selected will, in the end, provide the basis for comparing monthly customer bills under both the current and new rate structures. However, all rate structures will be “revenue neutral” because they will all collect the same amount of revenue, both in total and within each customer class.

5.1 Evaluation of Consumption Patterns – NBS will perform a detailed analysis that will identify the *number* of customers at various levels of consumption and the *total water use* that occurs within each tier. The City’s most recent water consumption data will be used for this analysis.

This type of data analysis ensures an accurate projection of the revenue that will be collected within each tier, and allows for testing various rate structure alternatives (for example, changing tier breakpoints and rates) in order to accurately design water rate tiers and recover sufficient revenues. Figure 11 on the next page illustrates a distribution curve that summarizes the number of customers by consumption level.

As previously noted, the San Juan Capistrano case requires the City/District to demonstrate the cost-basis for tiered water rates. This will require, in addition to detailed consumption data, costs and quantities of sources of supply and how those are allocated to customer classes and tiers.

Figure 11. Example of a Consumption Distribution Analysis



5.2 Calculate Fixed and Volumetric Charges – Fixed costs consider the number of accounts, equivalent meters, and the number and size of meters. In contrast, variable costs are typically allocated in proportion to consumption. We note that although a strict cost-of-service methodology would determine the percentages of rate revenue collected from fixed and variable rates, other factors are typically considered in this process. Other factors include revenue stability, water conservation goals, ease of understanding, and ease of administration.

NBS will recommend a rate structure that provides a balance between fixed and variable charges, with one alternative that is intended to recover all or a significant portion of fixed costs from fixed charges and variable costs from volumetric rates.

Figures 12, 13 and 14 illustrate how the rate-design analysis recovers customer costs based on the total number of meters, capacity costs from each meter size based on the hydraulic capacity, and how commodity costs are recovered from customers based on water consumption. However, the City’s water supply costs and quantities will be examined to see whether they are sufficient to develop a tiered rate design.

Figure 12. Example of Fixed Charges Calculations

Number of Meters by Class and Size (1)	FY 2017/18								Total
	5/8 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Residential - City	7,778	187	19	7	-	-	-	-	7,991
Residential - Outside	25	1	1	1	1	1	-	-	30
Total Meters/Accounts	7,803	188	20	8	1	1	-	-	8,021
Hydraulic Capacity Factor (2)	1.00	2.50	5.00	8.00	16.00	25.00	50.00	80.00	
Total Equivalent Meters	7,803	470	100	64	16	25	-	-	8,478
Monthly Fixed Service Charges									
Customer Costs (\$/Acct/month) (3)	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	\$1.91	
Capacity Costs (\$/Acct/month) (4)	\$23.24	\$58.11	\$116.21	\$185.94	\$371.88	\$581.06	\$1,162.11	\$1,859.38	
Total Monthly Meter Charge	\$25.15	\$60.02	\$118.12	\$187.85	\$373.79	\$582.97	\$1,164.02	\$1,861.29	
Annual Fixed Costs Allocated to Monthly Meter Charges									
Customer Costs	\$ 183,828								
Capacity Costs	2,364,570								
Total Fixed Meter Costs	\$ 2,548,398								
Annual Revenue from Monthly Meter Charges									
Customer Charges	\$ 178,832	\$ 4,309	\$ 458	\$ 183	\$ 23	\$ 23	\$ -	\$ -	\$ 183,828
Capacity Charges	2,176,308	131,086	27,891	17,850	4,463	6,973	-	-	2,364,570
Total Revenue from Monthly Meter Charges	\$ 2,355,140	\$ 135,395	\$ 28,349	\$ 18,033	\$ 4,485	\$ 6,996	\$ -	\$ -	\$ 2,548,398

Figure 13. Example of Commodity Rate Calculations

Customer Classes	Number of Meters (1)	Water Consumption (hcf/yr) (2)	Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/hcf)	Proposed Rate Structure
Residential - City	7,991	566,756	\$ 1,219,454	16%	\$2.15	Uniform
Residential - Outside	30	12,427	\$ 26,738	0%	\$2.15	Uniform
Multi-Family	780	142,444	\$ 306,488	4%	\$2.15	Uniform
Commercial	1,140	443,134	\$ 953,464	13%	\$2.15	Uniform
Total Potable Water	9,941	1,164,761	\$ 2,506,144	33%		

Figure 14. Example of Single-Family Residential Tiered-Rate Calculations

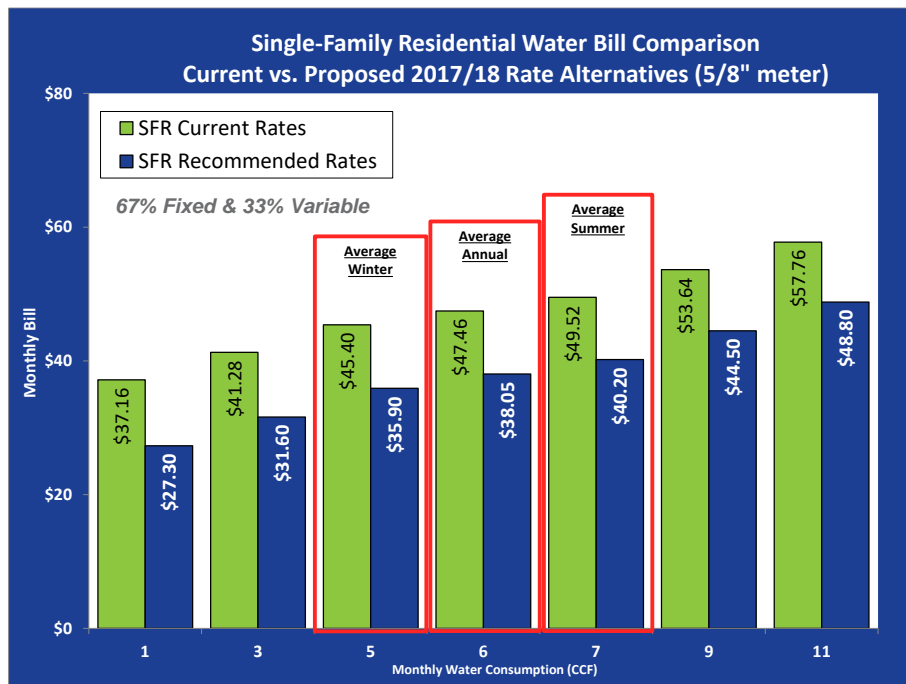
Consumption by Tier							
Residential Tier	Source of Supply Associated with Each Tier	Bi-Monthly Tier 1 Breakpoint ¹	Expected Annual Consumption ² (1,000 gals.)	Percentage of Total Residential Consumption	Percentage of SCWA Source		
Tier 1	District Wells	4,000 Gallons	131,201	21.4%	--		
Tier 2	SCWA	≥ 4,000 Gallons	483,031	78.6%	100.0%		
Total			614,232	100%	100%		

Tier and Supply Source	Consumption (1,000 gal.) ¹	Cost/AF ²	Supply Unit Costs (\$/1,000 gal.)	Total Supply Costs (\$/Yr.)	Non-Supply Volumetric Costs	Total Resid. ³ Vol. Costs	Tiered Resid. Rates
	(a)	(b)	(c)	(a) x (c) = (d)	(e)	(d) + (e) = (f)	(f) ÷ (a) = (g)
Tier 1 (District Wells)	131,201	\$346.27	\$1.06	\$139,401	\$318,984	\$458,385	\$3.49
Tier 2 (SCWA)	483,031	\$1,374.21	\$4.22	\$2,036,780	\$1,174,382	\$3,211,162	\$6.65
Totals/Average	614,232	\$1,154.64	\$3.54	\$2,176,181	\$1,493,366	\$3,669,547	\$5.97

Example from Valley of the Moon Water District

5.3 Comparison of Monthly Bills and Regional Rates – We will prepare an analysis of monthly water bills for various types of customers, such as single-family customers with low-, average-, and high-water usage under each rate alternative evaluated in the study. This analysis is useful when evaluating the effects of different rate structures on customers, as illustrated in Figure 15.

Figure 15. Example of Monthly Bill Comparison



Five-Year Rate Schedule – We will provide each agency with a rate schedule that includes proposed rates for the next five years and a projection of the typical bill for the five-year period. NBS will also compare current and proposed water and sewer rates to similar regional water and sewer providers (up to five). The results of this comparison will be presented in the rate study report and will provide City/District staff and Council with a basis to compare the cost of delivering water and sewer service to customers throughout the region.

5.4 Other Service Charges – NBS will review the current miscellaneous charges and examine the potential for other types of charges (e.g., shut-offs/turn-ons, backflow devices, plan review, fire service, etc.). Some of these fees may follow common practices of other municipal agencies, or they may involve calculating actual cost-recovery based on staff time and direct costs required to provide the services.

5.5 Prepare Conservation/Drought Rates – These adjustments to volumetric rates for various levels of conservation are based on water shortage scenarios, such as those outlined in an adopted water shortage contingency plan. Conservation rates also encourage conservation and/or ensure revenue stability during more severe drought stages.

This task will develop a conservation rate structure to ensure that it can successfully accommodate reductions in water sales from a financial perspective. NBS will work with City/District staff to develop drought rates that reflect specific supply costs, changes in the costs of energy, chemicals, etc. Figure 16 illustrates how the key factors might be incorporated in a process that calculates the volumetric rates needed at various conservation-stages to still produce sufficient revenues. Figure 17 shows the resulting volumetric rates for each conservation (water-shortage) level.

Figure 16. Example: Calculating Conservation-Stage Volumetric Rates

Expense Description	Commodity Costs ¹				
	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Purchased Water	\$ 2,329,832	\$ 2,460,303	\$ 2,598,080	\$ 2,743,572	\$ 2,897,212
Utilities - PG&E	\$ 182,154	\$ 194,176	\$ 206,992	\$ 220,653	\$ 235,217
O&M - Operating Salaries (25%)	\$ 243,851	\$ 253,605	\$ 263,750	\$ 274,300	\$ 285,272
Adjusted Commodity Assigned Costs	\$ 2,755,838	\$ 2,908,085	\$ 3,068,821	\$ 3,238,525	\$ 3,417,700

Percentage of Conservation	Total Consumption (1,000)	Base Commodity Cost	Impacted Commodity Cost	Savings	Updated Commodity Cost
<i>a</i>		<i>b</i>	<i>c</i>	<i>d = (-a) * c</i>	<i>e = b + d</i>
0%	818,663	\$ 5,004,818	\$ 2,755,838	\$ -	\$ 5,004,818
10%	736,797	\$ 5,004,818	\$ 2,755,838	\$ 275,584	\$ 4,729,234
20%	654,930	\$ 5,004,818	\$ 2,755,838	\$ 551,168	\$ 4,453,650
30%	573,064	\$ 5,004,818	\$ 2,755,838	\$ 826,751	\$ 4,178,067
40%	491,198	\$ 5,004,818	\$ 2,755,838	\$ 1,102,335	\$ 3,902,483
50%	409,332	\$ 5,004,818	\$ 2,755,838	\$ 1,377,919	\$ 3,626,899
60%	327,465	\$ 5,004,818	\$ 2,755,838	\$ 1,653,503	\$ 3,351,315

Example from Valley of the Moon Water District

Figure 17. Generic Example: Resulting Conservation-Stage Volumetric Rates

Drought Level	Level of Conservation	Updated Commodity Cost	Total Consumption (1,000 gal.)	Uniform Rate '22/23
No Level	Baseline ¹	5,004,818	818,663	\$6.11
Level 1	10%	\$ 4,729,234	736,797	\$6.42
Level 2	20%	\$ 4,453,650	654,930	\$6.80
Level 3	30%	\$ 4,178,067	573,064	\$7.29
Level 4	40%	\$ 3,902,483	491,198	\$7.94
Level 5	50%	\$ 3,626,899	409,332	\$8.86
Level 6	60%	\$ 3,351,315	327,465	\$10.23

Example from Valley of the Moon Water District

Task 6: Connection Fee Analysis

Task Objectives: Develop updated water and sewer connection fees for the City and District that appropriately recovers the cost of new development and are consistent with applicable legal requirements and industry standards.

Task Deliverables: Updated water and sewer connection fee schedules.

Overview of Connection/Capacity Fee Calculations – In its simplest form, connection fees are the result of dividing the cost (or value) of the system’s current capacity plus planned capital improvements by the expected number of new customers. The two most common approaches are often referred to as (1) a “buy-in” approach, whereby new users pay for their fair share of existing system assets paid for by current customers, and (2) an “incremental” or “marginal” approach that assumes capacity fees should fully cover the costs of all new (or “incremental”) system facilities required to provide them sufficient capacity in the system. Depending on the remaining system capacity, a combination of these two approaches is often used. NBS will develop an appropriate methodology that complies with industry standards, and will appropriately reflect planned capital improvements and projected growth.

Developing Asset Values – The actual methodology of estimating the value of existing system assets (for example, collection, pumping, and treatment) is important to the outcome. For example, using current book values typically underestimates the “true value” of facilities, while a replacement-cost-less depreciation

approach usually provides a better estimate of the true value of assets. We will use the replacement-cost-less depreciation approach to estimate the value of the City's and District's assets and propose using the Handy-Whitman Index of Public Utility Construction Costs, which is a regionally specific index that tracks costs for water utility construction. We believe this is the most accurate inflation index available to water and wastewater utilities and the City and District can use it going forward, so that connection fees can keep pace with cost inflation.

Once the values of the existing and planned (that is, incremental or marginal) system assets are estimated, these values are allocated to existing and new customers. NBS will assess the equity of how these values are allocated to existing and new customers, and then divide the amount allocated to new customers by the system capacity, typically measured in equivalent dwelling units (EDU's) or equivalent meter units. This calculation determines the maximum cost the City and District can charge per EDU for a new connection, from which all other charges are related.

Calculate and Recommend New Connection Fees - The total costs allocated to growth (or value of the system assets available to serve growth) are divided by the available capacity in EDU's, as determined by the system capacity available to serve growth.

NBS will consider two methods of estimating the capacity available to future customers: (1) calculate all available remaining capacity, and (2) calculate expected number of units that would be added to the system. This second approach could be less than the available remaining capacity. For example, if there are 5,000 EDU's of remaining capacity in the system, but realistic growth is only 3,000 EDU's, then the smaller number would be used to calculate the capacity fee. Based on this analysis, NBS will review the new connection fees with City and District staff and recommend the alternative that best meets its needs.

Task 7: Prepare Rate and Connection Fee Models

Task Objectives: Develop the water and wastewater financial planning/rate and connection fee models for City staff to use once the rate study is complete. Prepare the web-based public involvement tool for customers to compare user charges.

Task Deliverables: MS Excel-based financial planning/rate and connection fee models, web-based public involvement tool for customers to compare user charges, and one training session with City staff on how to use the model.

We will develop MS Excel-based planning/rate and connection fee models for City Staff to use once the study is complete. In these models, the revenue requirements and financial planning components of the model will cover a 20-year period, while the cost of service and rate design components will establish rates for a test year and include proposed rates for five years. The financial planning/rate models can then be used to update and track performance annually. The connection fee model will establish connection fees for one year and then a cost inflation factor (typically, the Engineering News Record Construction Cost Index) can be applied to the fees in future years to keep pace with costs. NBS will provide City staff with one training session on how to use the model at the conclusion of the study; however, we will review components of the model in progress meetings throughout the study with the goal that Staff will be very familiar with the model and how it works at the conclusion of the project. The models will not require any licensing fees and/or setup/updates from NBS. NBS will also prepare a web-based rate calculator where a customer can enter their account information and see the impacts of the proposed rates on their bill.

We would like to provide the following comments and advice regarding the City’s plans for using the models developed in this study:

Complexity and Proprietary Models – In terms of technical modeling, NBS models are not proprietary—we avoid creating “black-box” models that are difficult to understand and follow. We believe that simplicity and transparency are essential. In considering what is important in a rate model, we note that most of the recent Prop 218-related rate design lawsuits have involved rate models, including “proprietary” models that have simply been deficient in establishing the administrative record. As the attorneys in recent lawsuits have stated, transparency is critical—if the rate model can’t be explained, and the calculations aren’t easily understood, the defensibility of the results is weakened.

Development of the Rate Model – We will review the various tables included in the models as a part of the progress meetings with City staff. As a result, our goal is that City staff will be familiar enough with the models by the time the study is finished that they will be able to make changes and see the impacts of rates and financial plans.

Task 8. Prepare Written Study Reports

Task Objectives: Prepare study reports.

Task Deliverables: Preliminary reports, draft final reports, and final reports for review by City/District Staff that include our final recommendations for the financial plans, rate and fee structures. Sufficient information will be provided in the report for staff, the Council and the public to review and understand the study. 10 hard copies of each report will be provided.

We will prepare preliminary reports, draft final reports, and final rate study reports that include proposed rates for the next five years, although the financial model will cover a 20-year period. An executive summary and introduction will present the purpose of the report and results of the study. Tables, graphs, and charts will be used as appropriate, but the emphasis will be on providing a clear, concise and understandable report that will provide the City and District with a thorough administrative record that addresses:

- Findings and recommendations.
- Overall study methodology, with reference to AWWA M1 Manual and industry standards as needed.
- Five-year financial plan, including a revenue and expense projection.
- Description of the capital improvement program, as provided by City/District.
- Supporting justification in the form of calculation tables that a judge and general public could easily understand.
- Appropriate figures and tables summarizing key aspects and results of the study.
- A summary of the Proposition 218 process.
- Proposed new sewer rate structure that is based on cost-of-service principles, including meeting the following criteria:
 - Providing adequate revenue from rates.
 - Adopting new rates that are both defensible and equitable across customer classes.
 - Includes a multi-year adjustment schedule using a clearly defined inflationary formula that does not exceed the cost of service.

We will provide 10 hard copies of the preliminary reports, 10 copies of the draft final reports, 10 copies of the final reports, an electronic file in Microsoft Word of the reports, and one reproducible copy that includes the preliminary results of the study and alternative rates for City/District review and comment.

Task 9. Meetings and Presentations

We note that in the RFP Addendum Q&A, the City/District will consider all meetings being conducted online due to the cost savings. Therefore, we have assumed remote formats for all meetings and addressed optional costs of in-person attendance in our cost proposal.

9.1 Coordination with City/District Staff

Task Objectives: Bi-weekly conference calls with City/District Staff to discuss progress, problems, and develop solutions. NBS will email intended discussion topics to be covered at each meeting prior to the meeting time and summarize discussions and actions by each party as a follow up to each meeting.

Task Deliverables: Bi-weekly phone meetings with City/District Staff, emailed agendas prior to and synopsis of meetings following each discussion.

9.2 Meetings with City/District Staff and Stakeholders

Task Objectives: Facilitate study progress, communication of results, and meetings with City/District staff and stakeholders.

Task Deliverables: Provide two (2) remote meetings with City/District Staff and two (2) remote meetings with City/District Staff and committee(s) to review work products, study progress, and receive input.

NBS proposes to have a total of four (4) remote progress meetings with City/District staff and stakeholders to review initial work products and gain input from Staff on the direction of the study. We also expect to have regular phone conversations with City/District staff to discuss how the study is proceeding, solicit input from Staff and, prior to the public meetings, to review and discuss the initial results and work products.

9.3 Council Meetings/Presentations

Task Objectives: Effectively communicate with the City Council/District Board and the public as needed to successfully complete the study.

Task Deliverables: Provide up to three remote presentations¹ with the City Council/District Board as requested.

NBS will provide three (3) workshops with the City Council/District Board. After consulting with and incorporating input from City/District staff, we will prepare an appropriate PowerPoint presentation. For the City's consideration, we propose the following presentations for this process:

1. Presentation of the initial rate study results; seek direction on proposed changes to the rate structure from the Council.
2. Attend and present at up to two public hearings within each jurisdiction.

Task 10. Provide Proposition 218 Guidance

Task Objectives: Assist the City/District in developing Prop 218 compliant water and wastewater rates and appropriate notifications. This also includes advising the City/District on the ordinances and resolution necessary for implementation.

¹ NBS will assume that City staff will provide final comments and edits on presentation materials no later than two (2) days prior to the date of presentation, particularly changes in rate study results, assumptions, etc.

Task Deliverables: Guidance and advice to City/District staff on compliance with the Prop 218 process, as well as the rate tables necessary for the Prop 218 notices.

NBS will provide the City/District with the necessary tables, as well as general guidance, advice, and written text as needed in complying with the Prop 218 process for adopting and implementing new water and wastewater rates. This includes the notification and public hearing process, preparation of the notices, and/or additional assistance with adopting and implementing new rates. NBS has close ties with legal counsel and will seek out advice for the City/District as needed. *(Note: at this time, our assistance is limited to the hours allocated in the study budget.)*

3 | BACKGROUND AND EXPERIENCE

Firm History

NBS is an independent consulting firm founded in 1996 by experienced finance and engineering professionals and has worked with more than 500 public agencies to date. NBS serves local governmental agencies, including cities, towns, counties, municipal utilities, and special purpose districts. The goal of NBS is to provide support, expertise and solutions that allow these local agencies to focus on community needs and core services. One focus area of the firm is on sustainable water, wastewater, recycled water and stormwater utility rate programs. In addition, NBS provides other utility financial analysis and studies.

NBS currently has 50 employees located in Temecula (corporate headquarters) and San Francisco (regional office). NBS as a whole has low staff turnover and is respected for the longevity of staff. In 2014, NBS became a 100% employee-owned firm, which has strengthened that trend. We are actively, *but prudently*, growing our firm recruiting top talent to ensure our clients’ expectations are always met – if not, exceeded.



AT-A-GLANCE: helping communities fund tomorrow

25
YEARS

In
Business

100%
ESOP

NBS is a 100%
employee-owned
S-Corporation



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LEGAL NAME
NBS Government
Finance Group

DBA
NBS

50
EMPLOYEES



INDIVIDUAL AUTHORIZED TO NEGOTIATE AGREEMENT
Michael Rentner, President

Utility Rate Group

The NBS Utility Rate Group ensures your utility rates, system capacity fees, and financial plans provide an appropriate level of funding and are also justifiable in a fluid legal and regulatory environment.

500
STUDIES
PERFORMED

We act as strong advocates for our many utility clients to ensure that rates and fees address the multitude of challenges facing each community. Just ask the municipalities where we have performed more than 500 studies!

**PROP
218**
COMPLIANT

Once study results are in, we support you through the Proposition 218 approval process. Working within legal and industry standards, we partner with you to implement solutions for the most challenging financial issues.



Throughout the process, we strive to educate the public, manage community expectations, and work within the often-confusing legal framework to develop the best solutions for your utility. Our analytical support and expert consultants help agency staff and legal counsel navigate the practical and legal challenges.

Registered Municipal Advisor – NBS is registered with the Municipal Securities Rulemaking Board (MSRB) and the U.S. Securities Exchange Commission (SEC) as a Municipal Advisor (MA). Pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act, firms providing advice with respect to municipal financial products or the issuance of municipal securities shall be registered as an MA with the MSRB and SEC.



Revenue Versatility.

All of our clients have the ultimate goal of maintaining the highest possible level of services to all who live, work and play in their communities. We focus on each municipality's unique needs and circumstances by supporting a wide range of revenues.



Uncommon Expertise.

We proactively seek to educate the public. From creating guidebooks; to helping navigate the laws, codes, and regulations affecting local governments; to sponsoring workshops, NBS University and other speaking engagements: we forge the way in industry expertise. Our team members are often asked to speak at seminars and conferences as well as serve as expert witnesses.



Registered with MSRB and SEC.

We studied it, we passed the exams, and now we eat, breathe, and live revenue analysis. Being a Municipal Advisor registered with the U.S. Securities and Exchange Commission (SEC) and the Municipal Securities Rulemaking Board (MSRB) means that we have a fiduciary duty to municipal entities to help protect them and the public interest while promoting transparency.

Experience

Our rate consulting staff are primarily located in the San Francisco Bay Area; Greg Clumpner is located in Davis and Allan Highstreet is located in Sacramento. Other staff including Jordan Taylor and Alice Bou are in our Temecula office, which is the headquarters for NBS. Support staff include editors and graphics design staff, as well as typical administrative and accounting/bill staff. Only support staff, such as editors and graphics design staff who directly work on this study will be billed to the project budget.

The following is a sampling of California municipal agency clients for which the proposed NBS project staff have completed (or was recently selected as the most qualified firm to complete) projects similar to the City/District's study. Detailed descriptions and references for recent projects can be found in the next section.

NBS Similar Water and Sewer Project Experience

Below is a selected list of projects similar to the City/District’s study that our proposed team has completed (or is now completing), most are within the last five years.

- Azusa Light and Water, *Water Rate Study*
 - Alameda County Water Agency (Zone 7), *Connection Fee Update Study*
 - Bellflower Mutual Water Company, *Water Rate Study*
 - Calaveras County WD, *Water and Sewer Rate Study*
 - Citrus Heights Water District, *Water Rate Study*
 - City of Colton, *Water Rate and Connection Fee Study*
 - City of Santa Ana, *Public Utilities Internal Overhead Cost-Allocation Analysis (Internal White Paper)*
 - City of Davis, *Sewer Rate and Capacity Fee Study*
 - City of Fort Bragg, *Water, Sewer and Drainage Rates*
 - City of Fresno, *Public Sanitation Fee Study*
 - City of Redding, *Water, Sewer and Solid Waste Rate and Development Impact Fee Studies*
 - Cucamonga Valley Water District, *Water and Recycled Water Connection Fee Study*
 - Costa Mesa CSD, *Solid Waste Rate Study*
 - City of Los Angeles, Department of Water and Power, *Various Water Rate Analyses**
 - City of Madera, *Water, Sewer, Storm Drainage and Solid Waste Rate Studies*
 - City of Eureka, *Water and Sewer Rate Study*
 - City of Morgan Hill, *Water and Sewer Rate Study*
 - City of Redding, *Water, Sewer and Solid Waste Rate Study and Connection Fee Analysis*
 - City of Sacramento, *Water, Sewer, Combined Sewer, and Stormwater Development Impact Fee Studies and Community Sanitation Fee Study*
 - City of Santa Paula, *Water and Sewer Rate Study*
 - County of Sonoma, *Water and Sewer Rate Study*
 - City of San Francisco, Public Utility Commission, *Solid Waste and Electric Utility Rate Studies**
 - City of Sausalito, *Sewer Rate Study*
 - City of Sunnyvale, *Water Rate Study*
 - City of Victorville, *Sewer Rate Study, Industrial Pretreatment Program Fee Study, and Storm Drain Rate Study*
 - Desert Water Agency, *Water, Sewer & Recycled Water Rate Study, and Tribal Water Rates Analysis*
 - Hidden Valley Lakes Community Services District, *Water and Sewer Rate Study*
 - Humboldt CSD, *Water and Sewer Rate study*
 - Mountain House CSD, *Water and Sewer Rate Study*
 - Napa Sanitation District, *Sewer Rate Study*
 - San Benito County, *Developer Storm Drainage Impact Fee Reimbursement Analysis*
 - Town of Mill Valley, *Sewer Rates and Capacity Fees*
 - Pajaro Sunny Mesa CSD, *Water Rate Study*
 - San Lorenzo Valley Water District, *Water and Sewer Rate Study and Fire Damage Surcharge Study*
 - Santa Clara Valley Water Agency, *Water Supply and Flood Control Development Impact Fee Study*
 - Suisun-Solano Water Authority, *Water Rate Study*
 - Sussex County, Delaware, *Water, Sewer Rate and Capacity Fee Study and Oversizing Credit Analysis*
 - Valley of the Moon WD, *Water Rate Study*
 - Victorville Water District, *Water Rate Study*
 - Valley Sanitation District, *Sewer Rate Study*
- * As subconsultant to Guide House/Navigant



4 | APPROACH TO UTILITY RATE STUDY

Role of the Consultant

The role of the consultant in this study is to provide the technical advice and guidance necessary to fully evaluate the technical issues, including various alternatives considered, and bring the study to a successful conclusion (adoption of new rates). This includes Prop 218-related support, materials, and presentations as necessary. NBS also assumes full responsibility for cost controls and managing each study task.

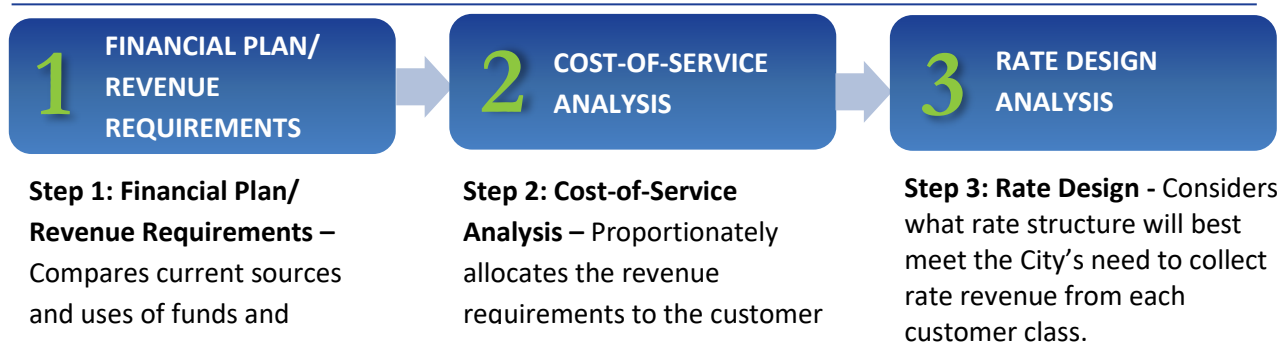
The extent to which we work with staff and elected officials largely depends on your preferences; if staff is more comfortable making public presentations, we would fully support those efforts. On the other hand, if you prefer for the consultant to make presentations and answer questions, we typically fulfill that role and believe we can most appropriately answer complicated and/or difficult questions both about the study and broader utility issues and what other agencies are doing.

NBS managers (Greg Clumpner and Allan Highstreet) and staff regularly attend and speak at industry conferences (ACWA, AWWA, CWEA) on water and sewer rate issues such as rate design, cost-of-service principles, and conservation and drought topics. For example, this month, the entire NBS team attended the annual ACWA conference in Pasadena.

Methodology

NBS follows basic industry standards, which are shown in Figure 19 and are intended to reflect the fundamental principles of cost-of-service rate making embodied in the American Water Works Association (AWWA) Principles of Water Rates, Fees, and Charges², also referred to as Manual M1. They also address requirements under Prop 218 that rates not exceed the cost of providing the service and be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, these three steps represent the order they were performed in this Study.

Figure 19. Primary Components of a Rate Study



² Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, sixth edition, 2012.

NBS' project manager, Greg Clumpner, is the director of NBS' utility rate study group and offers more than 30 years of experience and completion of more than 200 similar studies.

Project Team

The following is a brief summary of our project manager and point of contact, Greg Clumpner (please see additional information in Section 1 and his Resume located in the Appendix):

GREG CLUMPNER, PROJECT PRINCIPAL

Role and Responsibilities: Greg Clumpner will provide direction, guidance, and quality control on the project, including the evaluation of study alternatives and results. He will direct the project team in developing the best solutions that will fit the City/District's unique characteristics and issues and will represent NBS at public workshops and hearings.

Work Experience: As the director of NBS' Utility Rate Study Practice, Greg Clumpner's 40-year professional career has focused on cost-of-service rate studies for municipal water, sewer, recycled water and solid waste agencies. He regularly makes technical presentations at client workshops and industry conferences. Greg's practice includes related management-consulting assignments related to utility operations, system valuations, and feasibility studies. He also created and managed Foresight Consulting where, for six years, he focused on water and sewer rate analyses. He has completed 400+ similar studies during his career.

Additionally, Greg works with Prop 218 legal counsel on an on-going basis and knows the general legal constraints and when to solicit legal input to ensure alternatives will meet all legal requirements. His academic background includes a BS in Environmental Planning and a MS in Agricultural Economics.

ALLAN HIGHSTREET, SENIOR REVIEW

Role and Responsibilities: Allan will provide excellent additional experience in water and sewer rate making and provide senior technical review on this project. He will be available as needed throughout the project to assist the project team with the analysis and technical issues as they arise.

Work Experience: Allan has 41 years of experience in the water industry working as an economist for Jacobs Engineering (previously CH2M Hill). Most recently he was senior vice president at Jacobs managing water resource planning and development projects. Allan's four decades of experience includes preparing water and sewer rate and capacity fee studies, and he provides invaluable experience to the NBS project team for this engagement. His academic background includes a BS in Agricultural Business and a MS in Agricultural Economics.

JORDAN TAYLOR, UTILITY RATE CONSULTANT

Role and Responsibilities: Jordan Taylor is on staff with NBS and has more than a decade of project experience. She will support the project team in performing consumption data analysis and validation, data input and will also help develop the financial plan.

Work Experience: Jordan Taylor has a Bachelor of Science degree in Chemistry and a master's degree in Business Administration with an emphasis in Finance. She offers more than 10 years of accounting experience along with extensive knowledge of financial analysis and budget planning.

ALICE BOU, UTILITY RATE CONSULTANT

Role and Responsibilities: Alice Bou is on staff with NBS and brings more than two decades of project experience. She will support the project team in performing large scale data analysis and validation, data input, and will also help develop the financial plan, cost-of-service analysis, and rate design alternatives.

Work Experience: Alice Bou has a Bachelor of Arts degree and offers more than two decades of experience working in accounting and financial management performing data analysis, variance analysis, budgeting and forecasting, financial modeling, and managerial reporting.

DANIELLE WOOD, OUTREACH CONSULTANT

Role and Responsibilities: As the lead consultant on public engagement, Danielle Wood will communicate directly with City/District staff to discuss engagement milestones, create and adjust engagement approaches and lead community meetings on behalf of the City/District. Danielle will serve as the primary contact for this effort.

Work Experience: Danielle has nearly two decades of experience as a Director at NBS. As one of the developers of CivicMic.com, an online outreach, and collaboration tool, she is a seasoned professional in outreach, public engagement, collaborative governance, special financing district formation, and administration.

Education:

- Bachelor of Science, Business Administration/Finance, California State University San Bernardino
- Advanced Public Engagement for Local Government Program, Pepperdine School of Public Policy
- Planning for Effective Public Participation Program, International Association for Public Participation

*“We greatly appreciate your follow-up, follow-through, and commitment to our community!
We all desire to live well and thrive for the good of the whole City!”*

Property Owner, City of Oxnard

TIM SEUFERT, CLIENT SERVICES DIRECTOR

Roles and Responsibilities: As Client Services Director, Tim Seufert will ensure that the City/District’s fundamental objectives are being met at all times and that the project is proceeding on a timely basis. He is included on the team as an active representative of our company’s commitment to the highest level of service.

Work Experience: Tim Seufert has two decades of local government experience with a wide variety of revenue tools. He also has a decade of corporate financial experience. Tim has been involved with many projects from their inception and feasibility stage to their completion. He has been a presenter at dozens of training seminars, and he is an author on local government finance issues for the California League of Cities, the California Special Districts Association, California Society of Municipal Finance Officers, and other forums.

References

CITY OF REDDING, CA

WATER, SEWER AND SOLID WASTE RATE, RATE UPDATE AND IMPACT FEE STUDIES

Years as client: Seven (7) years/Last project completed January 2020



Contact Information

Chuck Aukland
Public Works Director
or Ryan Bailey, PE
777 Cypress Ave.
Redding, CA 96001
P: 530.225.4170 (Chuck)
P: 530.224.6030 (Ryan)
E: caukland@ci.redding.ca.us
E: rbailey@ci.redding.ca.us

NBS completed an extensive update of the cost-of-service study of water, sewer, and solid waste rates originally prepared in 2013. A key part of these studies was working with a Citizens Advisory Group that reviews and provides recommendations to the City Council. Major tasks included reviewing financial/rate setting policies, preparing financial plans, developing revenue requirements, performing cost-of-service analyses, and developing alternative rate designs. NBS also updated the City's capacity fees in 2017 and completed our fourth update of the rates for the City in January 2020, which demonstrates the City's confidence in NBS' ability to effectively conduct these studies.

Project dates for studies:

2013 Rate & Capacity Fee Study: March 2012 – August 2013

2016 Rate Update Study: January 2016 – November 2016

2017 Impact Fee Study: July 2017 – December 2017

2019 Rate Study Update: January 2019 – January 2020

HIDDEN VALLEY COMMUNITY SERVICES DISTRICT
WATER, SEWER AND RECYCLED WATER RATE STUDY

Years as client: Six (6) years / Last Project Completed: 2019



HIDDEN VALLEY LAKE
COMMUNITY SERVICES DISTRICT

Contact Information

Penny Cuadras
Admin Asst. to the
General Manager
19400 Hartmann Road
Hidden Valley Lake, CA 95467
P: 707.987.9201
E: pcuadras@hvlcsd.org

Earlier in 2019, NBS completed an update of cost of service study of water and sewer rates originally prepared in 2015. A key part of this study was addressing significant capital improvement projects and drought-related changes in water consumption patterns. Major tasks included reviewing financial/rate setting policies, preparing financial plans, updating the cost of service analysis, and evaluating alternative rate designs. Rates have now been approved through the Prop 218 process and adopted.

Project dates for studies:

2015 Water and Sewer Rate Study Report: March 2015

2015 Technical Memo – San Juan Capistrano & Conversion to Single-Tier Rates: May 2015

2019 Water, Sewer & Recycled Water Rate Study Update Report: March '19

ROWLAND WATER DISTRICT

WATER AND RECYCLED WATER RATE STUDY

Service Dates: 2016 – Current, Completing Rate Study Update November 2021



Contact Information

Tom Coleman
General Manager
3021 South Fullerton Road
Rowland Heights, CA 91748
P: 562.697.1726
E: tcoleman@rowlandwater.com

NBS is finishing an updated Water and Recycled Water Rate Study for Rowland Water District. The previous rates were passed in 2017 and the District is currently operating in a surplus with regard to operating and debt services without a rate increase. With future planning in mind, minor rate increases are proposed in order to fund maintenance of the water system on a pay as you go basis. Other objectives included updating the current cost-based rates and drought rates to coincide with the District's Water Shortage Contingency and surcharges for customers in various elevations zones.

For the recycled water system, the main objectives were to develop a method for allocating costs in the District's budget to the potable and recycled water systems and to establish a financial plan that achieves the District's goal to have recycled water customers bear a greater percentage of their costs. The end goal being that the recycled water customers bear the full costs of the system for the services. NBS supported District staff in Board workshops to obtain approval to move forward with the Proposition 218 process. The public hearing is scheduled for November 2021 for rate adoption.

CITY OF VICTORVILLE, CA

**WATER, SEWER AND SOLID WASTE RATE STUDIES, SEWER CAPACITY FEE STUDY,
AND STORM DRAINAGE FEE FEASIBILITY STUDY**

Project Dates: 2016 – 2021



Contact Information

Doug Mathews
Director of Public Works
14343 Civic Center Drive
Victorville, CA 92393
P: 760.243.6332
E: dmathews@ci.victorville.ca.us

NBS last updated the Water Rate Study for the Victorville Water District in 2016, and subsequently the Sewer and Solid Waste Rate Studies for the City of Victorville in 2018.

The main objective in the Sewer Rate Study was to develop a long-term financial plan to ensure sufficient funding for all operating expenses and \$23 million in capital needs. Key aspects included: (1) Developing sewer rates and Industrial Pretreatment Program Fees for four significant industrial users that utilize the City’s Industrial Wastewater Treatment Plant (IWWTP) and collection system, and (2) Developing rates for all residential and commercial customers that utilize a combination of City-owned and operated collection system, the IWWTP, and a regional wastewater treatment provider.

The 2018 Solid Waste Rate Study focused on increasing the rates to fund cost increases and new regulatory requirements. Since 2008, the City experienced increases in administrative and hauler costs, pavement impact fees, and regulatory requirements related to recycling goals and implementing a commercial organics program. In the past, the City utilized reserve funds to absorb the cost increases rather than pass them on to rate payers and looked to rate increases to ensure the solid waste enterprise fund remained in a positive financial position.

The Water Rate Study addressed key issues, such as developing a capital funding plan that would fund over \$55 million in rehabilitation and replacement projects, updating the water rate structure to one based on industry standards, and developing drought surcharges that can be implemented in drought stages.

A key part of all three rate studies was working with a challenging City Council in several workshops to develop rate alternatives that all Council members could agree on, and support for the public approval process.

NBS just finished updating the 2021 Water Rate Study and is currently in the process of preparing a Storm Drainage Fee Study and a Sewer Capacity Fee Study for the City, both of which are estimated to be complete in 2021/2022.

Project dates for studies:

2016 Water and Sewer Rate Studies

2018 Solid Waste Rate Study

2021 Water Rate Study Update and Rate Design

CITY OF SANTA PAULA, CA
WATER AND SEWER RATE STUDY

Years as client: Six (6) years / Last Project Completed: 2019



Contact Information

Clete Saunier
Public Works Director
866 Main Street
Santa Paula, CA 93060
P: 805.933.4212
E: CSaunier@spcity.org

In October 2019, NBS completed an update of the cost-of-service study of water and sewer rates that NBS originally prepared in 2014. Funding for significant capital improvement projects and converting sewer rates to fixed charges plus volumetric rates based on average winter consumption were key elements. Several public workshops and council meetings were critical to securing a 5-0 approval by the City Council. Since then, NBS has served as financial consulting resource which the City uses on matters ranging from bond sales to budget analysis for capital improvement programs.

Project dates for studies:

2014 Water and Sewer Rate Study Report: November 2014

2016 Review of Rate Alternatives

2019 Water and Sewer Rate Study Report: October 2019

“The professional team from NBS was nothing short of extraordinary. Especially Mr. Clumpner – his wealth of knowledge and expertise coupling with his ability to spring into action helped us navigate seamlessly through the entire process of the utility rate study.”



Tai Chau
assistant public works director

Water and Sewer Rate Study | 2019

History of Service

NBS has provided utility rate services, assessment district formation and administration, and special district funding services to hundreds of municipal clients throughout California over the last 20 years. Our utility rate staff of four consultants is actively working for about 15 clients at any one time. However, because these studies are in different phases and there are often lags while we wait for client feedback and/or public meetings to occur, ***NBS will have no difficulty meeting the demands of this study for the City and District.*** The following is a partial list of current municipal utility rate clients; please see Section 3 for a more comprehensive client list:

- City of American Canyon
- Yuba City
- Benicia
- Big Horn Water District
- Desert Water Agency
- Chico
- Morgan Hill
- Davis
- Mill Valley
- Montecito Water District
- Redding
- Santa Clara Valley Water District
- Sacramento
- Santa Paula
- San Lorenzo Valley Water District
- Summerland Sewer District
- Valley of the Moon Water District
- Sunnyvale
- Victorville
- Mountain House CSD

Fees and Billing

NBS will bill monthly based on task budgets, hours billed to the project, and hourly rates. Additional services are typically provided on a mutually agreed number of hours and scope. NBS will not bill for normal office expenses on this project (e.g., postage, communications, supplies, support staff, etc.) and only bills for direct travel expenses (mileage, air travel, hotels, car rental, etc.).

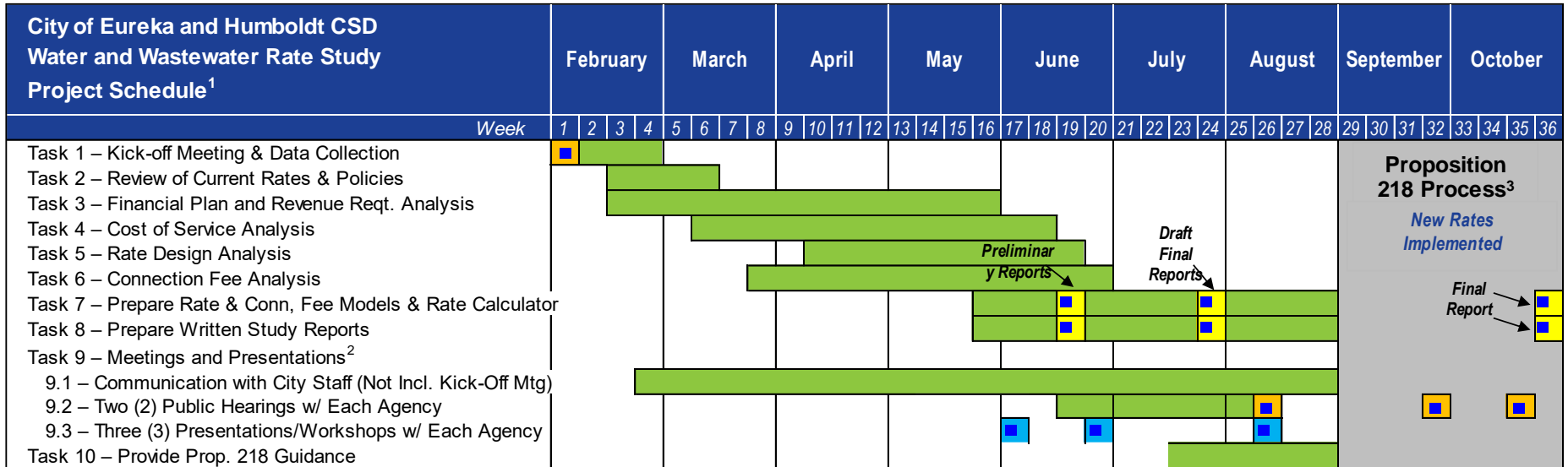
Hourly rates are as follows:

Title	Hourly Rate
Greg Clumpner, Project Manager	\$260
Allan Highstreet, Senior Reviewer	\$240
Danielle Wood, Public Outreach	\$210
Jordan Taylor and Alice Bou, Consultants	\$180
Editor / Support Staff	\$100

Project Schedule

Our proposed project schedule for completing the rate study is shown in Figure 20 below. We understand that the City and District would ideally like a six-month completion time for the study. However, due to the level of public involvement (and five public meetings for each agency) requested for this study, we believe that a nine-month completion time is more realistic. We would suggest having a more detailed discussion with City/District staff regarding this schedule at the kick-off meeting.

Figure 20. Proposed Rate Study Schedule



1. Proposed project schedule assumes consultant selection and notice to proceed is complete by the end of January 2022.
 2. Meetings and presentations are estimated and will be scheduled as needed. The number of meetings and presentations can be adjusted as City/District staff sees necessary.
 3. The timing of the Proposition 218 process shown in the schedule above is an estimate of when the process can take place. The actual schedule will be discussed at the kick-off meeting and a more defined plan will be developed at that time.

- Active task work
- Draft and Final Reports
- Meeting with City/District Staff (estimated, to be scheduled as needed)
- City Council Presentation and Workshops (estimated, to be scheduled as needed)

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5 | AGREEMENT

NBS accepts the terms, conditions and general form of the City of Eureka and Humboldt Community Services District standard Consultant Services Agreement with the following modifications:

As Professional Liability Requirements relate to Section 8 of the Proposal, Section 26.B.4 & Section 26.D of the City's & District's agreements, NBS respectfully notifies the City & District of NBS' Professional Liability Insurance limits and retention. NBS' Professional Liability limits are \$2,000,000 per claim and \$2,000,000 in the aggregate. Our Professional Liability retention is \$20,000, and as is typical defense is included within the limits of coverage.

6 | ADDITIONAL INFORMATION

How NBS Stands Out



NBS' Overview of Rates, Fees and Charges. We believe in continuing education, not only for our own team, but also for our clients and municipal staff.

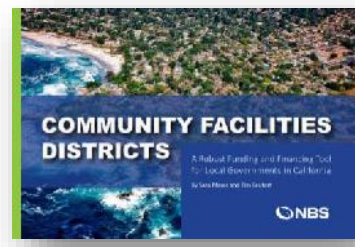
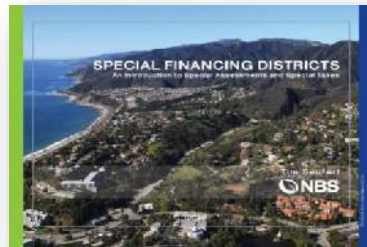
As industry leaders, we have a unique set of qualifications and experience in the work we perform. In that regard, we have published four booklets on related industry topics that can be downloaded at no charge at www.nbsgov.com/publications.

For a hard copy, please call 800.676.7516 or email contactnbs@nbsgov.com

Rates, Fees and Charges Compendium (2015) has received high regard and interest from industry professionals and precisely relates to the City/District's current needs.

Additional NBS publications include:

- **Special Financing Districts (SFDs)** (2015) has been credited as the best publication on SFDs in a decade by prominent industry professionals.
- **Stormwater: A Ten-Step Funding Plan** (2018) addresses the spectrum of stormwater needs in California. We have been asked to present this funding topic at CSMFO and FMA.
- **Community Facilities Districts (CFDs)** (2018) explains this robust funding and financing tool for local governments.



To see a short video of our key utility rate consulting staff and approach, please click on the link below:

<https://www.nbsgov.com/videos/>

APPENDIX | RESUMES

The appendix contains full resumes for our proposed project team.

EDUCATION

- Master of Science, Agricultural/Managerial Economics, U.C. Davis
- Bachelor of Science, Environmental Planning, U.C. Davis

AFFILIATIONS

- Former Vice-Chair, City of Davis Utility Rate Advisory Committee
- Former Chairman, City of Davis Planning Commission

SPEAKING / MEDIA

- “Tiered Water Rates – Understanding Their Equity and Impact on Customer Bills” – Journal of AWWA, September 2019, Volume 111, Number 9
- “Avoiding Billing Debacles Around New Water or Sewer Rates” – Journal of AWWA, March 2019, Vol. 111, No. 3
- “Changing Perspectives on Outside Surcharges: Understanding New Criteria” – Journal of AWWA, January 2019, Vol. 111, No. 1
- “Social Justice and Water Rates: Impacts of Rate Design on Low-Income Customers” – Journal of AWWA, July 2018, Vol. 110, No 7
- “Setting the Stage for Water Rates: Policy Direction Should Be A Priority”, CSMFO Magazine, November 2016
- “Rates, Fees and Charges in the Post-Proposition 13, 218 and 26 ERA in California” – NBS Publication, Contributing Author, 2014
- “Fiscal Health vs. Pricing for Conservation” – ACWA Fall Conf., Indian Wells, CA, December 2015

HIGHLIGHTS

Greg Clumpner has 35 years of experience in financial, economic, and cost-of-service rate analyses for municipal water, sewer and solid waste agencies, including broader management consulting:

- **Utility Cost-of-Service Rate Studies:** 400+ cost-of-service analyses and rate design studies; conservation-oriented water rates, capital improvement funding strategies for water, sewer and solid waste utilities
- **Management Consulting and Strategic Planning:** Feasibility analyses of municipal vs. private system operations, system valuations and acquisitions, and bond feasibility studies.

RELEVANT PROJECT EXPERIENCE

- **City of Redding – Water, Sewer, and Solid Waste Rate and Impact Fee Studies:** Cost-of-service study of water, sewer, and solid waste rate and system capacity charges. Addressed everything from policies objectives to structure alternatives. Worked with a City Council-appointed Citizens Advisory Group that reviewed rate alternatives and provided recommendations to the Council.
- **Mountain House CSD, Tracy, CA – Water and Sewer Cost-of-Service Rate Study:** Study redesigning rates from 1990s-era rate structures that subsidized utilities from the general fund. New rates were phased in over five years and restructured rates, evaluated customer bill impacts, provided public workshops and Prop 218 notices.
- **El Dorado Irrigation District, Placerville, CA – Water, Sewer, and Recycled Water Cost-of-Service and Rate Design Study:** Worked with the district board and a dedicated committee to review/recommend policy changes; alternative rate designs; and recommended water, sewer, and recycled water rates.
- **Los Angeles Department of Water & Power (LADWP) – Specialized Studies:** As a part of the 2018-19 interim rate review for LADWP under contract with Navigant Consultants (now Guidehouse), prepared evaluations of: (1) Analysis of how demand forecasting methodologies are used for financial planning and rate-setting purposes; (2) Review of temperature zones and water rate impacts to determine whether climate-change adjustments to temperature zone boundaries would change customer water budgets, and; (3) stormwater benefit cost analysis reviewed the feasibility of specific projects.
- **City of Lincoln – Sewer and Solid Waste Rate Studies:** Prepared full cost-of-service rate studies that evaluated rate design alternatives, capital project funding strategies, and changing customer characteristics. The sewer rates also developed new rates for County vs. City customers and provided the basis for issuing new revenue bonds to fund capital improvements.

RELEVANT PROJECT EXPERIENCE | CONTINUED

- Mill Valley – Sewer Rate Study:** Evaluated long-term financial plans reflecting the City’s capital improvement costs and developed fixed and variable rate design alternatives to improve revenue stability and their impacts on commercial customers. Sewer rates also considered recent drought and water conservation efforts. Water consumption was used to update commercial rates and how projected water conservation might impact future consumption.
- City of Sacramento – Water, Sewer and Stormwater Impact Fees:** Updated citywide impact fees for each utility, including the City’s downtown area combined storm-sewer system as well as the separated systems.
- Pajaro Sunny Mesa CSD, Monterey – Water Rate Study:** The CSD has nine separate water systems, each with separate rates. This study developed a uniform and combined rate structure for the CSD that met CSD policy objectives and Prop 218 requirements for fairness and equity.
- City of Santa Paula – Water and Sewer Rate Study:** This study included meeting future funding requirements, evaluating issues surrounding the City’s purchase of its wastewater treatment plant, drought impacts, and generally improving rate design to be fairer and more equitable. Residential sewer rates were restructured to create volumetric charges based on average winter water use on a customer-by-customer basis.
- City of Sausalito – Sewer Rate Study:** This study restructured sewer rates from a fixed charge to a combination of fixed and volumetric rates based on average winter water use. At that time, the Marin County Grand Jury was investigating sewer rates countywide and commended the City for the actions it took to restructure these rates and recommended other agencies follow suit.
- San Francisco PUC – Solid Waste Electric Utility Rate Studies:** As the prime contractor, NBS teamed with Navigant and R3 Consulting to complete rate studies for the PUC that updated solid waste and electric utility rates.
- San Lorenzo Valley Water District – Water and Sewer Cost of Service and Rate Design Studies:** Two separate studies addressed the cost of service and then rate design issues, including a long-term funding plan for capital projects. Rate design included restructuring tiered rates combined with a set of rate stabilization (drought) rates that would automatically be implemented if rate revenue in any month fell 10 percent or more below projected revenues
- City of Yuba City – Water and Sewer Rate Study:** Comprehensive update addressing long-term revenue goals, water conservation, and adequate funding for capital improvements. Prepared financial plan alternatives, projected net revenues, developed reserve policies, cost-of-service analyses, and alternative rate designs including water conservation rates.



“Greg’s knowledge and expertise helped the process immensely. He met with the committees and presented his findings in clear, understandable graphs and tables. He worked with staff to fine tune the information for presentation to the Board and community.”

*Brian Lee, General Manager,
San Lorenzo Valley
Water District*



EDUCATION

- Master of Science, Agricultural Economics, UC Davis
- Bachelor of Science, Agricultural Business Management, California State University, San Luis Obispo

AFFILIATIONS

- Project Management Professional (2002, No. 52367)
- American Water Works Association (AWWA), Member

PROJECTS | CONT.

- **City of Tracy, Tracy, CA – Sewer Rate Studies:** Has prepared sewer rate updates for the City of Tracy since 1979. Originally done to satisfy SRF requirements, more recent updates focused on cost of service studies.
- **City of Sacramento, CA – Sanitary Sewer and Storm Drainage Rate Study:** Project economist on this rate study. The primary focus of the project was to compute rates sufficient to upgrade the combined sewer portion of the system to a 10-year level of protection and prevent combined sewer overflows into the Sacramento and American Rivers.
- **Cities of Stockton, Millbrae, Turlock, Arcata, Wheatland, and Merced, CA:** Developed sewer revenue programs for the cities of Stockton, Millbrae, Turlock, Arcata, Wheatland, and Merced and for the American Canyon County Water District and the Tahoe-Truckee Sanitation Agency.
- **Sacramento Industrial Users Group (Campbell's Soup and Crystal Creamery):** Represented industry in review/revising SRCSD sewer rates.

HIGHLIGHTS

After retiring from Jacobs Engineering as a senior vice-president last fall, Allan Highstreet has since joined NBS as a technical consultant with the highest level of expertise in water-related financial analyses.

Allan is a senior economist with 41 years of experience in financial planning for water, wastewater, and stormwater utilities, including rate studies, project funding, and cost allocations. He has performed economic assessments, cost analyses, finance plans, and rate studies, including preparing loan applications and related documents for many municipal clients.

RELEVANT PROJECT EXPERIENCE

- **Merced Irrigation District, Merced, CA – Water Cost of Service Study:** Prepared a cost of service study that estimated user charges and fees for the water deliveries within the District. Also prepared the Proposition 218 material for the vote to enact the rates.
 - **Byron Bethany Irrigation District, Byron, CA – Water Cost of Service Study:** Prepared a cost of service study that estimated user charges for the water deliveries within the District. Also prepared the Proposition 218 material for the vote to enact the rates.
 - **Westlands Water District, CA – Evaluating Land Based Assessments:** Led an evaluation of possible land based assessments in the District, then prepared an Engineers Report to implement a benefit assessment for the District.
 - **Oakdale Irrigation District, Oakdale, CA – Water Rate Study:** Prepared a cost of service study that estimated user charges for the water deliveries within the District. This study moved the District from a flat rate to tiered volumetric rates to comply with the Water Conservation Act of 2009 (SBx 7-7). Also prepared the Proposition 218 material for the vote to enact rates.
 - **Flood Control User Charges and Financing Plans:** Developed financing plans and user charges for storm drainage and flood control projects, including the City of Sacramento Storm Drainage and Sewer Rate Study, the City of Palo Alto Storm Drainage Enterprise Fund, establishing the City of Tracy's storm drainage charges, a financing plan for the Auburn Ravine Mitigation Plan for Placer County Flood Control District, and a financing plan for the Colma Creek/Guadalupe Canyon master plan for Daly City.
- Other clients Mr. Highstreet has provided similar services include:**
- **City of Anaheim – Storm Drainage Impact Fees and Financial Planning**
 - **City of Millbrae – Sewer Rate Study**
 - **Tahoe Truckee Sanitation Agency – Financial Analyses**
 - **Del Monte and Sun Maid Corporations – Sewer Rate Evaluations for the Selma-Kingsburg-Fowler Sanitation District**
 - **City of Stockton – Sewer Rate Study**
 - **City of Hollister – Wastewater User Charges and Demand Fees**
 - **City of Merced – Water and Sewer Rate Studies**
 - **City of Turlock – Sewer Rate Studies**
 - **Oroville-Wyandotte Irrigation District – Water Rate Study**

EDUCATION

- Master of Business Administration, Finance, University of Redlands
- Bachelor of Science, Chemistry, University of Utah, Salt Lake City

HIGHLIGHTS

- Extensive experience in large-scale data analysis
- Advanced Excel user with the essential skills for complex data analysis and alternative scenario analysis
- More than ten years of accounting experience for large and small businesses
- Experienced consultant with water, sewer and solid waste rate structures
- Experienced consultant with budget management, financial planning and reserve fund analysis



“Jordan has been great to work with on our Five-Year Water and Wastewater Rate Study. She is professional and very responsive to our requests from making last minute updates to the rate model to brainstorming alternative solutions with us.”

*Sunny Wang
Water Resources Manager
City of Santa Monica*



BIOGRAPHY

Jordan Taylor is a Consultant at NBS in our Utility Rate group. She brings more than ten years of experience in finance, accounting, budget planning and system auditing. Jordan graduated with high honors in her Master’s program and spent most of her studies focusing on large-scale financial analysis and data management.

Jordan provides analysis and support on water and sewer utility rate studies for cities and special districts in California. She performs various financial analyses, data management, and utility customer data analysis for utility rate and capacity fee studies. Jordan’s diverse knowledge of managerial accounting is essential to the work performed by NBS.

RELEVANT PROJECT EXPERIENCE

- **Costa Mesa Sanitary District – Solid Waste Rate Study:** This comprehensive rate study included development of a long-term financial plan that evaluated funding options to reduce the annual operating deficit over a five-year period. An evaluation of the District’s solid waste rates, and updated rates were calculated for the three cart sizes that are used by customers in the District and a five-year rate schedule was adopted.
- **Hidden Valley Lakes Community Services District – Water/Sewer Rates & Capacity Fee Study:** Completed an updated water and sewer cost of service study, based on a previous 2015 study conducted by NBS. A key part of this study was addressing significant capital improvement projects and drought-related changes in water consumption patterns. Major tasks included reviewing financial/rate setting policies, preparing financial plans, updating the cost of service analysis, and evaluating alternative rate designs.
- **Idyllwild Water District – Water and Sewer Rate Study:** Prepared water and sewer rate studies, which included developing long-term financial plans that allowed the District to begin funding capital improvement programs for both utilities, and maintain adequate reserves to meet established reserve fund policies. Updated the water rate structure to provide more revenue stability for the District, and implement a cost-based tiered volumetric rate.
- **Ironhouse Sanitary District – Sewer Rate/Capacity Fee Study:** Developed a long-term financial plan that provides sufficient funding to meet annual operating and capital improvement costs, ensuring the District maintains adequate reserve funds while balancing capital outlays. Developed cost of service based rates that are proportional to the cost of service. A key component was obtaining water consumption data for customers and conducting an analysis to determine updated EDU assignments for non-residential customers based on water usage and strength characteristics of wastewater discharged.

RELEVANT PROJECT EXPERIENCE | CONTINUED

- **City of Yuba City – Water and Sewer Rate Study Updates:** Perform annual updates of the City’s most recent comprehensive Water and Sewer Financial Plan and Rate Study. Key objectives of the annual updates are to evaluate annual financial status and determine if the City needs to implement the previously approved rate increases, or if a lower increase is possible.
- **City of Lincoln – Sewer and Solid Waste Rate Study:** Prepared long-term financial plans for the City’s Sewer and Solid Waste utilities, which included evaluating debt financing alternatives for sewer collection system and wastewater treatment plant improvements. Since this was the City’s first full cost-of-service analysis for solid waste, Jordan and the project team developed all relevant data necessary to complete the study, including allocating collection, disposal, organics collection, and general and administrative costs.
- **City of McFarland – Water and Sewer Rate Study:** Developed long-term financial plans for the City’s water and sewer utilities that would adequately fund operating, maintenance, and high-priority capital improvement needs, which included expanding the wastewater treatment plant and constructing a new water well. Worked with the project team to update the rate structures to reflect the cost of providing service to each customer class and current industry standards.
- **City of Morgan Hill – Wastewater Rate Study:** Prepared a financial plan for the 2018 wastewater rate study update, which included budget analysis, cash flow projections, and a detailed evaluation of capital funding options. The study evaluated debt financing alternatives to fund \$87 million in capital improvements for pipeline replacement and a treatment plant expansion.
- **City of Sacramento – Development Impact Fee Study:** Conducted an extensive update of water, sewer, and storm drainage system capacity charges. This study addressed City policies and overall objectives in developing connection fee alternatives for the City to consider. Key tasks included preparing financial/rate setting policies, financial plans, projecting capital revenue requirements, cost-of-service analyses, and alternative fee methodologies.
- **City of Seal Beach – Water and Sewer Rate Study:** Prepared financial plans for the City’s water and sewer utilities to ensure sufficient funding was available for operating, maintenance, capital improvement needs and to maintain appropriate reserve funds. Developed cash flow analyses and capital improvement program funding options that balanced the use of rate increases with potential debt financing to minimize the impact to ratepayers.
- **City of Santa Monica – Water and Wastewater Rate and Capital Facility Fee Study:** Developed long-term financial plans for the City’s water and wastewater utilities that balanced meeting operating, maintenance, and capital needs along with maintaining adequate reserve funds. Worked with the project team to develop capital funding options for the City’s \$200 million Sustainable Water Infrastructure project by balancing outside debt financing, interfund loans, use of existing reserve fund balances, and rate increases. Developed updated rate structures which included collecting a greater percentage of revenue from fixed water meter charges, incorporating a modest fixed charge in the wastewater rate structure and developing tiered volumetric water rates based on the City’s sources of water supply. Conducted a thorough analysis of water usage patterns and updated the wastewater discharge factors to reflect low water usage periods.

EDUCATION

- Bachelor of Arts, University of California San Diego, La Jolla

HIGHLIGHTS

- Two decades of financial, accounting and risk management experience
- Extensive experience in financial reporting, risk management analysis, budget management and development of accounting policies and procedures
- In-depth experience as a finance manager, consultant and controller in private industry
- Supports project teams completing public utility rate and fee studies in performing large-scale data analysis, financial modeling and rate analysis



“Thanks Alice, we certainly appreciate your patience, persistence, thoroughness, and ability to adapt on the fly! I believe our final product and recommended actions turned out very well.”

*Doug Mathews
Director of Public Works & Water, City of Victorville*



BIOGRAPHY

Alice Bou is a Consultant in our Utility Rate and Fee group. She is an accomplished finance professional with proven success in the oversight of management accounting and business analysis. Alice has two decades of experience working in accounting and financial management, performing data analysis, variance analysis, budgeting and forecasting, financial modeling, and managerial reporting. She has also developed detailed procedures and systems documentation with a focus on productivity, data integrity and functionality to promote transparency of all finance and accounting functions across all departments of the entire organization. Alice’s diverse experience is essential to the work performed by NBS.

As a member of the NBS team, Alice assists in the preparation of financial plans, cost of service, rate, and fee design analysis for our public utility clients. She reviews financial statements, budgets, capital improvement plans, operational data, and customer billing information for use in public utility rate and fee studies. Alice adds value to our team with her exceptional strategic financial planning and analytical skills.

RELEVANT PROJECT EXPERIENCE

- **City of Sausalito – Sewer Rate Study:** Developed a comprehensive financial plan to address the City’s increasing operating and maintenance costs as well as the need to finance \$8.6 million in planned capital improvements over the 5-year rate period. Due to the deteriorating condition of the City’s sewer system, the overall goal was to identify equitable sewer charges that addressed sewer upgrades and services and develop rates that balanced the use of outstanding bond proceeds, cash reserves, and additional revenue generated from rate increases.
- **City of Davis – Sewer Rate and System Capacity Fee Study:** Established sewer capacity fees for the City that reflect the cost of sewer system infrastructure that is available to serve new development. Many factors were considered in the study, including the allocation of the \$268 million in existing system assets, the cost of planned capital improvements, and adjustments for outstanding debt and cash reserves. The assigned EDU’s per residential type of use were calculated based on the City’s most recent sewer rate study and average winter water use.

RELEVANT PROJECT EXPERIENCE | CONTINUED

- City of Redding – Water, Sewer, and Solid Waste Rate Study:** Performed an update of the City’s rate studies for its water, sewer, and solid waste utilities, which included updating long-term financial plans to incorporate funding capital improvements estimated at \$97.2 million and reviewing alternative rate structures. Although all three utilities were financially sound, rate increases were necessary to ensure the continued financial health of the City’s utilities by generating sufficient revenue needed to meet projected capital funding requirements, providing revenue stability, and providing equity in rates among customer classes. In addition, the cost-of-service analysis for the solid waste utility examined specific allocation factors for each customer class and determined how costs are divided into various types of service (e.g., collection, disposal, and transfer station).
- Suisun-Solano Water Authority – Water Rate Study:** Conducted a comprehensive water rate study for the Authority which consisted of a long-term financial plan that includes the projection of revenues and expenditures on a cash-flow basis to help determine the amount of rate revenue required to maintain reserves at the recommended levels. Worked with Authority staff to develop a plan to fund over \$20 million in necessary capital improvement projects, with a combination of new debt issuances, existing cash reserves, and rate adjustments.
- Mill Valley – Sewer Rate Study:** In the process of preparing a long-term financial plan reflecting the City’s growing concerns about shortfalls due to increased capital improvement costs and its current sewer rate structure, specifically the equitable assignment of costs to commercial customers (i.e., restaurants). Sewer rates will be evaluated to improve revenue stability in the light of current economic conditions as well as recent drought and continuing water conservation efforts. Water consumption data will be used to update commercial rates to assess how consumption has changed in the last few years and how projected water conservation might impact future consumption.
- LADWP – Water Temperature Zone Analysis:** LADWP currently has a four-tiered water-budget based volumetric rate structure that assigns water budgets to each customer based on lot size and temperature zone. As part of LADWP’s Interim Rate Review, evaluated the findings of previous temperature zone assignments to determine potential customer bill impacts of modifying the existing temperature zones. Prepared an analysis of temperature zone impacts on water customers, including a thorough review of the temperature data as well as recent trends related to the number of customers, water use, and water bills by zone, tier, and lot size over the last five years. The primary focus of this study was to see if recent changes in temperature data as defined by LADWP’s current temperature zones warranted changing the customers assigned to each temperature zone, or the criteria used to define each zone.
- Ironhouse Sanitary District – Wastewater Rate and Capacity Fee Study:** Assisted in the analysis of the District’s customer data to confirm the proportionality of current sewer rates to the cost of providing service. This process involved an in-depth examination of the water consumption data for customers from multiple water agencies to complete a cost-of-service analysis and determine updated EDU assignments for non-residential customers based on water usage and strength characteristics.



“Alice, You are the best rate analyst I have ever worked with; you are very talented.”

*Cammie Morin
Finance Director
Solano Irrigation District*



EDUCATION

- Bachelor of Science, Business Administration/Finance, California State University San Bernardino
- Advanced Public Engagement for Local Government Program, Pepperdine School of Public Policy
- Planning for Effective Public Participation Program, International Association for Public Participation

HIGHLIGHTS

- Skilled public engagement specialist
- Experienced communications professional
- Seasoned consultant in Special Financing District (SFD) formation and administration
- Outreach
- Public Engagement
- Collaborative Governance
- Adaptive Management
- Two decades of experience

AFFILIATIONS

- California Public Information Officials (CAPIO)
- California Society of Municipal Finance Officers (CSMFO)
- Municipal Management Association of Southern California (MMASC)
- Women in Public Finance (WPF)

BIOGRAPHY

Danielle Wood is a Director with NBS where she provides public engagement, outreach, and collaborative governance client services and project management efforts for a number of our clients. She has two decades of experience working with local governments and communities across California.

RELEVANT PROJECT EXPERIENCE

- **City of La Habra Heights Ongoing Public Engagement Services.** Community engagement for a recently formed Benefit Assessment District (BAD), including a public engagement plan, webpage development, web maps, and other engagement services. Project started in 2018 and is ongoing.
- **City of Oxnard Ongoing Long-term Outreach, Public Engagement and Collaborative Governance Services.** Public engagement plan development for the evaluation of existing land secured financing districts that includes items such as a dedicated webpage, email campaign, advisory committee formation and collaborative governance program. There are more than 21 communities that have participated in our surveys, community meetings and ongoing development, and complete restructuring of the Landscape Maintenance Districts. Project started in 2019 and is ongoing.
- **City of San Leandro Outreach and Public Engagement Services.** Outreach and public engagement services to gauge overall property owner support for the formation of an Assessment District. Public engagement efforts have included items such as the creation of a dedicated public engagement webpage, multiple information releases, surveys, recorded meetings, and community participation web maps. Project started in 2019 and is ongoing.
- **City of Culver City Outreach Services.** Outreach and Public Engagement services for the formation of a new Property Business Improvement District for a very unique community within the City. Outreach services included an area profile analysis, a public informational mailer and survey, and in person and virtual public meetings. Project started in 2018 and is ongoing.



“We greatly appreciate your follow up, follow through and commitment to our community! We all desire to live well and thrive for the good of the whole city!”

Property Owner, City of Oxnard

CITY OF
EUREKA
CALIFORNIA



City of Eureka & Humboldt Community Services District Water and Wastewater Utility Rate Study



December 3, 2021

CITY OF EUREKA
&
HUMBOLDT COMMUNITY SERVICES DISTRICT

Department of Public Works
531 K Street
Eureka, CA 95501



WATER AND WASTEWATER RATE STUDY

PROPOSAL

December 3, 2021

HF&H CONSULTANTS, LLC



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Marva M. Sheehan, CPA
Robert C. Hilton, CMC

December 3, 2021

Brian Issa
Deputy Director of Public Works
City of Eureka
531 K Street
Eureka, CA 95501

Subject: Water and Sewer Rate Study

Brian Issa:

HF&H Consultants, LLC (HF&H) is pleased to submit this proposal to the City of Eureka (City) and Humboldt Community Services District (District) to perform utility rate studies for water and wastewater. We have prepared and organized our proposal based on the instructions contained in your request for proposal, and trust we are fully responsive to your direction.

Setting You Up for the Future

While there may be other consultants that also provide water and wastewater rate studies, none are as qualified as HF&H to assist the City and the District. In light of the San Juan Capistrano decision and the long-standing Propositions 26 and 218, it is crucial for utility rates to be cost-based, reasonable, and equitable for all customer classes. We are particularly mindful of the administrative record that is called for in today's litigious rate-making environment. The cost-of-service analysis will clearly indicate how the revenue requirement is apportioned among the customer classes, which is a requirement under Proposition 218 in meeting the burden of proof.

To increase revenue stability during shortages, we developed water shortage rate factors (which differ for each customer class) for the Beverly Hills, Hillsborough, and the North Coast County Water District

Our approach is uniquely tailored to each client based on actual water needs and customer make up within each community. Our models are known for their simplicity and ease of use, which is essential in meeting the burden of proof. We have been hired to

Brian Issa
December 3, 2021
Page 2 of 2

redo other rate consultants' models that were difficult to navigate and/or too sprawling to be printed - leaving the client with little confidence that the results were accurate.

HF&H Delivers the Public Support You Need

Public support is the key to a smooth and efficient rate adjustment. Effective public outreach is crucial. Typically, the public is not necessarily interested in how the rates are calculated, but what the rates are paying for and that their charges will be commensurate with the services they are receiving - nothing more, nothing less. While our presentations provide a high-level overview of the "how" and the "what," our reports provide greater detail for those who wish to dig deeper.

Our public meetings are geared towards helping the City Council and public understand, and ultimately support, the rate changes.

* * * * *

We are pleased to receive this opportunity to assist the City and the District and look forward to an opportunity to discuss our qualifications with you.

Sincerely,
HF&H CONSULTANTS, LLC



Rick Simonson, CMC
Senior Vice President

Contact Person and Authorized Signer:
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Senior Vice President
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Appendix A. Statement of Qualifications

Appendix B. Project Team Résumés

Appendix C. South Coast Water District Rate Study Report

A. SUMMARY

Our qualifications are described throughout our proposal, which we briefly highlight as follows (update):

- **Statement of Understanding** - How we approach the City's and District's needs reflects decades of experience tailoring standard rate-making practices to the unique needs of our clients. Our Scope of Work includes not only developing water and sewer rates for both agencies, but connection fees and miscellaneous fees as well.
- **Background & Experience** - We are a rate-making firm that specializes in setting rates in California. We are not an engineering or accounting firm with other business interests.
- **Approach** - Our approach is outlined in the Scope of Services in **Section B**. We utilize industry standard approaches promulgated by the American Water Works Association and the Water Environment Federation.
- **Key Personnel** - Collectively, our team has worked on numerous rate studies together, providing successful implementation of new rates to satisfied clients. Rick Simonson will serve as the primary point of contact and Project Manager for this engagement.
- **References** - Five references have been included as requested by the RFP. Do not hesitate to talk to our other references. They can help you understand the benefits of working with HF&H better than we can.
- **Schedule** - Our proposed schedule allows enough time for a thorough and complete rate analysis. We propose that new rates will be effective January 1, 2023, which requires Proposition 218 Notices be mailed no later than mid-November. The RFP's requested 6-month timeline may be insufficient given the scope of services required.
- **Cost Proposal Submittal** - Our proposed fee estimate is contained in a separate file entitled **Proposed Fee Estimate**.
- **Appendices** - **Appendix A** contains our Statement of Qualifications. **Appendix B** contains HF&H project team resumes. Finally, **Appendix C** contains a relevant work sample.

B. STATEMENT OF UNDERSTANDING

Understanding

Our understanding of the proposed project is based in part on information contained in the RFP, answers to questions from the City, and documents found on the City's website. From these sources we understand the City and District are looking to establish cost-of-service rates for their water and wastewater utilities. The project will be phased to implement new water and wastewater rates for the City before computing preliminary rates for the District. From this point, the rate study of the District's water and wastewater rates will proceed in order to implement new rates for the next five-year period. By doing so, this project will result in two distinct rate study reports. The presentation of final recommendations and the implementation of new rates via the required protest process, in compliance with Proposition 218, will occur separately for each entity.

We share the City's and District's priority of maintaining transparent communications between all parties, including the ratepayers of the subject entities.

Scope of Services

The following is a detailed outline of the recommended work plan to be followed by HF&H staff. Draft and final deliverables will be provided in Microsoft Word, Excel, and PDF formats. Deliverables in Word and Excel formats will be editable by City and District staff. The City and District may elect to, and we would recommend, having legal counsel review the report and provide comments.

Task 1. Project Kickoff & Data Collection

The purpose of this task is to lay the foundation for the study. This task's immediate objective is to gain an understanding of how the various utilities operate with regard to finances, staffing, billing, and relationships with other agencies or contractors.

We will facilitate a virtual kick-off meeting with key City and District staff. The meeting will introduce the participants (City, District, and HF&H) and identify their project roles and expectations. Meeting topics will include: discussions evaluating relevant fiscal policies and community interests, identifying current issues and concerns (financial and operational), discussing project scope, timing, and deliverables, and requesting and compiling all relevant and required data. HF&H will provide a data request list ahead of this meeting for the purpose of discussion during the kick-off meeting.

One critical component to any rate study is the level of customer data available for analysis. We will assess the specificity of data available during the kickoff meeting. For example, in water rate studies we typically use two or three years of water consumption data broken down by customer and meter type. In wastewater rate studies, we prefer to

conduct a mass balance to account for system-wide use, employing available treatment plant data for wastewater flow and loading recorded at the treatment plant. It is also helpful to begin with any pre-existing assumptions of equivalent dwelling unit flows or loading by customer class. In absence of this level of detail, or significant effort to obtain the detail, we will work with staff to determine an alternate method to analyze the cost-of-service for each utility using data available. Any changes to our approach will be examined and discussed with staff, as it may impact the project timeline and scope.

Task 2. 20-Year Financial Plan

For each utility, we will prepare a twenty-year financial planning model projecting O&M and capital expenses, operating and non-operating revenue, and reserve fund balances. Expenses are based on the budgets and capital improvement program. The financial plans are Excel spreadsheet models that will provide staff with a means of updating water and wastewater rates when annual budgets and capital expenditures change each year. The models will be developed with input from staff to ensure that they meet the City's and District's needs, and will be as simple as possible so that special training is minimal. The models are work products included as part of the deliverables at no additional cost and with no licensing restrictions.

Our foremost interest in modeling will be to present a highly organized analysis that will facilitate understanding and user friendliness.

In preparing the financial plans, we approach each element as follows:

- **Expenses.** We rely on the budgets and other reports with which it is most familiar as much as possible so that our model is easy for the staff to follow. We will utilize the City's and District's chart of accounts, not some predetermined format from other studies. We calculate operating expenses, whenever possible, based on the underlying unit costs and purchased commodities (e.g., power, chemicals).
- **Revenues.** We calculate and project rate revenue based on the current rate structure and projected growth in units of service (e.g., hundred cubic feet (hcf) in water use, service connection size, growth in equivalent dwelling units). This is more accurate than simply extrapolating total revenues, which is a common, albeit less accurate, practice that provides a good crosscheck on the City's and District's numbers.
- **Reserves.** The revenue requirements project expenses and revenues. Reserve funds are the third critical element in the model. Each current reserve fund will be integrated into the models to show inbound and outbound transfers for each year. Existing policies for current funds will be evaluated, as will the need for adding, deleting, or redefining the funds. Beyond maintaining operating reserves for sufficient cash flow purposes, we will evaluate the need for and capability to fund additional reserves such as capital

Projecting reserve balances is an extremely important component of rate analysis.

reserves (for future repairs and replacements), emergency reserves, debt service reserves, rate stabilization reserves, and a retirement fund.

- **Capital Improvement Projects.** We have built long-term financial planning tools that allow agencies to see the effects of alternative approaches to funding capital improvements. For example, projects funded via State Revolving Fund (SRF) or Water Infrastructure Finance and Innovation Act (WIFIA) loan programs require massive cash balances up front because the State reimburses the borrower up to a year after the expense has been incurred. Bonds, on the other hand, do not require a sizeable upfront cash balance. Our easy-to-use CIP financing tool considers the effects that these alternatives have on projected cash balances.

Task 3. Cost-of-Service Analysis

The first year of the financial plans will be used for the cost-of-service analysis, in which the overall revenue requirements are distributed among the customer classes. The cost-of-service analyses will be tailor-made to conform to the rate structures that are identified for each customer class. The calculations will show the derivation of the unit costs of service, which are applied to all customers' units of service to determine each class' share of the overall revenue requirement.

The cost-of-service analyses are dependent on the rate structure for which rates are designed. Prior to preparing the cost-of-service analyses, we will present alternatives for the staff's consideration. In presenting these alternatives, we will determine whether the customer billing systems have the ability to charge the rates. We do not want to pursue alternative rate structures before we know that they can be implemented.

We will be careful to show how the results of the cost-of-service analyses compare with the revenue that is generated by current rates. This is an important step in explaining how the rates are changing. By the end of the rate calculations, we will clearly indicate (1) how much the overall revenue requirement changes; (2) how much the cost-of-service changes for each customer class; (3) how much the rates change for each customer class; and (4) how much customer bills change for representative customers. Our explanation will greatly aid in understanding why customers' bills increase more or less than the overall increase in revenue requirements.

The cost-of-service analyses will clearly indicate how the revenue requirement is apportioned among the customer classes, which is a requirement under Proposition 218 in meeting the burden of proof.

Our water cost-of-service analyses will adhere to the base/extra-capacity methodology promulgated in the American Water Works Association's M1 Manual. This approach can be used for allocating revenue requirements to customer classes and for designing tiered rates that are cost-based across the full range of consumption. This approach is highly defensible and appropriate for the City and the District.

The wastewater cost of service analyses will rely on both the Water Environment Federation's methodology and the State's Revenue Program Guidelines. A mass balance will be performed in determining the respective loadings from each customer class.

The cost-of-service analyses will allocate the revenue requirements between the fixed and volumetric charges, as well as among the various water and wastewater customer classes. We will work closely with staff to develop allocation factors based on usage and loading data for each class. The result will be compared with the revenue from current charges to determine the difference and the transitional strategy that may be needed to align the updated rates with the cost-of-service without causing rate shock or hardships for any class.

Our rate structure recommendations will consider current and future operations and maintenance costs, projected customer demand patterns, changes in wastewater customer loading, water supply, and capital improvement requirements. There may be other issues facing the City and District, such as hardship subsidies for low-income customers. We will assist the staff in understanding the legal requirements and current industry standards.

Task 4. Five-Year Rate Model

The process of designing rates is one in which the current rates are compared with the proposed alternative that is identified during the cost-of-service analysis. Again, our approach is very methodical to ensure that the proposed alternative meets all of the rate-making objectives.

Our rate calculations will incorporate assumed growth rates. We will explain our calculations and recommendations in a written report, supported by the rate model, to which the City and District will have full access.

Our rate designs are presented so that impacts are easily understood by staff, elected officials, and rate payers. We compare rate structure alternatives with the current rate structure and with comparable agencies' rate structures. We also compare the customer bills produced by those rate structures. For both comparisons, we use tabular and graphical techniques to clearly communicate the differences. These techniques allow us to make refinements during meetings to achieve the optimal result.

Our methodology will be integrated into a spreadsheet model for current use in setting rates for the next five years, as well as for staff's future use in each year's update. Our rate models are exceptionally user friendly and contain worksheets that organize the analysis into logical units. Each worksheet has a column that indicates the flow of calculations among worksheets or within the worksheet so staff can follow the model and understand how information is input and used, for future updating. Each worksheet also contains footnotes referring to source documents and key assumptions.

The final rate model will include an analysis relating pass through costs for purchased water.

Task 5. Connection & Miscellaneous Fees

The City and District non-rate related fees comprise two categories: those that are related to its connection fees and those that are related to installations of various types and as well as other office and field services. Unlike its rates for water service, the connection and miscellaneous fees are not subject to Proposition 218. Even so, these fees will be cost based.

The connection fees are a type of development impact fee will be updated in compliance with Government Code Section 66000 et seq. As such, they will be derived as a reimbursement to rate payers for the costs they bore in providing capacity for new connections. The costs will be based on an inventory of the existing infrastructure plus any near-term capital improvements minus any appropriate adjustments for costs such as outstanding principle of debt, if any. Dividing the value of the infrastructure by the associated capacity will yield the unit cost of capacity, which will serve as the basis for the facility charge.

The installation and other fees will be updated by first determining if there are any current fees that are no longer needed and any fees that are currently not being charged that should be added. A template will be prepared that will derive the cost of each service by identifying the staff associated with providing the service. With staff's assistance, the hours required to provide the service will be determined as well as any related materials costs. The labor cost will be calculated by multiplying each staff person's hours by the corresponding fully loaded hourly rate, which will be determined.

Task 6. Customer Impact Analysis

The sophistication in rate analysis can be lost on the public, which is typically focused on how they may be affected by any proposed changes. We have tabular and graphical forms of explaining how customers are impacted, which are initially very effective in working with staff to develop alternatives, and later in working with elected officials in selecting the alternative that best meets their rate-making objectives.

Task 7. Documentation

The purpose of this task is to present the results of the analyses to City staff, District Staff, City of Eureka City Council, HCSD Board of Directors, and the public.

We will begin by documenting the results of the analysis in a draft report for each the City and the District, which we will review with staff and revise accordingly based on their comments. The documentation will explain how the methodology complies with the substantive provisions of Proposition 218, relevant court decisions, and other assumptions.

We will present final reports to the Council and Board for their approval and their authorization to mail notices to rate payers, initiating the Proposition 218 protest processes.

Task 8. Implementation

The purpose of this task is to conclude the project with successful implementation of the recommended rates.

We will begin by building rate calculators in Excel that allows rate payers to calculate their bills quickly and accurately at current rates and proposed rates. The calculator will be able to be downloaded from the City's and District's websites. This task will require coordination with IT/website staff.

We will prepare the notices to rate payers required under Proposition 218 with the assistance of legal counsel. We will coordinate with both the City and the District on their preferred method of mailing notices whether that be in-house or through a mailing service. This task will require coordination with staff in providing accurate and complete mailing addresses for all parcels and rate payers.

After rate payers have received their notices, and before the end of the minimum 45-day protest period, we will prepare presentations and attend the protest hearings at the end of the 45-day protest period to answer questions.

Task 9. Project Management

An allowance is required for monitoring schedules and budgets, periodic status calls with staff regarding the progress of the project and other issues, and quality control checks to peer review our analyses and work products. This task includes creation of project progress reports and control reports for invoicing.

C. BACKGROUND AND EXPERIENCE

Firm Overview

Founded 32 years ago in 1989, HF&H Consultants, LLC, provides consulting services to water, wastewater, and solid waste municipal agencies. The synergy resulting from our staff's engineering, accounting, financial management, and public policy backgrounds provide substantial added value to clients, which can rarely be achieved by individual engineering, accounting, or management consulting firms.

Today, HF&H Consultants has grown to a firm of over thirty professionals, which makes us one of the largest ratemaking firms on the West Coast. With offices located in northern and southern California, HF&H Consultants directs its practice to cities, counties, and special districts in the western United States. As such, HF&H Consultants provides clients with the breadth of experience of a national firm, but the responsiveness, accountability, and personal commitment of a local firm. Our consultants are seldom far away and, as a result, our clients always receive a quick, personal response to their needs.

HF&H provides financial, economic, and general consulting services to public officials in the following areas: rate-setting, cost-of-service studies, financial planning and budgeting, resource management, public policy development, litigation, and negotiations. By comparison with engineering consultants, our style of consulting is influenced by our prior exposure to private sector consulting: we like to help our municipal clients function as healthy businesses within the regulatory and political framework of the public sector.

Over the past 32 years, HF&H has conducted more than 1,000 rate, capacity fee, and other related studies for more than 400 water, sewer, and solid waste clients. This body of work is the basis for the sterling reputation that HF&H enjoys. We are proud that our rates have never been successfully challenged in court.

HF&H has a low staff-to-executive ratio in order to allow the firm's most experienced members to participate actively in client projects, rather than only in practice development and project administration. Unlike firms that delegate critical tasks to junior staff, our senior employees are involved throughout our clients' projects. The close working relationship between our management and staff ensures effective supervision and quality control. The executives' national certifications and licenses assure our clients of compliance with the highest professional standards.

This project will be managed by one of the owners of HF&H, Rick Simonson. He will be HF&H's point-of-contact for this project. He has official authority to bind the contract.

The proposed team of consultants is located in our Walnut Creek office and has worked together on numerous projects of similar scope. The office address is as follows:

HF&H Consultants, LLC
201 N. Civic Drive, Suite 230
Walnut Creek, CA 94596
Office: (925) 977-6950

Experience

Figure 1 lists recent water and sewer rate studies completed by members of the proposed project team. Since 1989, HF&H has completed over 300 rate studies for agencies providing water, sanitary sewer, and storm sewer services, which are listed in the Statement of Qualifications in **Appendix A**.

Members of the proposed project team consist of engineers, accountants, and financial analysts all of whom specialize in developing rate studies for public water and wastewater agencies. Performing rate studies requires expertise in municipal water and wastewater operations, account billing, municipal finance and accounting, and Proposition 218.

The RFP specifically requests the firm's experience advising municipalities regarding bond covenants and complying with bond covenants. HF&H Consultants does not provide services related to the issuance or administration of debt. We are not SEC registered municipal advisors. However, our rate models provide the flexibility to study options related to funding scenarios for capital improvements. Furthermore, our recommended rate adjustments will consider requirements for debt coverage ratios or restricted cash reserves related to debt.

Figure 1. Recent Rate Study Projects

Client	Water Rates	Sewer Rates
City of Belmont		✓
City of Beverly Hills	✓	✓
City of Brentwood	✓	✓
City of Burlingame	✓	✓
City of Galt		✓
City of Livermore	✓	✓
City of Mill Valley		✓
City of Newport Beach		✓
City of Petaluma		✓
City of Red Bluff	✓	✓
City of Taft		✓
City of Ukiah	✓	✓
City of West Sacramento	✓	✓
City of Willits		✓
Coastside County Water District	✓	
Costa Mesa Sanitary District		✓
County of San Mateo		✓
CSU Monterey Bay	✓	
Foresthill Public Utility District	✓	
Los Angeles Department of Water and Power	✓	
Marin Municipal Water District	✓	
Oakwood Lakes Water District	✓	✓
Sausalito-Marín City Sanitary District		✓
Scotts Valley Water District	✓	
Solano Irrigation District	✓	
Sonoma County Water Agency		✓
Sonoma Valley Community Services District		✓
South Coast Water District	✓	✓
Town of Hillsborough	✓	✓
Town of Los Altos Hills		✓
Union Sanitary District		✓
University Enterprises - Clear Creek CSD	✓	
University Enterprises - Cobb Area County Water District	✓	
University Enterprises - Coulterville	✓	
University Enterprises - Crescent City		✓
University Enterprises - Gumsey Ave	✓	
University Enterprises - Las Deltas Water District	✓	
University Enterprises - Loma Prieta	✓	
University Enterprises - Six Acres	✓	✓
West Bay Sanitary District		✓
Western Hills Water District	✓	

D. APPROACH TO UTILITY RATE STUDY

Project Methodology

Our methodology is tailored to the project at hand. We evaluate each study on its own merits and develop recommendations in collaboration with staff that will provide the greatest future benefit and acceptance by staff, elected officials, and the public. We do not have predetermined preferences that are forced on clients. Our models are custom made for each study. We design them with staff input so that they provide the required functions for determining rates now and for later use by staff. At the end of the project, our models are provided with no restrictions or additional cost. We are greatly pleased to see our clients use them in subsequent years.

To minimize any potential public reaction while also accomplishing the City's and District's requirements, we recommend spending time at the outset to jointly develop a study process that will lead to a successful conclusion as efficiently as possible. HF&H is extremely adaptable to our client's needs for internal review and public outreach and can assist in determining how best to proceed.

"...[Y]our report was very good and easy to understand. I am particularly delighted that you've done an awesome job turning over the report with our edits with no fail and all the numbers footed. That was one complaint I had with previous consultants. In my opinion, I think you did a great job."

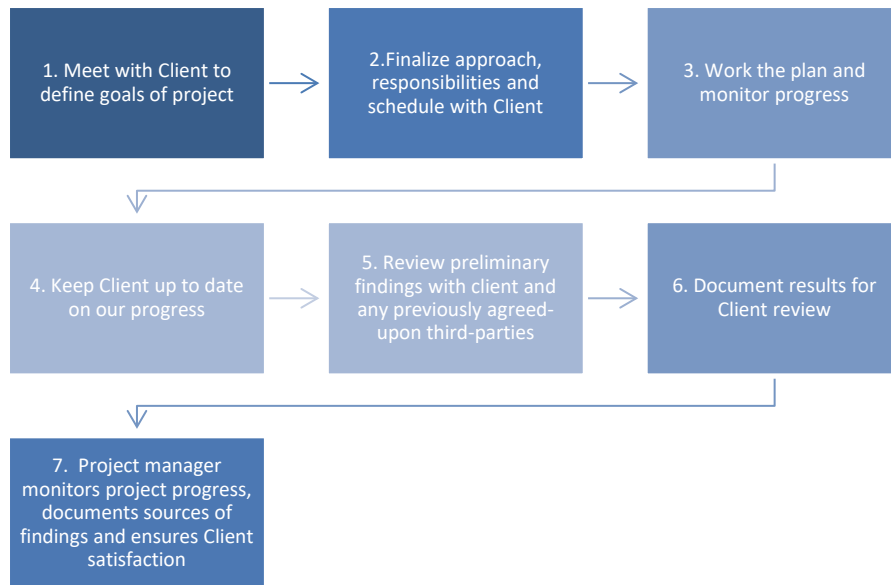
Mayette Bailey
Financial Analyst
Dublin San Ramon Services District

Once the study process has been established, the technical analysis can proceed. All analyses will be combined in a spreadsheet model that will contain many user-friendly features that extend the life of the model for staff's use. For example, each worksheet contains references to the source of the numbers so that it is very easy to trace the flow of numbers among the worksheets. Clearly defined assumptions are centralized and all source documents footnoted.

Management Principles

The scope of this project is of sufficient magnitude to warrant special attention to project management. It is our practice to promote effective project management by establishing agreed upon communication protocols at the outset for managing the schedule and budget. These protocols are established during contract negotiations and maintained thereafter. During contract negotiations, our work plan, schedule, and budget will be reviewed and changed, if warranted. For example, we may find areas where use of staff resources will enable us to reduce our level of effort. There may be other areas where we may have over- or under-estimated the level of effort or the duration required to complete individual tasks. Our work plan will be modified, as required, and the revised schedule and budget will serve as the goals for monitoring progress.

We tailor our project management techniques to the client’s needs so that they receive only the information they require. We would expect to work out the details of what project management information the City and District need during contract negotiations. Management techniques that may be of interest to the City and District include: monthly status reports with invoices; invoices that indicate the monthly and cumulative amounts billed per task and the remaining budget; regularly (bi-weekly, monthly) project status phone calls.



We will also provide project schedules that indicate the status of tasks compared with the project schedule; this can be accomplished in tabular or graphical form. In managing projects, it is important to set realistic deadlines that are agreed upon by the responsible parties. Because there are frequently factors outside of our control, deadlines may not be achievable, as originally planned. In our approach to project management, we regularly monitor schedules to anticipate any slippage in schedules and will work with staff to make adjustments as far in advance so that impacts are minimized or eliminated.

HF&H utilizes a highly client-interactive management consulting methodology that logically leads to the successful performance of our engagements and that it tailors for each client’s specific engagement and task. This methodology is intended to ensure alignment of the project objectives to the organization’s goals, agreement on existing conditions and consensus around the chosen solution, and clear communication of the recommendations. It is based on the interaction of Client and HF&H team staff, assignment of qualified staff, direction of staff by managers using clear work plans, and systems and procedures to support the team and the project.

HF&H provides professional development to staff through several practices: 1) attendance at industry conferences, seminars, and events; 2) subscriptions to industry publications; 3) internal, firm-wide discussions of projects and methodologies.

Approach

Our approach reflects innovations that we have introduced in an ever-changing, litigious rate-making environment. We are quick to adapt to emerging legal complications. We are also well-grounded in long-standing industry standards. As a result, neither *our rate studies*, nor *our Prop 218 procedural requirement process*, have ever been challenged in court.

While there may be other consultants that also provide water and wastewater rate studies, none are as qualified as HF&H to assist the City and District. HF&H is uniquely qualified for the following reasons:

- HF&H has over 30 professionals on staff, including more than a dozen whose primary focus is Proposition 218-compliant sewer, water, and/or solid waste rate setting for municipalities.
- HF&H has developed and helped clients, like North Coast County Water District, successfully implement pass-through rate adjustments to index the cost of variable wholesale water rates. Consumption rates adjust in response to incremental changes in wholesale water rates in relation to projected versus rates charged to the District. This can assist the City with their wholesale water expenses.
- HF&H has developed revenue stabilization factors for Beverly Hills, Hillsborough, and the North Coast County Water District to account for the impacts of conservation. Once adopted, these factors are applied to existing rates in times of City-mandated water consumption cutbacks. With impending cutbacks, these factors can provide revenue stability to the City and District, as well.
- HF&H has created Capital Financing models for South Coast Water District and Union Sanitary District to help each agency make funding decisions geared toward large capital infrastructure investments. Our models can help the City and District make similar decisions by weighing the rates and reserve implications of different funding approaches.

Public support. Public support is the key to a smooth and efficient rate adjustment. Effective public outreach is crucial. Typically, the public is not necessarily interested in how the rates are calculated, but what the rates are paying for. Our presentations provide an overview of the “how” and the “what,” and our reports provide greater detail for those who wish to dig deeper.

Our Consulting Team. Our proposed team members have varied backgrounds in engineering, accounting, and finance management. We bring a unique and diverse

perspective to our clients, and we view our role as a rates consultant from different perspectives:

From the public’s perspective, we want to be viewed as an independent, objective outside party that is capable of explaining the impact of potential changes in clear, simple, and meaningful terms that laypeople can understand.

From the elected officials’ perspective, we want to be viewed as an authoritative expert that can help them craft a solution that balances the community’s interests and strengthens the community by building consensus.

From the staff’s perspective, we want to be viewed as a teammate who can help develop a preferred alternative that optimizes rate-making objectives.

From a personal perspective, we want all parties involved to feel highly satisfied with our services from start to finish.

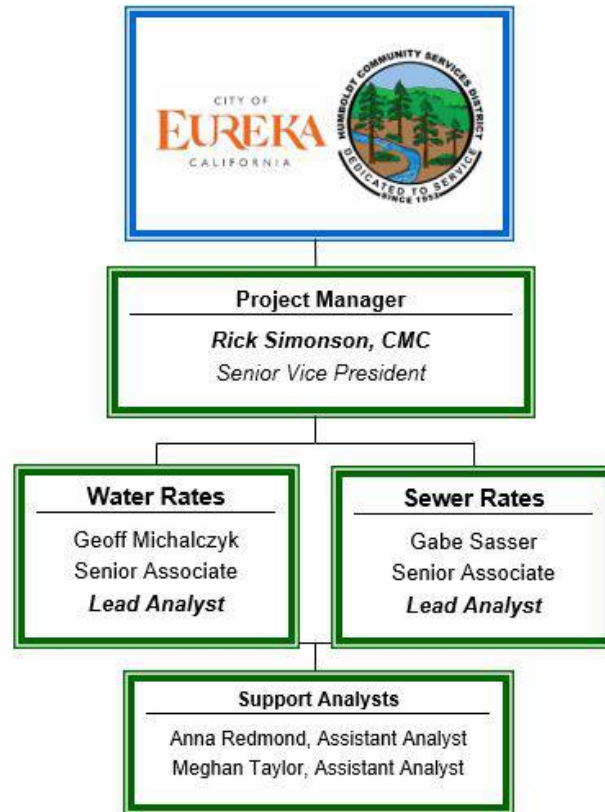
We develop fair, equitable, and sensible rates that ensure revenue stability and play a key role in adequately funding utility operations and maintenance, while encouraging conservation. Our rate-making approach is to balance equity among rate payers and revenue stability for the jurisdiction, while meeting the requirements of Proposition 218.



Staffing and Proposed Project Team Qualifications

HF&H proposes to use the following team for the project. This team has worked together closely on numerous water and sewer rate studies. Resumes for the project team members may be found in **Appendix B**. Billing rates and the number of hours that will be made available for the duration of this project can be found in the **Proposed Fee Estimate**.

Figure 2. Project Organization Chart



Rick Simonson, CMC, Senior. Vice President, Project Manager

Rick’s experience includes six years of audit experience prior to joining HF&H. Over his 21 years at HF&H, Rick has managed numerous water and sewer rate study projects. He brings a depth of knowledge and expertise in Propositions 218 and 26 compliance, rate structure design, and a strong financial modeling background. Rick is a Certified Management Consultant.

Rick's previous experience managing studies for both utilities qualify him to be heavily involved in all aspects of this project. Rick will act as the overall project manager for both the water and sewer rates.

As Project Manager, he will be responsible for the following functions:

- Manage the project team’s progress against the schedule and budget.
- Lead all project meetings and public presentations.

- Perform QA/QC on all deliverables.

Geoffrey Michalczyk, Senior Associate, Lead Analyst - Water

Geoff provides water, wastewater, and stormwater consulting services to cities, counties, and special districts throughout California. Geoff joined HF&H in April 2016. He has experience in creating utility rate structures and connection fees compliant with State law and industry standards. Additionally, he has developed long-term financial plans for the operations of water and wastewater systems. Geoff specializes in municipal finance and is knowledgeable in developing rates and fees that provide adequate funding for the long-term needs of his clients.

Recent lead analyst experience includes water rate studies for the Mid-Peninsula Water District, Diablo Water District, South Coast Water District, and Purissima Hills Water District, as well as sewer rate studies for the Union Sanitary District and the City of Daly City.

Geoff will work closely with Rick in developing the sewer model and rate scenarios, with assistance from project support analysts Anna Redmond and Meghan Taylor.

Gabe Sasser, PE, Senior Associate, Lead Analyst - Sewer

Gabe's experience as a registered civil engineer gives him the technical background to understand the capital infrastructure projects of our clients. With his construction background as a project manager, he is a proven communicator, conscientious of client budget and schedule. Gabe joined HF&H in 2019 and focuses on water and sewer rate studies, as well as customer impact analyses.

His recent lead analyst experience includes sewer rate studies for the City of Taft, Nevada County, City of Bakersfield, and South Coast Water District and water rates studies for Western Hills Water District, Foresthill Public Utility District, and North Coast County Water District.

Gabe will work closely with Rick in developing the sewer model and rate scenarios, with assistance from project support analysts Anna Redmond and Meghan Taylor.

Support Analysts

Anna Redmond and Meghan Taylor will provide support to each lead analyst, as necessary. Anna and Meghan have been specifically selected for this project as their focus at the firm is on rate setting and financial analyses. Their resumes have been included in **Appendix B**, along with all key personnel described above.

Contact Information

Rick Simonson will be HF&H's main contact for this proposal. His contact information is provided on the following page.

Rick Simonson
Senior Vice President
HF&H Consultants, LLC
Phone: (925) 977-6957
Fax: (925) 977-6955
Email: rsimonson@hfh-consultants.com

References

Brief descriptions of some of the recent projects we have conducted, which are similar to those requested in the RFP, are provided below.

City of Daly City – Water and Sewer Rate Studies

Project Description

In 2018, we conducted a water rate study for the five-year planning period of FY 2018-19 through FY 2022-23. The study, and subsequent rate adjustments, realigned the tiered water rates to the cost of service. The cost of Tier 1 water was less than the wholesale cost of water from the City’s provider, the SFPUC. The proposed rate adjustments allowed the City to increase capital project spending from less than \$1 million per year, which was less than annual depreciation expense, to \$1.9 million per year. In addition, the rate adjustments allowed the City to increase reserves to meet the HF&H recommended reserve balances to cover operating and capital cash flow during the year, as well as sufficient reserves for emergency capital repairs and future rate stabilization.

In 2019, we conducted a five-year sewer rate study (covering FY 2019-20 through FY 2023-24), which found that no sewer rate increase was necessary for FY 2019-20. Therefore, the rates were not adjusted on July 1, 2019, and the project was deferred to 2020. Subsequently, due to COVID-19, the City Council and City staff elected not to adjust sewer rates during 2020, as many residents and businesses were facing uncertain times. In Q4 2020, we updated the five-year sewer study to cover FY 2021-22 through FY 2025-26, with rates effective July 1, 2021.

Recommended water rates have been adopted by the City. In June 2021, Council adopted the recommended sewer rates.

Reference Contact Information

Tom Piccolotti, Director of Water and Wastewater Resources, (650) 991-8200 ext. 8201, tpiccolotti@dalycity.org

Union Sanitary District – Sewer Rate Studies and Financial Planning

Project Description

HF&H has conducted many studies for the District since 1990. Most recently, John Farnkopf and Geoff Michalczyk were retained to conduct a sewer rate study that updated the District's rates through FY 2024-25. HF&H updated a 20-year financial planning model that they built in previous years for the District to project expenses, revenues, and reserves. Rate increases were set to fund a capital improvement plan that totaled over \$1.1 billion over the course of 20 years. The District used the model to help issue a \$60 million bond. Additionally, HF&H updated the rate structure that allocated costs to residential, commercial, and industrial customers.

In 2019, HF&H completed the five-year rate study which required 7-8% annual increases to fund significant capital improvement projects. The need to increase revenue by 8% in FY 2020-21 applied differently to each of the District's customer classes because of adjustments in the cost of service. The number of accounts, the flow per class, and the COD and TSS strength concentrations per class were all updated. Certain rates decreased and others increased based on the relative changes from the prior flow and strength data. These differences indicate that since the prior cost of service analysis, there has been a shift in the relative flows, loadings, and accounts among the customer classes.

The District Board adopted the recommended rates for the five-year financial planning period.

Reference Contact Information

Paul Eldredge, General Manager, (510) 477-7502, paule@unionsanitary.ca.gov

Town of Hillsborough – Water and Sewer Rate Studies

Project Description

Over the past seven years, HF&H has assisted the Town of Hillsborough in developing funding for its water, wastewater, and storm drain services, including:

- Setting the tiered water rate structure based on the cost of service for each tier using the AWWA base/extra capacity cost allocation methodology, which is advisable in light of the San Juan Capistrano decision.
- Developing “revenue stabilization factors,” which allows the Town to automatically adjust its water rates to offset revenue lost during droughts when customers are required to ration water; these adjustments can be made by notifying customers at least 30 days in advance on their bills without triggering the notification and protest process under Proposition 218.

- Conducting annual water rate updates to verify the need for the projected rate increases from our original five-year study.
- Assisting the Town to resolve litigation over the water rates set prior to our involvement.
- Assisting the Town to implement significant wastewater rate increases, enabling the acceleration of the capital improvement program in compliance with a regulatory compliance order.
- Developing a storm drain funding strategy integrating funding from a portfolio of sources including related services such as water and wastewater revenue, which does not require voter approval, to sources requiring voter approval such as stormwater fees and assessments.

Most recently, Rick Simonson and Gabe Sasser updated the Town's water rates that went into effect January 2021. In addition, they completed a five-year update of the Town's sewer rates. Rates were approved in June 2021 and went into effect July 2021.

Reference Contact Information

Jan Cooke, Finance Director, (650) 375-7408, jcooke@hillsborough.net

Solano Irrigation District - Potable and Non-Potable Water Rate Study

Project Description

In 2019, HF&H was retained to update the District's agriculture and M&I rates for 2021-2023. Since the original 2015 study that HF&H performed, and updated in 2016, the District has expanded from 16 to 19 separate M&I service areas and continues to provide services to Agriculture customers. The District has emphasized the importance of building reserves for future capital improvement projects benefitting each of the M&I zones and the Agriculture class of customers, and tracking revenues and expenses for each service area separately.

This current rate study is analyzing the District's projected revenues, at currently adopted rates, the projected expenditures for operations and maintenance and planned capital improvements over the next three-year planning period, ending in 2023. Our study will provide the District with recommended rates to fully-fund these activities and to provide for adequate reserves over this three-year planning horizon.

Reference Contact Information

Cammie Morin, Director of Finance; (707) 455-4008; cmorin@sidwater.org

South Coast Water District – Water, Sewer, Recycled Water Rate Study

Project Description

After working with the District on budget, capital financing, and various management studies, HF&H was retained to perform a rate study for the District’s water, wastewater, and recycled water enterprises. This was the District’s first rate study since separating its operations into the three enterprises. As a result, some changes were needed to realign the rates to the cost-of-service.

Key results: The base-extra capacity method was used to allocate costs to the various demand categories. HF&H updated the water service charges by realigning the meter ratios using the rated capacities of each meter size. Furthermore, residential tier breakpoints were adjusted to match the demand patterns of District customers.

Sewer rates were adjusted to realign the wastewater strength concentrations for each customer class. The adjustments balanced the flows and masses of BOD and TSS from the customer classes with the estimated loading from the District received by the South Orange County Wastewater Authority for treatment.

Reference Contact Information

Pamela Arends-King, Chief Financial Officer, 949-499-4555; parendsking@scwd.org

Proposed Project Schedule

The proposed project timeline, including deliverables and meetings, is shown in **Figure 3**. The RFP states that the expected timeline for the project to be six months. This timeline, however, may not leave enough time for thorough analysis to be completed. HF&H proposes a schedule that anticipates completion in time for rates to be effective January 1, 2023.

We expect to confirm this schedule at the outset of the project and follow it to completion of each milestone. Any changes will be incorporated into a revised schedule.

Figure 3. Project Schedule

Tasks	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022
Task 1 - Kickoff Meeting												
Meet with City & District Staff/Data Request	☎											
Task 2 - 20-Year Financial Plan												
Build 20-year Water Financial Model - City of Eureka												
Build 20-year Sewer Financial Model - City of Eureka												
Build 20-year Water Financial Model - HCSD												
Build 20-year Sewer Financial Model - HCSD												
Review Preliminary Analysis with City Staff												
Review Preliminary Analysis with District Staff												
Attend Council Meeting - City of Eureka												
Attend Board Meeting - HCSD												
Revise Models Accordingly												
Task 3 - Cost-of-Service Analysis												
Develop Water Cost-of-Service - City of Eureka												
Develop Sewer Cost-of-Service - City of Eureka												
Develop Water Cost-of-Service - HCSD												
Develop Sewer Cost-of-Service - HCSD												
Review Preliminary Analysis with City Staff												
Review Preliminary Analysis with District Staff												
Attend Council Meeting - City of Eureka												
Attend Board Meeting - HCSD												
Revise Models Accordingly												
Task 4 - Five-Year Rate Model												
Develop Water Rate Structure - City of Eureka												
Develop Sewer Rate Structure - City of Eureka												
Develop Water Rate Structure - HCSD												
Develop Sewer Rate Structure - HCSD												
Review Preliminary Results with City Staff												
Review Preliminary Results with District Staff												
Attend Council Meeting - City of Eureka												
Attend Board Meeting - HCSD												
Revise Alternatives Accordingly												
Task 5 - Connection & Miscellaneous Fees												
Develop Water & Sewer Connection Fees - City of Eureka												
Develop Water & Sewer Connection Fees - HCSD												
Develop Other Service Charges - City of Eureka												
Develop Other Service Charges - HCSD												
Review Preliminary Results with City Staff												
Review Preliminary Results with District Staff												
Revise Alternatives Accordingly												
Task 6 - Customer Impact Analysis												
Customer Impact Analysis												
Task 7 - Documentation												
Prepare Draft Report - City of Eureka												
Prepare Draft Report - HCSD												
Review Draft Report with City Staff												
Review Draft Report with District Staff												
Revise Draft Reports Accordingly												
Task 8 - Implementation												
Develop Web-Based Rate Calculator												
Preparation of Prop 218 Notice - City of Eureka												
Preparation of Prop 218 Notice - HCSD												
Coordinate Mailing of Prop 218 Notice - City of Eureka												
Coordinate Mailing of Prop 218 Notice - HCSD												
Present Final Report to Council - City of Eureka												
Present Final Report to Board - HCSD												
Attend Prop 218 Hearing - City of Eureka												
Attend Prop 218 Hearing - HCSD												
Task 8 - Project Management												
Manage Schedule/Budget, Prepare Invoices, etc.												

* = On-Site Meeting
☎ = Teleconference with staff

Fee Estimates & Rates

Details regarding the fee estimates and hourly rates can be found in a separate file titled **Proposed Fee Estimate**. This file describes how we charge for the tasks described above, out-of-scope work, and direct expenses.

E. AGREEMENT

HF&H Consultants does not take exception to the proposed Professional Services Agreement.

F. ADDITIONAL INFORMATION

Added Value to the City and District

1. All work to be performed by one firm.

HF&H does not require the use of subcontractors to perform this work. Our in-house team has the experience to conduct Proposition 218 compliant rate setting for all three utilities.

2. Rate structure mechanisms available to improve revenue stability.

Our team can assist the City and District, and has assisted other agencies, with implementing revenue stabilization factors during periods of mandated water cutbacks. When implemented, these revenue stabilization factors temporarily increase volumetric rates to maintain revenue neutrality when mandatory cutbacks reduce volumetric revenues. These factors can be included with future rates in the Proposition 218 protest process and implemented once the City Council and/or Board of Directors declares a mandatory water use restriction.

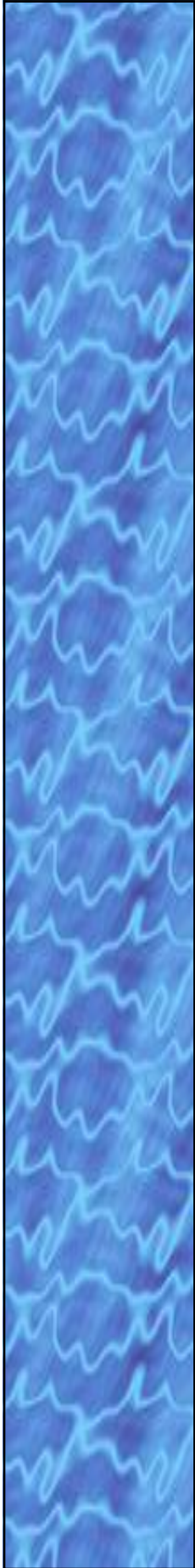
Currently, the City and District rely on an outside agency (Humboldt Bay Municipal Water District) for wholesale water purchases, a pass-through adjustment may be a viable measure to pursue. The stress that variances in outside agency expense projections place on the City's and District's utility reserves can be relieved by "indexing" rates to pass-through costs. The index allows for revenue neutral rate adjustments that can be made without triggering a full Proposition 218 protest process. Indexing can go far in safeguarding rates against assumed cost projections that do not pan out.



APPENDIX A: STATEMENT OF QUALIFICATIONS



HF&H Consultants, LLC



STATEMENT OF QUALIFICATIONS

**WATER, WASTEWATER, AND STORMWATER
CONSULTING SERVICES**

2021



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STATEMENT OF QUALIFICATIONS

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INTRODUCTION

This Statement of Qualifications describes the consulting services HF&H Consultants, LLC, provides to water, wastewater, and stormwater municipalities. Our core services include:

- *Financial Planning* – Preparation of multi-year financial projections to determine funding requirements from available sources.
- *Rates* – Developing rate designs that meet rate-making objectives.
- *Development Impact Fees* – Deriving charges for connecting to facilities in compliance with legal requirements.
- *Management Studies* – Analyzing organizational efficiency, institutional relationships, and growth strategies.
- *Resource Management and Economics* – Evaluating the impacts of resource constraints on operational capabilities and contractual commitments.
- *Litigation and Regulatory Support* – Assisting with contractual compliance audits, inter-agency negotiations, rate and fee analysis.

These services are delivered with a distinctive approach:

- *More than analysts* – Attention to the details that matter to clients.

- *No cookie cutters* – Unique analytical approaches that result in practical solutions.
- *Decision managers* – Skilled techniques for evaluating alternatives.
- *Consensus builders* – Strong presentation skills in public hearings.

These services are described in greater detail in this Statement, which includes a list of clients for whom we have performed these services. All of the projects listed have involved the key staff members whose résumés are included in this Statement. Please contact John Farnkopf, Senior Vice President (925-977-6953), if you require additional information.

Our Statement of Qualifications concludes with a summary of our most recent client satisfaction survey.

In addition to its water, wastewater, and stormwater services, the firm provides a wide range of solid waste consulting services including rate reviews and studies, contract audits and negotiations, feasibility studies, operational studies, and capital improvement planning.

Mission Statement

Our mission is to be the first choice and recognized leader among municipal agencies for high quality consulting services in selected geographic and service markets.

FIRM DESCRIPTION

Organization

Founded in 1989, HF&H Consultants, LLC, provides consulting services to water, wastewater, stormwater, and solid waste agencies. Prior to forming the company, the firm's founders worked together for six years at a "Big Eight" accounting firm. The synergy resulting from our staff's engineering, accounting, economics, and public policy backgrounds provides substantial added value to clients, which can rarely be achieved by individual engineering, accounting, or management consulting firms.

Today, HF&H has grown to a firm of twenty-five professionals, which makes it one of the largest ratemaking firms on the West Coast. With offices located in northern and southern California, HF&H directs its practice to cities, counties, and special districts in the United States. As such, HF&H provides clients with the breadth of experience of a national firm, and the responsiveness, accountability, and personal commitment of a local firm. Our consultants are seldom far away and, as a result, our clients always receive a quick, personal response to their needs.

HF&H provides financial, economic and general consulting services to public officials in the following areas: rate-setting, cost-of-service studies, financial planning and budgeting, resource management, public policy development, litigation, and negotiations. By comparison with engineering consultants, our style of consulting is influenced by our prior exposure to private sector consulting: we assist our municipal clients in functioning as healthy businesses within the regulatory and political framework of the public sector.

HF&H Consultants has a low staff-to-executive ratio in order to allow the firm's most experienced members to participate actively in client projects, rather than only in business development and project administration. Unlike firms that delegate critical tasks to junior staff, our senior employees are involved throughout our clients' projects. The close working relationship between our management and staff ensures effective supervision and quality control. The executives' national certifications and licenses assure our clients of compliance with the highest professional standards.

Profile of Services

The services we provide may be classified as follows:

- Seventy-five percent of our work is performed for long-term, continuing clients for whom the members of HF&H Consultants have worked for as long as 20 years.
- Seventy-five percent of our work is directly related to rate regulation, which typically involves revenue requirement analyses, cost-of-service studies, and rate design.
- Our principal clients are state and local governmental bodies such as cities, counties, and special districts. Several of our clients are joint organizations of municipalities sharing a common concern such as water management or solid waste rate regulation. In addition, we provide litigation support to the legal counsel of these and other clients.

CONSULTING SERVICES

HF&H Consultant's consulting services are listed below. A listing of HF&H Consultant's current and historical clients is also included in the following pages.

Financial Planning

- Revenue requirement analysis
- Multi-year financial plans
- Revenue programs
- General Fund reimbursement studies
- Reserve fund management
- Interfund transfer policies

Capital Funding

- Capital financing alternatives
- Engineer's certificates
- Economic feasibility analysis
- Stormwater program funding strategies

Cost Allocation Studies

- Cost-of-service studies
- Multi-purpose project allocations
- Inter-agency allocations
- Recycled water regional allocations
- Cash and utility rate making

Rates, Charges, and Fees

- Rate structure diagnostic evaluations
- Rate structure designs
- Customer bill impacts
- Affordability analysis
- Outside-city rate increases
- Price elasticity impacts
- Indexed pass-through costs
- Customer class audits
- Administrative and field service fees

Development Impact Fees and Valuations

- Full cost recovery models
- Utility asset valuations
- Depreciation studies
- Renewal/replacement funding

Stakeholder Facilitation

- Council and Board presentations
- Community workshops
- Citizens advisory groups
- Industrial customer focus groups
- Decision management techniques
- Customer surveys
- Mediations

Management Studies

- Benchmarking
- Strategic planning
- Organization structures reviews
- Management/institutional reviews
- Performance audits
- Incorporation/consolidation studies

Litigation Support

- Rate and fee litigation
- Environmental remediation
- Water supply contracts
- Contract compliance
- Expert witness testimony

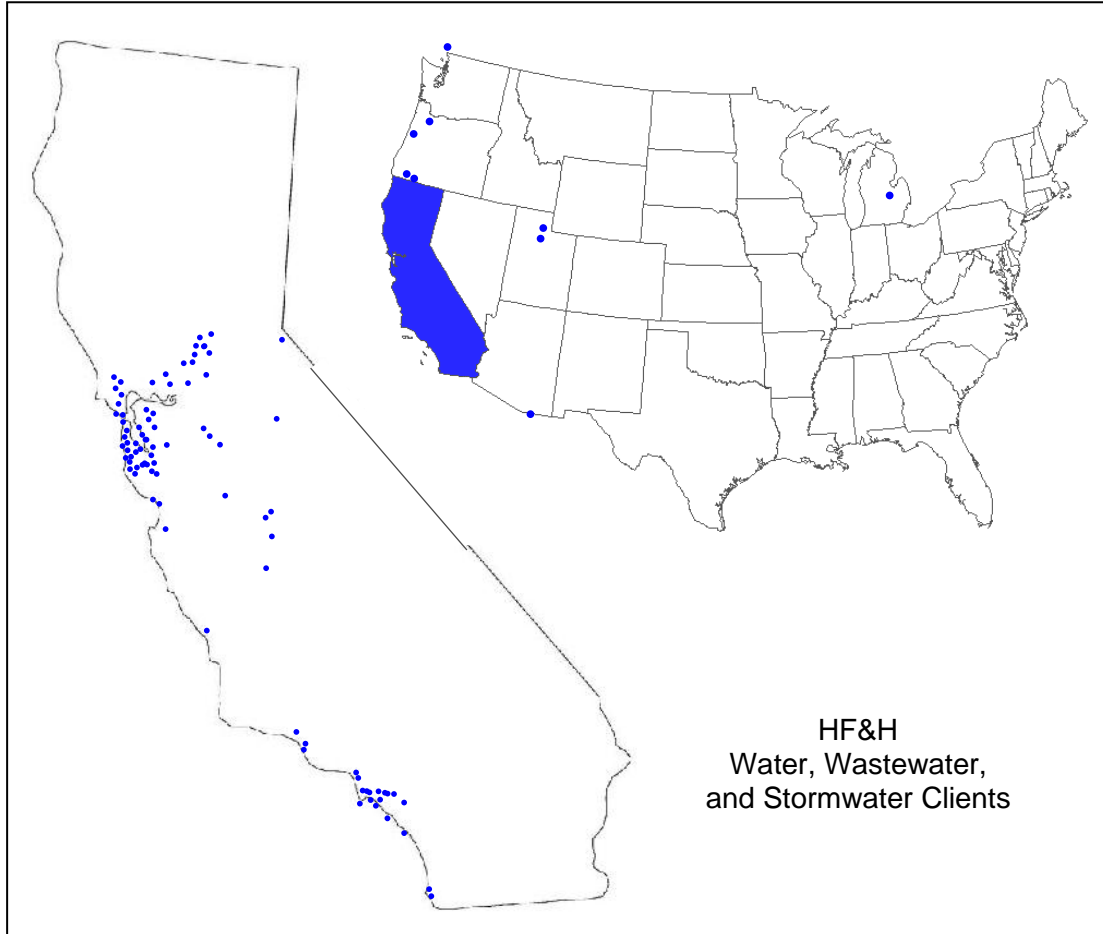
Contract Negotiations

- Wholesale/retail water supply
- Regional wastewater treatment
- Recycled water supply and pricing
- Water/Wastewater privatizations
- Metering and billing services
- JPA formation

Legal/Regulatory Compliance

- Proposition 218
- Public Utility Commission practices
- Ordinance/resolution preparation

WATER, WASTEWATER & STORMWATER CLIENTS



Client	Type of Study	Year	Project Emphasis
City of Alameda	Stormwater Financial Plan	2001	Sewer and Solid Waste Funding in Compliance with Proposition 218
Alameda County Water District	Financial Planning	1991	Project Financing, Debt Issuance
	Urban Water Management - Plan	1993	Cost/Benefit Analyses, Water Conservation
	Best Management Practices		
	Capacity Charges	1998	Critique of Methodology
	Engineer's Certificate	2003	Debt Coverage
Engineer's Certificate	2012	Debt Coverage	
Engineer's Certificate	2015	Debt Coverage	

Client	Type of Study	Year	Project Emphasis
Alameda Countywide Clean Water Program	Stormwater Funding	2003	Proposition 218 Compliance
City of Alhambra	Overhead Cost Allocations and Public Safety, Right-of-Way Maintenance Cost Recovery	2019	Review Current Methodology; Calculate Water, Sewer, and Refuse Reimbursements
Aleshire & Wynder, LLP	Litigation Support	2011 to 2015	Groundwater Replenishment Cost Allocations
Amador Water Agency	Litigation Support Water Rate Review	1996 1998	Dept. of Corrections Water Rates Rate Update
City of Anaheim	Sewer Rates Litigation Support	2012 2013	Confirm Revenue Sufficiency Enterprise Overhead Reimbursements
City of Antioch	Public Safety Cost Recovery	2016	Water, Sewer Enterprise Reimbursements
City of Ashland, OR	Water and Wastewater Rates	1994	Demand Management, Debt Issuance
City of Bakersfield	Sewer Rates and Connection Fees	2020	Cost-of-service model for five-year planning period
Bay Area Stormwater Management Agencies Association	Stormwater Funding Strategies	2008	Permit Renewal
Bay Area Water Supply and Conservation Agency	Review Administration of Wholesale Water Supply Contract	2004	Compliance with Rate-making Provisions
	Overhead Cost Allocation	2005	Benchmark Comparisons
	Review Flow-Based Allocation Formulas	2007	Simplification of Water Accounting
	Review Impact of Organizational Changes on Cost Accounting	2007	Water/Power Allocations
	Rate of Return	2008	National Survey of Industry Practices
	Wholesale Water Supply Contract Negotiations	2009	Rate-Making Methodology
	Shortage Allocations	2009	Dry-Year Conditions
	Supply Allocations	2010	Long-Term Conditions
	Wholesale Rates	2011	Restructuring
	Hydroelectric Cost Allocations	2012	Water/Power Split
	Water supply allocations	2016	Water Transfers
	Capital Improvement Planning	2018	Benchmarking
Bear Creek Valley Auth., OR	Capital Replacement Strategy	1996	Depreciation, Rate Analysis

Client	Type of Study	Year	Project Emphasis
City of Belmont	Sewer/Stormwater Rates	1999	Proposition 218 Compliance
	Regional Wastewater Treatment Plant Capacity	2000	Capacity Expansion Options
	Sewer/Stormwater Rates	2001	Update
	Sewer/Stormwater Rates	2002	Update
	Sewer/Stormwater Rates	2003	Update
	Sewer/Stormwater Rates	2004	Update
	Sewer/Stormwater Rates	2005	Update
	Stormwater Funding	2005	Capital Improvement Financing
	Sewer/Stormwater Rates	2006	Update
	Sewer/Stormwater Rates	2007	Treatment Plant Financing
	Sewer Connection Fees	2008	Update
	Sewer Rates	2008	Restructuring Fixed Charge
	Sewer Treatment Charge	2009	Create New Charge
	Sewer Rates	2009	Update Collection System Charge
	Sewer Rates	2010	Update
Sewer Rates	2011	Update	
City of Beverly Hills	Water System Leasing	1999	Proposition 218 Compliance
	Regional Wastewater Charges	2000	Revenue Program
	Water Rates and Penalty Surcharge	2015-19	Tiered Water Rate Structure, <i>San Juan Capistrano</i> compliance
	Sewer Rates	2017	Financial Plan Update
	Water Rates	2019	Outside-City Rate Differential
Bold, Polisner, Maddow, Nelson & Judson	Litigation Support (Contra Costa Water District)	1996	Water Capacity Fees
City of Brentwood	Water, Sewer, and Non-Potable Water Rates	2013	Enterprise Overhead Reimbursements
	Overhead Cost and Interfund Services Allocations	2017	Review of Methodology
City of Burbank	Public Safety, Right-of-Way Maintenance Cost Recovery	2014	Water Enterprise Reimbursements
City of Burlingame	Sewer Rate Structure	1997	Alternatives to Minimize Climatic Influences
	Water and Sewer Rates	2002	Revenue Stability
	Water and Sewer Rates	2005	Model Development
	Water and Sewer Rates	2007	\$25 Million Debt Issuance
	Water and Sewer Rates	2008	Update
	Water and Sewer Rates	2010	Update
	Water and Sewer Rates	2011	Debt Refinancing
	Water and Sewer Rates	2012	Tiered Water Rate Structure
	Water and Sewer Rates	2013	Debt refinancing
	Water and Sewer Rates	2015	Drought Pricing

Client	Type of Study	Year	Project Emphasis
California State University – Monterey Bay	Water and Sewer Rates and Capacity Charges	2017 to present	Contract Negotiations With Local Agency
California Water Service Co.	Cost Allocation (Salinas)	1997	Historic Benefits Analysis
	Water Supply Development (Tassajara Valley)	1998	Organizational, Institutional, and Financial Aspects
	Water Supply Feasibility (Visalia)	2005	System Expansion
City of Camarillo	Water Rates	1997	Conservation Oriented Rates
City of Carlsbad	Public Safety, Governmental Facilities, and Right-of-Way Maintenance Cost Recovery	2020	Water, Sewer, Solid Waste, Stormwater Enterprise Reimbursements
Carmichael Water District	Water Rates	1998	Metering Residential Customers
	Water Rates	1999	Proposition 218 Compliance
Castro Valley Sanitary District	Capital Improvement Plan	2013	Economic Validation
	Sewer Rates	2019	Flow-Based Commercial Rates
Central Contra Costa Sanitary District	Wastewater Capacity Fees	2003	Diagnostic Evaluation
City of Ceres	Water Rates	2008	Financial Stabilization, \$3,000,000 Financing
	Water Rate Update	2010	Metered Water Rates
	Regional Wastewater Planning	2010	JPA Formation
	Water Rates	2012	Tiered Water Rates
	Water Connection Fees	2013	Competitiveness
	Water Rates and Connection Fees Update	2017	Post-Drought Demand Rebound
	Water Rate Update	2018	Confirm Adopted Rate Increase
City of Cerritos	Street and Stormwater Program Funding	2006	Proposition 218 Compliance
	Litigation Support	2011	Groundwater Replenishment Assessment
City of Chino	Public Safety, Governmental Facilities, and Right-of-Way Maintenance Cost Recovery	2015	Water, Sewer, Solid Waste, Stormwater Enterprise Reimbursements
	Cost Recovery Update	2020	Update
	Cost Allocation	2020	General fund overhead cost allocations
Clear Creek Community Services District	Water Financial Security Package	2017	Proposition 1 Grant Funding

Client	Type of Study	Year	Project Emphasis
City of Clovis	Wastewater Rates	1996	Capital Cost Allocation
	Commercial Wastewater Rates	2002	Fixed and Variable Charges
	Water and Wastewater Rates and Capacity Fees	2003	Growth Allocations
	Water and Wastewater Rates	2004	Restructure Fixed Charges
Coastside County Water District	Water System Operations	1989	Fire Protection Charges
	Drought Water Rate Structure Study	2014	Drought Rate Adjustments
	Water Rate Update	2016	Adequacy of Reserves, <i>San Juan Capistrano</i> compliance
	Water Rates and Connection Fee Update	2017	Post-Drought Demand Rebound
Cobb Area County Water District	Water Rate Update	2018	Capital Financing
	Water Financial Security Package	2017	Proposition 1 Grant Funding
	LAFCo Plan For Services	2017	Consolidation of Nine Service Areas
Cobb Area County Water District	Water Rates	2019	Rate Model
	Water Rates	1990	Debt Coverage, Water Conservation
	Water Rates	1991	Debt Coverage, Water Conservation
Contra Costa Water District	Engineer's Certificate	1992	Debt Coverage
	Expert Witness Testimony	1997	Capacity Fees
	Capacity Fees	1998	Industrial Customers
	Expert Witness Testimony (Palo Alto Park Mutual Water Co.)	1994	Capacity Fees, Conservation Penalties
Cooley, Godward, Castro, Huddleson & Tatum	Expert Witness Testimony (Citizens Utilities Company)	1995	Groundwater Contamination (Arbitration)
	Sewer Rates	2012	Cost of Service Analysis and Rate Restructuring
Costa Mesa Sanitary District	Water Rates	2018	Affordability
City of Coulterville	Wastewater Financial Plan	2018	Application for State Grant
City of Crescent City	Water Supply Contract	1990	Conjunctive Use
	Wholesale Water Rates	2009	Supply Allocation
	Water Rates	2017	Capital Improvement Program funding
	Stormwater Cost Allocation	2018	Funding Strategies
	Stormwater Rates	2019	SB 231 - No Voter Approval
	Wastewater Rates	2019	Rate Update
	Wastewater Rates	2020	Rate Update
	Wastewater Rates	2021	Rate Update
City of Daly City	Public Works Department Audit	1999	Water, Wastewater, Stormwater, and Solid Waste Divisions
City of Davis	Sewer Connection Fees	2001	Improved Documentation
	Street Sweeping Fees	2001	Methodology Review
	Recycled Water Sales	2003	Inter-Agency Agreement

Client	Type of Study	Year	Project Emphasis
Diablo Water District	Water Rates	2021	Financial Plan; Rate Structure
Dublin San Ramon Services District	Wastewater Capacity Fees	2018	Consistency With Facilities Master Plans
Dublin San Ramon Services District/East Bay Municipal Utilities District	Wholesale Recycled Water Rates	2012 2017	Contract Negotiations Consistency With Facilities Master Plan
East Bay Municipal Utility District	Litigation Support Wet Weather Facilities Regulatory Strategies	1992 2006	Rate Equity, Water Conservation Benefit-Cost Analysis
City of East Palo Alto	Consolidation Study	1996	Water, Wastewater, Stormwater, Lighting Services
	Sanitary District Consolidation	2002	LAFCo Process, Public Outreach
East Palo Alto Sanitary District	Management Study	1999	Organizational Restructuring
City of El Monte	Sewer Rates	2008	Sewer Enterprise Formation
City of Evanston, IL	General Fund Reimbursement	2021	Overhead and Public Safety cost allocations
City of Fairfield	Water Rates	1989	Debt Coverage, Rate Equity
	Engineer's Certificate	1993	Debt Coverage
	Engineer's Certificate	1996	Debt Coverage
	Engineer's Certificate	2003	Debt Coverage
Fairfield-Suisun Sewer District	Wastewater Rates	1994	Industrial Water Reclamation, Rate Equity
	Wastewater Rates and Connection Fees	2002	Rate update and Comparison of Non-residential Connection Fees
Fair Oaks Water District	Water Rates	1998	Metering Residential Customers
City of Farmington Hills, MI	Water and Sewer Rates and Reserve Balances	2019	Litigation Support
City of Fillmore	Wastewater JPA Formation	2002	Treatment Plant Financing, Cost Allocations, JPA Agreement
City of Folsom	Stormwater Utility Formation	2005	Feasibility Analysis
Foresthill Public Utility District	Water Rates	2019	Rate Restructuring
	Water Rates and Connection Fees	2021	Rate Update; Proposition 218 Compliant
City of Foster City	Water and Sewer Connection Fees	2016	Periodic Update
City of Fremont	Stormwater Funding	2011	Financial Study
City of Galt	Sewer Rates	2014	SRF Loan
	Sewer Rates	2015	Debt Financing

Client	Type of Study	Year	Project Emphasis
City of Glendale	Public Safety Cost Recovery	2012	Enterprise Reimbursements
	Public Safety Cost Recovery	2017	Update Prior Study
Greater Vancouver Water District	Wholesale Seasonal Rates	1998	Price Elasticity
	Wholesale Seasonal Rates	2002	Cost of Service Allocations
	Wholesale Rate Structures	2003	Fixed/Variable Options
Groveland Community Services District	Water Rates and Capacity Fees	1995	Debt Issuance, Debt Coverage
Hanson, Bridgett, Marcus, Vlahos & Rudy, LLP	Litigation Support (San Francisco Bay Area Water Users Association)	1978-84	Wholesale Water Rates
	Wholesale Water Rates	2007	Contract Negotiations
City of Hayward	Water and Sewer Capacity Charges	1999	Develop Model
Town of Hillsborough	Storm Drain Funding	2013	Funding Strategies
	Storm Drain, Wastewater, and Water Rates	2014 to present	Stormwater Program Funding <i>San Juan Capistrano</i> compliance
	Storm Sewer Rates	2019	Establish New Storm Sewer Rates
	Sewer Rates	2021	Rate Update; Finance major wastewater treatment plant upgrades
	Water Rate Update	2021	Revenue Stability
City of Imperial Beach	Sewer/Stormwater Rates	2004	Consolidate Funds in Compliance with Proposition 218
Indio Water Authority	Water Rates	2020	Evaluate effectiveness of Water Budget Rate Structure
	Capacity Charges	2021	Update Supplemental Water Supply Component of Capacity Charges
	Water Rates/Miscellaneous Fees	2021	Financial Plan; Rate Restructure
Irish Beach Water District	Litigation Support	2016	Engineer's Report
City of La Puente	Sewer Rates and Capacity Fees	2006	Sewer Enterprise Formation
	Sewer Rate Update	2008	\$10,000,000 Financing
City of La Verne	Overhead Cost and Interfund Services Allocations	2018	Review of Methodology
City of Laguna Beach	Sewer Capacity Charges	2019	Update
Las Deltas Mutual Water Company	Water Rate Review	2017	Compliance With Industry Standards and Legal Requirements
City of Lincoln	Water and Wastewater Rates	2003-05	Rate Payer Sensitivity
	Water Rate Update	2005	Purchased Water Cost Increase
	Water Rate Update	2007	Rate Structure
	Water, Sewer, and Solid Waste Rates	2012	Rate Update
City of Live Oak	Storm Drain Impact Fee	2010	Charges for Development Zones

Client	Type of Study	Year	Project Emphasis
City of Livermore	Water and Sewer Capacity Charges	2017	Review of Methodology
City of Lodi	Sewer Rates	2003	Low-Interest Loan Application
	Sewer Rate Update	2004	\$25,000,000 Financing
	Sewer Rate Update	2004	Restructure Rates & Capacity Fees
	Sewer Rate Update	2007	\$20,000,000 Financing
	Sewer Rates	2009	Update
Loma Prieta Joint Unified School District	Alternative Water Supply Costs	2017	Economic Analysis
City of Lompoc	Public Safety, Governmental Assets, Right-of-Way Maintenance Cost Recovery	2015	Water, Sewer, Solid Waste, Broadband, Electric, Airport Enterprises
City of Long Beach	Street Sweeping Right-of-Way Maintenance Cost Recovery	2005	Funding Sources
		2017	Water Enterprise
City of Los Altos	Sewer Rates	2000	Charges for Colleges
Town of Los Altos Hills	Sewer Rates and Connection Fees	2007	Convert Septic Users to Sewer Facilities
	Sewer Rates	2019	Update; Establish accessory dwelling unit charge
Los Angeles Department of Water and Power	Financial Evaluation	2005	Rate-Making Process
	Strategic Planning	2010	Supply Reliability
	Water Rates	2010-16	Evaluation of Tiers
City of Los Banos	Wastewater Rates and Connection Fees	2006	Evaluating Alternative Capital Projects
	Water and Sewer Rates	2010	Treatment Plant Expansion
Los Trancos County Water District	Future Water Demand	2002	Conversion from Septic to Sewer System
Lukins Brothers Water Company	Water System Valuation and Sale	2004	California PUC Rate-Making Practices
		2006	Negotiations of Sale
Malaga County Water District	Management Study	1998	Incorporation Feasibility
City of Manteca	Stormwater Fees	2003	Funding Options
Marin Municipal Water District	Water Rates	2013	Restructuring
	Watershed Vegetation Management	2013	Program Economics
McCutchen, Doyle, Brown & Enersen	Expert Witness Testimony (Arbitration)	1995	Groundwater Contamination (Citizens Utilities Company)
	Litigation Support (Groundwater Basin Remediation)	2001	California PUC Rate-Making Practices (San Gabriel Valley Water Company)
City of Menlo Park	Water Rates	1995	Customer Billing, Rate Structure

Client	Type of Study	Year	Project Emphasis
Metropolitan Water District of Southern California	Capacity (Growth) Charges, Tier I Water Supply Contract	1997 - 2002	Impacts on Member Agencies and Developers
Mid-Peninsula Water District	Water Rates	2020	Proposition 218 compliant
City of Mill Valley	Sewer Rates Sewer Rates	2010-11 2011	Regulatory Compliance Flow-Based Residential Rates
City of Modesto	Wastewater Capacity Fees Peer Review Peer Review Peer Review Peer Review Regional Wastewater Planning	1996 2006 2007 2007 2007 2010	Cost Allocation, Project Financing Water Rate Revenue Sewer Capacity Charge Sewer Rate Revenue Water Capacity Charge JPA Formation
City of Monterey Park	Water/Wastewater/Solid Waste Rates	2021	Financial Planning Model; Rate Structure Review
City of Morgan Hill	Water/Wastewater Rates and Capacity Fees	2002	Rate Structure Review
City of Mountain View	Water and Sewer Rate Review	1998	Qualitative Assessment of Rate Structures
Natural Resources Defense Council	Water and Wastewater Rates Water Rate Structures	2010-13 2014	Tiered Rate Standards, Flow-Based Sewer Rates, Marginal Cost Pricing Proportionality standards
Nevada County Sanitation District No. 1	Sewer Rates	2021	Multi-zone Cost-of-Service Rates; Financial Plan
City of Newport, OR	Sewer Rates	1998	Debt Issuance
City of Newport Beach	Water Rates Sewer, Stormwater, and Recycled Water Rates	1998 2013 to 2017	Impact of Annexation <i>San Juan Capistrano</i> Compliance
City of Nogales, AZ	Water and Wastewater Rates	1999	Capital Project Revenue Requirement, Cost Allocation, Ability to Pay

Client	Type of Study	Year	Project Emphasis
North Coast County Water District	Water Rates	2001	Financial Planning Model
	Water Rates	2002	CIP Financing
	Water Rates	2004	Update
	Water Capacity Fees	2005	Update
	Water Rates	2006	Update
	Water Rates	2007	Update
	Water Rates	2010	CIP Financing
	Water Rates	2011	Water Budget Rate Structures
	Water Rates	2013	Update
	Water Rates	2015	San Juan Capistrano compliance
	Water Capacity Fees	2019	Update
	Water Rates	2021	Drought Rates; Financial Plan; Rate Update
	Northridge Water District	Water Rates and Capacity Fees	1996
Nossaman, Guthner, Knox & Elliott, LLP	Litigation Support (Industries)	2003	California PUC Rate-Making Practices (Southern California Water Company)
Oakwood Lakes Water District	Water and Sewer Rates	2018	Allocation to Development
	Water Connection Fee	2019	Update
	Water and Sewer Rates	2020	Update; Reflect impacts of out-sourcing sewer treatment; Cost allocation update
City of Ogden, UT	Water/Wastewater Rates	1996	Water Conservation, Rate Structure
Olivenhain Municipal Water District	Water Rates	1996	Tier Structure, Equity
	Operations Review	1996	High Level Diagnostic Review
City of Orange	Water Rates	1997	Financial Plan Model
	Water Rate Update	2000	Rate Restructuring, Fire Service Charges
	Water Rate Update	2001	Policies for Reserves
	Water Rate Update	2002	Revised CIP
	Water Rate Update	2003	Pass-Through Costs
Orange County Sanitation District	Operational Audit	1999	Office Support Staff Organization
City of Oxnard	Public Safety, Governmental Asset, and Right-of-Way Maintenance Cost Recovery	2013	Cost Allocations to Enterprises
City of Pacifica	Sewer Rate Evaluation	2014	Single-family vs. Multi-family Flow Differential
City of Palo Alto	Water, Wastewater and Reclaimed Water Rates	1993	Reclaimed Water, Cost Allocation
	Water Utility Benchmarking	2010	Rate Differences

Client	Type of Study	Year	Project Emphasis
City of Paso Robles	Water/Wastewater Rates and Capacity Fees	2001	Rate Structure Design
	Water Capacity Fees	2005	Methodology Review
	Water/Wastewater Capacity Fees	2006	Update
	Water Capacity Fees	2008	Developer Negotiations
City of Petaluma	Wastewater Privatization Agreement	1997	Rate Payer Safeguards
	Water and Sewer Rates and Capacity Fees	2002	Infrastructure Financing, Stormwater Funding
	Litigation Support	2013	Stormwater Funding
	Water, Sewer Connection Fees	2014	Industrial Customers
	Grant Application	2014	Digester CNG Facility
City of Pittsburg	Water Treatment Plant Operations	2009	Privatized Operations
Placer County Water Agency	Treated and Untreated Water Rates	2005	Consolidation of Geographic Zones
	Treated Water Rates	2007	Fixed/Variable Revenue
City of Pleasanton	Water Rates	1993	Increasing Block Residential Rates
	Water Rates	1994	Seasonal Irrigation Rates
	Water Rates	1995	Lifeline Rates
	Water Rates, Water Resources	1996	Water Supply Evaluation
	Water Rates	1997	Update
	Water Rates	1999	Update
	Water Rates	2000	Update
	Water Rates	2002	Update
	Water Rates	2003	Update
	Water Rates	2007	Increasing Block Rates
	Water Rates	2008	Update
Water Rates	2009	Rate Restructuring	
City of Portland, OR	Pretreatment Program Review	1999	Regulatory Program Evaluation
Purissima Hills Water District	Water Rates	2021	Drought Rates; Pass-Through Adjustments; Rate Restructure
City of Red Bluff	Water and Sewer Service	2019	Consolidation Of Outside-City Customers Into City
City of Redondo Beach	Water Rate Review	1999	Private Water Company Rate Application
City of Redwood City	Sewer/Stormwater Rates	1999	Proposition 218 Compliance
	In-Lieu Transfer	2006	Proposition 218 Compliance
City of Rio Vista	Water/Wastewater Contract Operations	2001	Cost-Plus Contract Negotiations
City of Rochester Hills, MI	Water and Sewer Rates and Reserve Balances	2019	Litigation Support

Client	Type of Study	Year	Project Emphasis
City of Rohnert Park	Water and Sewer Rates	1999	Unmetered Residential Water Customers
	Water and Sewer Connection Fees	2001	Connection Fees
	Water and Sewer Rate Update	2002	Usage-Based Rates
City of Roseville	Sewer Rates	1999	Financial Plan
	Sewer Rates	2001	Financial Plan Update
	Stormwater Funding Strategy	2017	Enterprise Reimbursements to General Fund
Ross Valley Sanitary District	Sewer Rates	2011	Equity Adjustments Between Zones
	Sewer Rates	2011	Flow-Based Residential Rates
	Sewer Connection Fees	2013	Update
	Sewer Rates	2014	Single-family vs. Multi-family Flow Differential
Saginaw Area Intermunicipality Water Committee (MI)	Litigation Support (Suburban Water Agencies)	2004	Review Wholesale Rate-Making Methodology
San Bernardino Municipal Water District	Public Safety and Right-of-Way Maintenance Cost Recovery	2018	Cost Allocations to Water and Sewer Enterprises
City of San Bruno	Water/Wastewater Rates and Capacity Fees	1992	Water Conservation, Project Financing
San Francisco Bay Area Water Users Association	Litigation Support (Suburban Water Agencies)	1978 to 1984	Wholesale Water Supply Contract
	Contract Compliance	1984 to 2000	Annual Rate Reviews, Water Shortage Allocations, Regulatory Analysis
San Francisco Presidio Trust	Recycled Water Development	2009	Financial Feasibility
San Francisquito Creek JPA	Cost Allocation Study	2000	Regional Flood Control Costs
City of Sanger	Wastewater Rates	1995	Industrial Water Reclamation, Debt Coverage
Sanitary District No. 5 of Marin County (Tiburon/Belvedere)	Sewer Rate and Capacity Fee Study	2005	Separate User Charges by Zone
	Capital Improvement Funding	2006	Financing Plan
	Sewer Rates	2007	Update
	Sewer Rates	2010	Update
	Sewer Rates	2011	Flow-Based Residential Rates, Debt Financing
City of San José	Sewer Connection Fees	2014	Update
	Wastewater Pretreatment Program Evaluation	2005	Source Control Inspector Staffing
	Urban Runoff NPDES Program	2007	Economic Evaluation of Alternatives
	Recycled Water Rates	2019	San Juan Capistrano Compliance

Client	Type of Study	Year	Project Emphasis
San Juan Water District	Water Rates	1998	Wholesale and Retail Cost Allocations
City of San Leandro	Management Study	1997	Environmental Services Program Audit
City of San Luis Obispo	Public Safety, Right-of-Way Maintenance Cost Recovery	2014	Water, Sewer Enterprises
San Mateo County	Sewer Rate Study	2018	Rate Model
San Mateo Countywide Water Pollution Prevention Program	Stormwater Funding Strategies	2008	Permit Renewal
City of Santa Ana	Public Safety, Governmental Asset, and Right-of-Way Maintenance Cost Recovery	2012 2014	Water Enterprise Update
City of Santa Clara	Urban Water Management Plan	1992	Water Shortage Contingency Plan
Santa Clara Valley Urban Runoff Pollution Prevention Program	Cost Allocation/Program Management	2005	Cost Allocation Formula; Program Cost, Scope, Term; Benchmark Comparison
	Cost Allocation/Program Management	2016	Update
Santa Clara Valley Water District	Cost of Service Analysis Expert Witness Testimony Litigation Support	2000	Cost Allocation Approaches
		2008	Rate Analysis
		2009	Cost of Service
Santa Luz Golf & Country Club	Recycled Water Rates	2016	Consistency With Industry Practices
Santa Margarita Water District	Water Rates	1998	Irrigation Rates
City of Santa Monica	Environmental Program Cost Allocations to Enterprise Funds	2007	Proposition 218 Compliance
City of Santa Paula	Wastewater JPA Formation	2002	Treatment Plant Financing, Cost Allocations, JPA Agreement
City of Santa Rosa	Water and Sewer Rates Net Benefits Analysis	1998	Public Participation Process
		2003	Regional Recycled Water Alternatives

Client	Type of Study	Year	Project Emphasis
Sausalito-Marín City Sanitary District	Sewer Financial Plan	2002	Capital Funding Options, Public Participation Process
	Contract Negotiations	2002	Regional Wastewater Treatment
	Sewer Rates and Capacity Fees	2004	Update
	Financing Plan	2007	Update
	Sewer Rates	2010	Debt Financing
	State Revolving Fund Application	2011	Credit Review Checklist
	Customer Billing Process	2011	Billing on Tax Rolls
	Sewer Rates	2013	Single-family vs. Multi-family Flow Differential
	Sewer Rates	2014	Update, Tax Roll Billing
	Customer Billing Process	2015 to present	Billing on Tax Rolls
	Contract Negotiations	2017	Service Outside District
	Sewer Rates	2018	Tax Roll Billing
	Sewer Rates	2019	5-year Rate Update; Tax Roll Billing
Sewer Rates	2020	Tax Roll Billing	
Scotts Valley Water District	Water Rates	2004	Restructure Increasing Block Quantity Charges
	Water Rates	2005	Update
	Water Rates	2006	Update
	Water Rates	2007	Update Financial Projections
	Water Rates	2008	Update Financial Plan
	Water Rates	2009	Update Rate Projections
	Water Rates	2010	Update Rate Projections
	Water Rates	2011	Update Rate Projections
	Water Rates	2012	Update Rate Projections
Water Rates	2013	Update Rate Projections	
Sharon Heights Golf & Country Club	Water Supply Reliability	2000	Shortage Allocations, Water Supply Alternatives
	Water Supply Reliability	2009	Update Action Plan
Six Acres Water Company	Water Supply Alternatives	2017	Economic Analysis
Snell & Wilmer	Expert Witness Testimony (Arbitration)	1995	Groundwater Contamination Damages (Citizens Utilities Company)
Solano Irrigation District	Agricultural and M&I Water Rates	2014	Cost Allocations
	Rate Update	2020	Fixed and Variable Charges by service area
Sonoma County Water Agency	Wholesale Water Rates	2013-17	Rate Restructuring and Contract Modifications
	Wastewater Annexation	2013	Financing Alternatives
South Bayside System Authority	Flow Equalization Basin Study	2003	Economic Evaluation of Lease Options

Client	Type of Study	Year	Project Emphasis
South Coast Water District	Financial Planning	2018	Modeling Financing Options
	Consolidation Study	2018	Modeling Feasibility
	Water and Sewer Rates	2021	Proposition 218 Compliant
South El Monte Joint Defense Group	Groundwater Remediation Damages	2004	Evaluation of Damage Claims
Southeast Water Coalition	Cost Allocation Analysis of Replenishment Assessment	2006	Interbasin Subsidy
	Cost Allocation Analysis	2009	Update
Stanford University	Water Supply Assessment	2008	Shortage Allocations
Straw & Gilmartin	Expert Witness Testimony (Arbitration)	1995	Groundwater Contamination Damages (Citizens Utilities Company)
City of Sunnyvale	Stormwater funding	2020	Stormwater cost allocation analysis and funding strategy
City of Taft	Sewer Rates and Lighting/Landscape District Assessment	2020	Sewer cost-of-service study and peer review of LDD assessment engineer's report
Tamalpais Community Services District	Wastewater Financial Plan	2004	Capital Improvement Program Funding Alternatives
City of Tracy	General Fund Reimbursement	2016	Water, Sewer, Solid Waste Enterprises
City of Ukiah	Water Rates, Sewer Rates, and Capacity Charges	2009	Financial Stability During Water Supply Shortage
	On-Going Services	2010-11	Sanitary District Detachment
	Water Connection Fees	2011	Update
Union Sanitary District	Connection Fees	1990	Project Financing, Cost Allocation
	Internal Financial Controls	1998	Management Practices
	Joint Powers Financing Authority Review	1999	Debt Retirement
	Reserve Fund Review	2000	Adequacy of Reserves
	Sewer Rates	2015	Rate Modeling
	Sewer Rates	2016 to present	Capital Planning Modeling
United Water Conservation District	Sewer Rates	2019	Update
	Groundwater Extraction Charges	2013	Proportionality Between Agriculture and M&I Groundwater Charges
	Annual Update	2014	Litigation Support
	Annual Update	2015	Litigation Support
	Annual Update	2016	Litigation Support
	Annual Update	2017	Litigation Support
	Annual Update	2018	Litigation Support
Annual Update	2019	Litigation Support	

Client	Type of Study	Year	Project Emphasis
Veterans Home of California, Yountville	Water Rates	2001	Surplus Water Charges
	Wastewater Rates	2001	Contract Compliance
West Bay Sanitary District	Flow Equalization Basin Study	2003	Economic Evaluation of Lease Options
	Sewer Rates and Connection Fees	2011	Financial Plan
	Sewer Rates	2012	Update
	Sewer Rates	2013	Update
	Sewer Rates	2014	Update
	Sewer Rates	2015	Update
	Stormwater Rates and Connection Fees	2016	Updates
	Sewer Rates	2017	Cost of Service Allocations
	Sewer Rates	2018	Update
	Sewer Rates	2019	Update
	Sewer Rates	2020	Update
Sewer Rates	2021	Update; COVID impact analysis	
City of West Sacramento	Water and Sewer Rates	2014-18	Capital Funding
	Refuse Rates	2016	Proposition 218 implementation
Westborough Water District	Water Connection Fees	2015	Redevelopment
Western Hills Water District	Water Rates	2015	Proposition 218 Compliance
	Water Rates	2020	Proposition 218 Compliance
Western Municipal Water District	Retail Water Rates	2003	Alignment with Wholesale (MWDSC) Rate Structure
	Retail Water Rates	2004	Elevation Surcharges
City of Willits	Litigation Support	2011	Cost Allocation
Town of Windsor	Water, Wastewater, Recycled Water Rates and Capacity Fees	1993	Water Conservation, Cost Allocation
City of Winters	Water and Wastewater Rates	2005	Debt Financing; Conversion to Metered Rates
City of Woodland	Wastewater Buy-In Charge	2010	Sale of Treatment Plant Capacity
Zone 7 (Alameda County Flood Control and Water Conservation District)	Storm Water Drainage Development Fees	2019	Impact of Agricultural Development on Flood Control



APPENDIX B: PROJECT TEAM RÉSUMÉS



HF&H Consultants, LLC



RICK SIMONSON, CMC

Senior Vice President



Education and Certifications

- B.S., Business Administration, Accountancy, California State University - Sacramento
- B.A., Communication Studies, Media Production, California State University - Sacramento
- Certified Management Consultant

Professional History

- HF&H Consultants, LLC: 2000 to present
- Contra Costa County Assessor's Office: Auditor/Appraiser, 1996 to 2000
- Laidlaw Transit: Staff Accountant, 1995-1997

Professional Memberships

- Institute of Management Consultants
- American Water Works Association
- Water Environment Federation

Contact Information

(925) 977-6957
Rick@hfh-consultants.com

Range of Experience

Over 20 years of utility rate setting experience with HF&H and has performed over 100 financial planning/rate studies for water, wastewater, and solid waste clients. He brings a depth of knowledge and expertise in Propositions 218 and 26 compliance, rate structure design, and a strong financial modeling background.

Expertise

- *Rates and Charges* – Multi-year financial modeling, cost-of-service analysis, rate structure designs
- *Development impact fees* – Water and wastewater capacity/connection fee charges
- *General Fund Reimbursements* – Public safety, governmental facilities, right-of-way maintenance, stormwater permit compliance
- *Proposition 218 Compliance* – Develop cost-of-service compliant rates and facilitate Prop. 218 process and procedures

Recent Projects as Project Manager

- **West Bay Sanitary District** - Sewer service charges and connection fee updates (2015 - 2019).
- **Foresthill Public Utility District** – Water rates and connection fees (2019); restructured water rates to better align with recent court decisions.
- **City of Beverly Hills** – Water rates, water shortage revenue stabilization factors, and water reliability charges. (2018).
- **City of Ceres** – Five-year water rate study and connection fee study (2017) and water rate update for 2019 based on actual results versus original projections.

Speaking Engagements

- SWANA – Western Regional Symposium – Apr. 2019 – “A Holistic Approach to Stormwater Funding: Understanding the Nexus Between Solid Waste and Stormwater ”
- Moderator and Presenter, *HF&H/CalRecycle High Diversion Rates & Compensation Workshops*, Oct. 2013 (Oakland), Nov. 2013 (Lakewood), and Dec. 2013 (Sacramento)
- SWANA – Western Regional Symposium – May 2005 – “Accurate Solid Waste Rate Comparisons”
- SWANA – Western Regional Symposium – May 2004 – “Annual Solid Waste Rate Adjustments – Index Method or Cost-of-Service Method?”



GEOFFREY MICHALCZYK

Senior Associate



Industry Experience

- Water, wastewater, stormwater, and solid waste utilities
- Rate making for municipal-owned utilities
- City-wide overhead cost allocations

Education

- B.S., Economics & Political Science, University of Utah
- M.S., Financial Analysis, Saint Mary's College of California
- M.B.A., Saint Mary's College of California

Professional History

- HF&H Consultants, LLC: 2016 to present
- Bartle Wells Associates: 2015 to 2016
- Peterson Holding Company: 2014 to 2015

Contact Information

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gmichalczyk@hfh-consultants.com

Range of Experience

Municipal utilities analyst specializing in the financial management of water and wastewater systems. Joined HF&H in 2016 and focuses on rate studies and long-term financial planning.

Expertise

- *Rates and Charges* – multi-year revenue requirement models, cost-of-service analysis, rate structure design
- *Financial Planning* – stormwater funding strategies, reserve fund management
- *Development Impact Fees* – water and wastewater capacity charges; stormwater impact fees
- *General Fund Reimbursements* – public safety, governmental facilities, right-of-way maintenance
- *Cost Allocations* – overhead allocations, analytical review, Prop 218 compliance

Recent Projects

- *Union Sanitary District: Long-term Capital Planning Model, Cost-of-Service Study*
- *City of Laguna Beach: Sewer Connection Fees*
- *Clear Creek Community Services District: Water Rates*
- *South Coast Water District: Long-term Capital Planning Model; Water and Wastewater Cost of Service Study*
- *Castro Valley Sanitary District: Wastewater Rates*
- *City of La Verne: Cost Allocations*
- *San Mateo County: Sewer Rates*
- *Cobb Area Water District: Water Rates*
- *Oakwood Lake Water District: Water and Sewer Rates; Water Connection Fees*
- *City of Alhambra: Cost Allocations*
- *City of Daly City: Sewer Rates*



GABE SASSER, PE

Senior Associate



Industry Experience

- Water, wastewater, stormwater and solid waste utilities
- Rate making for municipal-owned utilities
- Enterprise reimbursements

Education and Certifications

- B.S., Civil Engineering, California Polytechnic State University – San Luis Obispo
- Registered Civil Engineer C88906, California
- Project Management Professional (PMP) -2020

Professional History

- HF&H Consultants, LLC: 2019 to present
- Gas Transmission Systems, Inc: Project Manager, 2016-2019
- Ruggeri-Jensen-Azar: Assistant Engineer, 2014-2016
- Gas Transmission Systems, Inc: Engineer, 2012-2014

Professional Organizations

- Project Management Institute

Contact Information

(925) 900-6005

gsasser@hfh-consultants.com

Range of Experience

Registered civil engineer and certified project management professional with previous experience managing natural gas pipeline assessment and regulator station re-build projects. Joined HF&H in March 2019 and focuses on rate studies and customer impact analyses.

Expertise

- *Rates and Charges* – Multi-year financial modeling, cost-of-service analysis, rate structure design
- *Financial Planning* – stormwater funding strategies, reserve fund management
- *Development impact fees* – Water and wastewater capacity/connection charges; stormwater impact fees
- *Cost Allocations* – overhead allocations, analytical review, Prop 218 compliance

Recent Projects

- *North Coast County Water District* – Water Cost of Service Study
- *South Coast Water District* – Water and Wastewater Cost of Service Study
- *City of Taft* - Wastewater Cost of Service Study
- *City of Bakersfield*: Wastewater Cost of Service and Connection Fee Study
- *Western Hills Water District* – Water Rate Study
- *Nevada County Sanitation District*– Wastewater Rate Study
- *Sausalito-Marin City Sanitary District*: Sewer Service Charge Study
- *West Bay Sanitary District*: FY 2020-21, FY 2021-22 Sewer Rate Studies
- *Town of Hillsborough*: 2020, 2021 Water Rate Updates; 2021 Sewer Cost of Service Study
- *Foresthill Public Utility District*: Cost of Service & Water Rates Study



Anna Redmond Assistant Analyst



Range of Experience

Anna Redmond is an Assistant Analyst with HF&H. Since joining the firm in 2021, she has gained experience on a range of projects including rate studies and contract negotiations. This focus bridges the analytical skills she learned receiving her B.S. in Mathematics, with the environmental knowledge she gained earning her M.S. in Earth System Science

Prior to joining HF&H, Anna specialized in mathematics quality control at McGraw Hill Education’s Digital Platform Group, where she honed her skills in problem solving and demonstrated attention to detail pertaining to mathematical accuracy. Before working at McGraw Hill, Anna spent two years as a graduate research assistant at the University of California at Irvine’s Sustainable Systems Analysis Lab. There, she led research projects related to human factors and climate change that resulted in publication in peer-reviewed journals.

Historical Experience

Years of Experience: 1
Clients Served: 13
Past Engagements: 13

Education

B.S. Mathematics, Ursinus College (Summa Cum Laude)

M.S. Earth System Science, The University of California at Irvine

Zero Waste Principals and Practices, CRRRA/SWANA Joint Certification

Professional History

HF&H Consultants, LLC: 2021 to present

McGraw Hill Education: 2016 – 2017

Recent Engagements

- **City of Monterey Park** – Utilities Rate Study (2021)
- **Monterey Regional Waste Management District** – Index Based Rate Review (2021)
- **City of Pleasanton** – Index Based Rate Review (2021)
- **City of Dublin** – SB 1383 Gap Analysis (2021)
- **City of Carlsbad** – Sustainable Materials Management Plan (2021)
- **County of San Diego** – Non-exclusive Franchise Agreement Compliance Checklist (2021)
- **City of Alameda** – Franchise Management and Compliance Checklist (2021)

Expertise

- Sustainable Materials Management Plans
- Rate Studies
- SB 1383 Compliance
- Policy Analysis
- Report Writing

Recent Clients



Contact Information

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Anna@hfh-consultants.com



Meghan Taylor Associate Analyst



"I am enthusiastic about helping our clients reach their sustainability goals through comprehensive data analysis and regulatory implementation."

Range of Experience

Meghan Taylor is an Assistant Analyst with HF&H. Since joining HF&H in 2021, Meghan has gained experience in our solid waste and recycling practice with an emphasis on rate reviews, contract management, operations analysis, and SB 1383 compliance. Meghan’s interest in analysis and recycling policy stems from her educational background in Political Science, which focused heavily on strategies for implementing legislation at the local level, supported by cost impact and feasibility analyses.

Prior to joining HF&H, Meghan was the Editor-in-Chief of UC Berkeley’s campus publication, the Blue & Gold Yearbook, where she gained relevant skills in project management, writing, and editing. Additionally, Meghan was the Payroll Assistant for UC Berkeley’s Intramural Sports Department for two years where she took initiative to design a new centralized payroll system and provided ongoing data analysis and reports.

Recent Engagements

- **Castro Valley Sanitation District**– Rate Adjustment Review (2021)
- **Monterey Regional Waste Management District** – Index Rate Review (2021)
- **Kern County** – Hauler Audits (2021)
- **County of Santa Cruz** – Contract Management (2021)
- **West Valley Solid Waste Management Authority** – Contract Management (2021)
- **San Luis Obispo Integrated Waste Management Authority** – SB 1383 Amendments (2021)
- **City of Alameda** – SB 1383 Municipal Code Update

Expertise

- Cost of Service Studies
- Contract Management
- Rate Reviews
- SB 1383 Compliance
- Policy Analysis
- Graphic Design

Recent Clients



Historical Experience

Years of Experience: 1
 Clients Served: 15
 Past Engagements: 20

Education

B.A., Political Science -
University of California,
Berkeley

Professional History

HF&H Consultants, LLC: 2021 to present

Blue & Gold Yearbook: 2018 – 2020

UC Berkeley Intramural Sports Department: 2018 – 2020

National Writing Project: 2017-2018

Contact Information

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APPENDIX C: SOUTH COAST WATER DISTRICT WATER AND SEWER RATE STUDY REPORT



HF&H Consultants, LLC



SOUTH COAST WATER DISTRICT

Water, Recycled Water, and Sewer Rate Study

June 18, 2021



SOUTH COAST WATER DISTRICT

31592 West Street
Laguna Beach, CA 92651



WATER, RECYCLED WATER, AND SEWER RATE STUDY

FINAL REPORT

June 18, 2021

HF&H CONSULTANTS, LLC

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Walnut Creek, CA 94596



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HF&H CONSULTANTS, LLC
Managing Tomorrow's Resources Today

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June 18, 2021

Mr. Rick Shintaku, General Manager
Ms. Pam Arends-King, Chief Financial Officer
South Coast Water District
31592 West Street
Laguna Beach, CA 92651

Subject: **Water, Recycled Water, and Sewer Rate Study**

Dear Sir and Madame:

HF&H is pleased to submit this cost-of-service rate study to the South Coast Water District. This study documents our methodology and recommendations. Our primary recommendation concerns the rate adoption period. We recommend adopting rate increases for the next two years, FY 2021-22 and FY 2022-23. During that time, the District will presumably conclude studies (e.g., evaluation of desalination options, compete asset management plan, revise reserve policies) that can be incorporated into the next rate study. Our other recommendations are briefly summarized as follows.

- **Water revenue increases.** Revenue from water rates should be increased in FY 2021-22 by 6.0% and in FY 2022-23 by 4.0% to improve the Water Fund's cash reserves, thereby protecting the District's credit rating, which will maintain lower financing costs. These increases are the minimum needed to prevent the Water Fund's reserves from declining over the next two years.
- **Water service charge modifications.** Water service charges should be modified to reflect the rated capacities of the meters currently installed.
- **Water single family variable charge modifications.** The size of the three tiers in the single family variable charge have been adjusted to reflect the current demand by these customers.
- **Recycled water variable charge.** Although the recycled water variable rate has increased greater than the potable water variable rates, the recycled water rate also includes the peak demand cost. As such, the cost of recycled water is approximately only three-quarters that of the effective potable irrigation rate (i.e., combining the variable and peak demand charges paid by the potable irrigation customers).

Mr. Rick Shintaku
Ms. Pam Arends-King
June 18, 2021
Page 2



- **Water peak demand charge increase.** The increase in the peak demand charge reflects a shift in some of the cost of service from the variable charge.
- **Sewer revenue increases.** Revenue from sewer rates should be increased in FY 2021-22 by 6.5% and in FY 2022-23 by 6.5%. These increases are the minimum required to maintain debt service coverage and protect the District's credit rating.
- **Pass-through adjustments.** The cost of water from MWDOC and the cost of wastewater treatment by SOCWA are a significant portion of the water and sewer revenue requirements, respectively. These costs are outside the control of the District and can vary significantly from projections. As a prudent measure to stabilize reserves, a provision should be added to the rate adoption process whereby the District can make revenue-neutral adjustments to rates to compensate for unforeseen cost variances with prior notice to rate payers.

We greatly appreciate your assistance in developing the cost-of-service analysis.

Very truly yours,

HF&H CONSULTANTS, LLC

John Farnkopf, P.E., Senior Vice President
Rick Simonson, C.M.C., Senior Vice President
Geoffrey Michalczyk, Senior Associate
Gabe Sasser, P.E., Senior Associate

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APPENDIX

- Appendix A: Water Rate Model
- Appendix B: Sewer Rate Model

GLOSSARY

AWWA – American Water Works Association.

BOD – Biochemical Oxygen Demand, a measure of wastewater strength

Breakpoint – The volume of water per billing period separating tiers in tiered rate structures.

CCF – Hundred cubic feet (see HCF below).

Capacity - Capacity is the maximum demand that a customer can place on the infrastructure. It is contrasted with demand (see below). Capacity is determined by the physical properties of the service connection or lateral.

Charge - A charge is how much a customer is billed and is the product of a rate multiplied times a unit of service (e.g., accounts, HCF).

CIP - Capital Improvement Program.

COS - Cost of Service.

Demand - Demand is the metered or estimated flow that a customer places on the infrastructure. Demand is determined based on metered or estimated flow, which can vary and is limited by the capacity (see above) of the service connection or lateral.

Desal - Desalinated water.

DU – Dwelling Unit

EMU – Equivalent Meter Unit.

FY - Fiscal Year.

Flat rates - Fixed charges per account that do not vary based on metered water use. Flat rates are found in unmetered water systems and in wastewater rates. Flat rates are not uniform rates (see below).

GPD - Gallons Per Day.

HCF - Hundred cubic feet of metered water; 748 gallons; a cube of water 4.6 feet on edge. One HCF per month is about 25 gallons per day.

O&M - Operating and Maintenance, in reference to the costs of running facilities.

MG/L – Milligrams per liter, units of BOD and TSS concentrations

MFR – Multi Family Residential

MWDOC - Municipal Water District of Orange County (pron. “modoc”), the agency from which SCWD purchases potable water.

PAYGo - Pay-As-You-Go, in reference to funding capital improvements from cash rather than from borrowed sources such as bonds or loans.

Rate - A rate is the unit cost of service per account or volume of flow, which, when multiplied times the units of service (i.e., accounts, HCF) yields a charge that customers are billed.

Service Charges – Fixed charges paid per account regardless of the amount of water used. The charge is proportionate to the capacity of the customer’s service, which is the capacity of the pipe connecting from the main to the meter, or the meter, whichever is smaller. Service Charges are not meter charges, which are charges paid for the cost of a meter.

SCWD - South Coast Water District.

SFR – Single Family Residential

SOCWA - South Orange County Wastewater Authority, the agency that treats SCWD’s wastewater.

TSS - Total Suspended Solids, a measure of wastewater strength

Uniform rates - A constant rate per unit of metered water use or wastewater discharge that does not change depending on the volume of flow. Uniform rates are not flat rates (see above).

WQA - Winter Quarter Average metered water use from December through February, used for determining single family sewer charges.

ACKNOWLEDGEMENTS

HF&H acknowledges the valuable contributions of the following District Board members, staff, and consultants.

Board of Directors

Rick Erkeneff, President
William L. Green, Vice President
Douglas Erdman
Scott Goldman
Wayne Rayfield

District Staff

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Pamela Arends-King, Chief Financial Officer
Marc Serna, Chief Engineer
Cassandra Garcia, Customer Service Manager
Joe McDivitt, Chief Operations Officer
Greg Pennington, Director of Operations
Chris Newton, Operations Superintendent
Sonja Morgan, Public Information Officer
Taryn Kjolsing, Principal Engineer
Larry Fregin, Reclamation/Conservation Manager

Legal Counsel

Andrew Gagen, Esq.

Consultants

Megan Yoo Schneider, Seven Management and Consulting, Inc.

Brenda Deeley, Brenda Deeley PR

LIMITATIONS

This document was prepared solely for the South Coast Water District in accordance with the contract between the District and HF&H and is not intended for use by any other party for any other purpose. In preparing this study, we relied on information from the District, which we consider accurate and reliable. This study contains reasonable assumptions and forecasts regarding future conditions, which cannot be predicted with certainty. If actual conditions vary from these assumptions, there may be a significant difference with the forecasts in this report.

Rounding differences caused by stored values in electronic models may exist.

This document represents our understanding of relevant laws, regulations, and court decisions but should not be relied upon as legal advice. Questions concerning the interpretation of legal authorities referenced in this document should be referred to a qualified attorney.



WATER, RECYCLED WATER, AND SEWER RATE STUDY



I. EXECUTIVE SUMMARY

This study documents the process by which the District’s water, recycled water, and sewer rates were updated for adoption for the next two years, FY 2021-22 and FY 2022-23. The following discussion summarizes our findings and recommendations.

WATER AND RECYCLED WATER RATES

Projected Revenue Requirements and Revenue Increases

The water revenue requirements were updated by preparing a ten-year projection of operating and capital expenses. The projected increases needed in rate revenue were determined by comparing the revenue requirement projections with the revenue projected from rates. The projections are shown in **Table I-1**, which includes other key financial indicators.

Table I-1 Projected Water Revenue Increases and Key Financial Parameters

	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
	a	b	c	d	e	f	g	h	i	j
1 Revenue increases	6.00%	4.00%	4.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
2										
3 Revenue requirement	\$22,100,999	\$23,009,026	\$22,986,305	\$23,903,475	\$24,771,813	\$25,750,611	\$26,768,281	\$27,838,916	\$28,967,162	\$30,145,437
4 EOY fund balance	\$15,153,215	\$16,447,082	\$18,818,481	\$21,611,131	\$24,365,170	\$26,652,641	\$28,855,744	\$30,946,705	\$32,601,833	\$34,088,552
5 Debt coverage ratio	2.65	2.72	2.27	2.27	2.29	2.28	2.27	2.26	1.98	1.95
6 Days of cash	250	261	299	330	359	378	393	406	411	413

The District was placed on watch status by its rating agency, Fitch, when the District issued bonds in 2020. The primary factor considered in determining the water revenue increases is the need to build the fund balance. Building the cash reserve will strengthen the Water Fund’s financial position, which will presumably maintain, if not improve, the District’s credit rating.

It is recommended that the District adopt water revenue increases for only the next two years. During that time, the District can presumably revise its reserve policy, complete its asset management plan, identify which desalination option to pursue, and evaluate whether to implement water budget rates. The revenue increases shown through the remainder of the projection period are set at inflationary levels, which gradually increases the fund balance. These are minimal revenue increases that will be updated during the next two years.

Water Rate Structure Modifications

The District’s current water rate structure comprises three rate components: service charge rates, variable charge rates, and peak demand charge rates. Major restructuring

of the rates for each of these charges occurred in the 2016 rate study.¹ Additional minor refinements were made to these rates in the present study.

- **Service charge rates.** The current service charge rates are not based on the rated capacity of the meters that are currently installed. As prescribed by the AWWA, adjustments were made based on the manufacturers specified rated capacities for the District’s disc, compound, and turbine meters.
- **Variable charge rates.** Single family rate payers are charged increasing block rates for their metered water use. Recent water rate litigation provides guidance on designing tiered rates whereby the size of each tier should be based on actual customer demands (not on budgets) and that the rate for each tier should reflect the cost of providing the service associated with each tier. Adjustments were made accordingly.
- **Peak demand charge rate.** No modification was made to the structure of this uniform rate. The significant increase in the rate is due to applying the same cost-of-service allocation principles to the current cost structure, the result of which has shifted more cost to this charge.

With these modifications, the resulting rates are summarized in **Table I-2**. In general, the service charges are collected annually on the tax rolls; however, recycled water customers are billed the same charges but on a monthly basis.

Table I-2. Summary of Proposed Water Rates

	Current Rates		Proposed Rates							
	FY 2020-21		FY 2021-22		\$ Change	% Change	FY 2022-23		\$ Change	% Change
	a	b	c	d	e=d-b	f=e/b	g	h	i=h-d	j=i/d
1 Service Charges (annual)										
2 3/4" Meter		\$324.10		\$340.06	\$15.96	4.9%		\$353.66	\$13.60	4.0%
3 1" Meter		\$540.20		\$598.93	\$58.73	10.9%		\$622.88	\$23.96	4.0%
4 1 1/2" Meter		\$1,080.35		\$995.11	(\$85.24)	-7.9%		\$1,034.92	\$39.80	4.0%
5 2" Meter		\$1,728.55		\$1,750.86	\$22.31	1.3%		\$1,820.90	\$70.03	4.0%
6 3" Meter		\$3,781.15		\$3,890.27	\$109.12	2.9%		\$4,045.88	\$155.61	4.0%
7 4" Meter		\$6,806.05		\$8,710.18	\$1,904.13	28.0%		\$9,058.59	\$348.41	4.0%
8 6" Meter		\$14,044.15		\$16,890.92	\$2,846.77	20.3%		\$17,566.55	\$675.64	4.0%
9										
10 Variable Rates (monthly)										
11 Single Family	<u>Tier Size</u>		<u>Tier Size</u>				<u>Tier Size</u>			
12 Tier 1	0-5 hcf	\$3.19	0-10 hcf	\$2.88	(\$0.31)	-9.7%	0-10 hcf	\$2.99	\$0.12	4.0%
13 Tier 2	6-18 hcf	\$3.37	11-16 hcf	\$3.65	\$0.28	8.4%	11-16 hcf	\$3.80	\$0.15	4.0%
14 Tier 3	19+ hcf	\$3.56	17+ hcf	\$3.75	\$0.19	5.3%	17+ hcf	\$3.90	\$0.15	4.0%
15										
16 Multi Family		\$3.22		\$3.16	(\$0.06)	-1.7%		\$3.29	\$0.13	4.0%
17 Commercial		\$3.46		\$3.22	(\$0.24)	-6.9%		\$3.35	\$0.13	4.0%
18 Potable Irrigation		\$3.59		\$3.39	(\$0.20)	-5.5%		\$3.53	\$0.14	4.0%
19 Recycled Water		\$4.55		\$5.45	\$0.90	19.8%		\$5.67	\$0.22	4.0%
20										
21 Peak Demand Charge (annual)		\$23.10		\$26.93	\$3.83	16.6%		\$28.01	\$1.08	4.0%

Recycled water customers are billed service charges monthly.

¹ Cost of Service Study. Carollo Engineers. May 2016.

Water Customer Cost Impacts

The impact on water customer bills due to these modifications in FY 2021-22 will vary depending on the size of their meters, their monthly water use, and their peak demands. Hence, the overall revenue increase of 6.0% will vary with each bill. **Table I-3** summarizes monthly costs² for a variety of customers. The average flow per customer in each class is used and it is assumed that the peak demand charge is based on monthly flow that is 1.5 times the average monthly demand. The percentage increase for an average customer in each class is less than the overall 6.0% revenue increase with the exception of the average recycled water cost. Customers with above-average use (i.e., approximately one-third of the customers have above-average water use) will experience greater than 6.0% increases because of the costs required to provide for their above-average levels of service.

Table I-3. Impact on Average Monthly Water Cost

a	Residential			Non Residential		
	Single Family	Single Family	Multi Family	Commercial	Irrigation	Recycled
b	c	d	e	f	g	
Assumptions						
1 Flow per month (hcf)	9	13	22	60	58	146
2 Flow per day (gpd)	225	324	549	1,497	1,447	3,643
3 Peak Demand (hcf)	15	20	27	82	103	n/a
4 Meter Size	3/4"	1"	1.5"	1"	2"	2"
5						
6 Monthly Cost						
7 Current FY 2020-21	\$85.31	\$126.43	\$212.84	\$410.47	\$496.52	\$754.33
8 Proposed FY 2021-22	\$87.92	\$132.23	\$213.13	\$427.26	\$510.88	\$878.56
9 Proposed minus current	\$2.60	\$5.80	\$0.28	\$16.79	\$14.36	\$124.23
10 Percent change	3.1%	4.6%	0.1%	4.1%	2.9%	16.5%
11						
12 Average cost per HCF	\$9.77	\$10.17	\$9.69	\$7.12	\$8.81	\$6.02

Row 12 = Row 8/Row 1

Table I-3 includes a calculation of the average cost per HCF (a combination of all three charges), which is derived by dividing row 8 by row 1. Note that the average cost per HCF for recycled water is 68% of the cost for potable irrigation. Hence, although the percentage increase in the monthly cost for recycled water is increasing greater than it is for the other classes, recycled water has the lowest overall average monthly cost per HCF.

² The service and peak demand charges, which are billed annually for most customers, were converted to monthly equivalent charges.

SEWER RATES

Projected Revenue Requirements and Revenue Increases

The sewer revenue requirements were updated by preparing a ten-year projection of operating and capital expenses. The projected increases needed in rate revenue were determined by comparing the revenue requirement projections with the revenue projected from rates. The projections are shown in **Table I-4**.

Table I-4. Projected Sewer Revenue Increases and Key Financial Parameters

	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
	a	b	c	d	e	f	g	h	i	j
1 Revenue increases	6.50%	6.50%	4.00%	3.00%	3.00%	3.00%	3.00%	3.00%	4.00%	5.00%
2										
3 Revenue requirement	\$18,100,532	\$19,280,922	\$20,056,169	\$20,661,986	\$21,286,102	\$21,929,070	\$22,591,459	\$23,273,857	\$24,209,652	\$31,191,662
4 EOY fund balance	\$35,988,878	\$36,263,514	\$38,217,473	\$36,593,844	\$35,109,081	\$33,268,611	\$31,471,061	\$29,726,843	\$27,829,583	\$23,648,557
5 Debt coverage ratio	3.01	3.27	3.24	1.37	1.39	1.28	1.29	1.30	1.26	1.33
6 Days of cash	726	686	696	646	602	554	508	466	420	277

The primary factor considered in determining the sewer revenue increases is the need to maintain debt service coverage consistent with the projections provided in 2020 when the District’s credit rating was reviewed. As previously mentioned, the District was placed on watch status by its rating agency, Fitch, when the District issued its 2020 bonds. Dropping below the debt service coverage shown in the official statement to the bonds could adversely affect the District’s credit rating, which could increase the cost of borrowing.

As with the water revenue increases, it is recommended that the District adopt the sewer revenue increases for only the next two years. During that time, the District can presumably revise its reserve policy, complete its asset management plan, and refine the allocation of SOCWA costs. These are minimal revenue increases that will be updated during the next two years.

Sewer Rate Structure Modifications

The District’s current sewer rate structure comprises two rate components: service charge rates and variable charge rates. Major restructuring of the rates for each of these charges occurred in the 2016 rate study. No further structural refinements are recommended at this time other than updating the rates based on the cost of service.

The cost-of-service analysis updated the wastewater strength concentrations for each customer class. The adjustments balanced the flows and masses of BOD and TSS from the customer classes with the estimated loading from the District received by SOCWA for treatment. We recommend maintaining the current set of customer classes and rate structure, updated to provide the required revenue. The resulting rates are summarized in **Table I-5**, updated for the current cost of service. The cost-of-service analysis also updates the flows from each customer class. The combined result of these adjustments

shifted costs from the multi family and commercial low strength classes to the single family and other commercial classes in FY 2021-22.

Table I-5. Summary of Proposed Sewer Rates

Customer Class	Current Rate	Proposed Rates					
	FY 2020-21	FY 2021-22	\$ Change	% Change	FY 2022-23	\$ Change	% Change
	a	b	c=b-a	d=c/a	e	f=e-b	g=f/b
1 Service Charges (annual., per account)							
2 Single Family Residential							
3 Block 1 (0-5 hcf)	\$696.00	\$774.27	\$78.27	11.2%	\$824.60	\$50.33	6.5%
4 Block 2 (6-10 hcf)	\$758.00	\$844.39	\$86.39	11.4%	\$899.28	\$54.89	6.5%
5 Block 3 (11+ hcf)	\$868.00	\$987.20	\$119.20	13.7%	\$1,051.37	\$64.17	6.5%
6							
7 Multi Family Residential	\$453.25	\$424.39	(\$28.86)	-6.4%	\$451.98	\$27.59	6.5%
8							
9 Variable Rates (monthly, \$/hcf)							
10 Multi Family Residential	\$1.30	\$1.39	\$0.09	6.9%	\$1.48	\$0.09	6.5%
11 Commercial							
12 Low Strength	\$8.59	\$7.99	(\$0.60)	-7.0%	\$8.50	\$0.52	6.5%
13 Medium Strength	\$9.74	\$10.39	\$0.65	6.7%	\$11.07	\$0.68	6.5%
14 High Strength	\$12.58	\$13.88	\$1.30	10.3%	\$14.78	\$0.90	6.5%

SFR blocks are based on the annualized winter quarter average water use for the prior fiscal year (December, January, and February metered water use for each customer.)

Sewer Customer Cost Impacts

The impact on sewer customer costs in FY 2021-22 due to an update in the cost of service will vary depending on the estimated wastewater flow and strength. Hence, the overall revenue increase of 6.5% will vary with each bill. Table I-6 summarizes monthly costs³ for a variety of average customers in each class.

Table I-6. Impact on Average Monthly Sewer Cost

a	Residential			Non Residential
	Single Family	Single Family	Multi Family	Commercial
	b	c	d	e
Assumptions				
1 Flow per month (hcf)	3	7	22	60
2 Flow per day (gpd)	75	175	549	1,497
3 Loading	Block 1	Block 2	5 units	Med Strength
4				
5 Monthly Cost				
6 Current FY 2020-21	\$58.00	\$63.17	\$217.45	\$584.40
7 Proposed FY 2021-22	\$64.52	\$70.37	\$207.39	\$623.63
8 Proposed minus current	\$6.52	\$7.20	(\$10.06)	\$39.23
9 Percent change	11.2%	11.4%	-4.6%	6.7%

³ The service charges, which are billed annually for most single family customers, were converted to monthly equivalent charges.

COMBINED CUSTOMER COST COMPARISON

The following two tables compare the monthly cost for water and sewer service for FY 2021-22 and FY 2022-23.

Table I-7. Impact on Combined Monthly Water and Sewer Cost - FY 2021-22

	Residential			Non Residential		
	Single Family [1]	Single Family [2]	Multi Family [3]	Commercial [4]	Irrigation[5]	Recycled [5]
Assumptions						
a	b	c	d	e	f	g
1 Flow per month (hcf)	9	13	22	60	58	146
2 Flow per day (gpd)	225	324	549	1,497	1,447	3,643
3 Peak Demand (hcf)	15	20	27	82	103	n/a
4 Meter Size	3/4"	1"	1.5"	1"	2"	2"
Current FY 2020-21 Combined Monthly Cost						
5 Sewer Monthly Cost	\$58.00	\$63.17	\$217.45	\$584.40	n/a	n/a
6 Water Monthly Cost	\$85.31	\$126.43	\$212.84	\$410.47	\$496.52	\$754.33
7	\$143.31	\$189.59	\$430.30	\$994.87	\$496.52	\$754.33
Projected FY 2021-22 Combined Monthly Cost						
8 Sewer Monthly Cost	\$64.52	\$70.37	\$207.39	\$623.63	n/a	n/a
9 Water Monthly Cost	\$87.92	\$132.23	\$213.13	\$427.26	\$510.88	\$878.56
10	\$152.44	\$202.59	\$420.52	\$1,050.88	\$510.88	\$878.56
Difference						
11 FY 2020-21 Cost	\$143.31	\$189.59	\$430.30	\$994.87	\$496.52	\$754.33
12 FY 2021-22 Cost	\$152.44	\$202.59	\$420.52	\$1,050.88	\$510.88	\$878.56
13 \$ Difference (12-11)	\$9.13	\$13.00	(\$9.78)	\$56.02	\$14.36	\$124.23
14 % Difference (13/11)	6.4%	6.9%	-2.3%	5.6%	2.9%	16.5%
15						
16 % Difference By Service						
17 Sewer Only ((8/5)-1)	11.2%	11.4%	-4.6%	6.7%		
18 Water Only ((9/6)-1)	3.1%	4.6%	0.1%	4.1%	2.9%	16.5%

[1] 3 HCF winter quarter average per month - Block 2 Sewer Category

[2] 7 HCF winter quarter average per month - Block 2 Sewer Category

[3] 5 dwelling units per Multi Family connection

[4] Average Commercial water use, medium strength sewer customer

[5] Average water use and most common meter size

Table I-8. Impact on Combined Monthly Water and Sewer Cost - FY 2022-23

	Residential			Non Residential		
	Single Family [1]	Single Family [2]	Multi Family [3]	Commercial [4]	Irrigation[5]	Recycled [5]
Assumptions						
a	b	c	d	e	f	g
1 Flow per month (hcf)	9	13	22	60	58	146
2 Flow per day (gpd)	225	324	549	1,497	1,447	3,643
3 Peak Demand (hcf)	15	20	27	82	103	n/a
4 Meter Size	3/4"	1"	1.5"	1"	2"	2"
Projected FY 2021-22 Combined Monthly Cost						
5 Sewer Monthly Cost	\$64.52	\$70.37	\$207.39	\$623.63	n/a	n/a
6 Water Monthly Cost	\$87.92	\$132.23	\$213.13	\$427.26	\$510.88	\$878.56
7	\$152.44	\$202.59	\$420.52	\$1,050.88	\$510.88	\$878.56
Projected FY 2022-23 Combined Monthly Cost						
8 Sewer Monthly Cost	\$68.72	\$74.94	\$220.87	\$664.16	n/a	n/a
9 Water Monthly Cost	\$91.43	\$137.52	\$221.65	\$444.35	\$531.32	\$913.70
10	\$160.15	\$212.46	\$442.53	\$1,108.51	\$531.32	\$913.70
Difference						
11 FY 2021-22 Cost	\$152.44	\$202.59	\$420.52	\$1,050.88	\$510.88	\$878.56
12 FY 2022-23 Cost	\$160.15	\$212.46	\$442.53	\$1,108.51	\$531.32	\$913.70
13 \$ Difference (12-11)	\$7.71	\$9.86	\$22.01	\$57.63	\$20.44	\$35.14
14 % Difference (13/11)	5.1%	4.9%	5.2%	5.5%	4.0%	4.0%
15						
16 % Difference By Service						
17 Sewer Only ((8/5)-1)	6.5%	6.5%	6.5%	6.5%		
18 Water Only ((9/6)-1)	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%

[1] 3 HCF winter quarter average per month - Block 2 Sewer Category

[2] 7 HCF winter quarter average per month - Block 2 Sewer Category

[3] 5 dwelling units per Multi Family connection

[4] Average Commercial water use, medium strength sewer customer

[5] Average water use and most common meter size

II. INTRODUCTION

STUDY PURPOSE

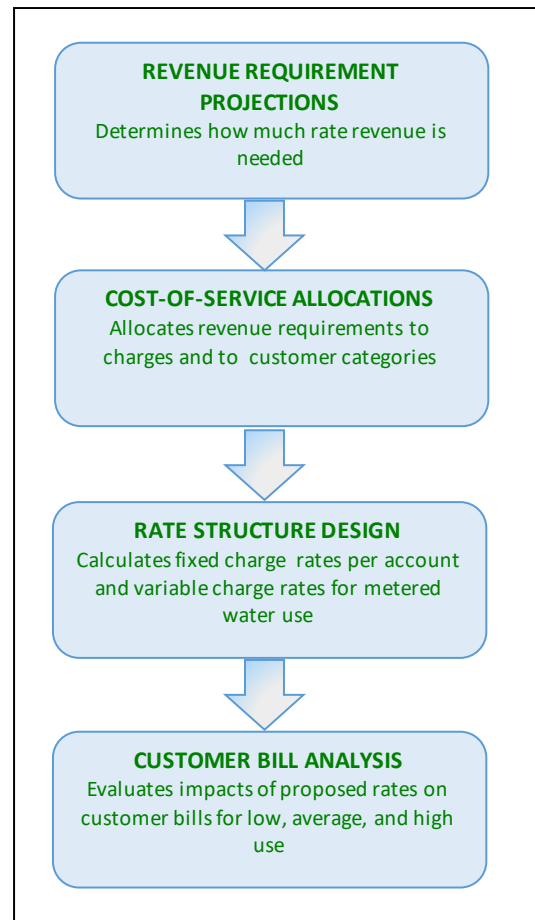
The purpose of this study is to conduct a cost-of-service analysis that will determine rates that proportionally recover the cost of providing the District’s water, recycled water, and sewer services. Toward that end, the cost-of-service analysis determined how much revenue should be generated by each component of the rate structures so that rate payers within each customer class are charged for their proportionate shares of the cost of providing service. The cost-of-service analysis is tailored specifically to the District’s customer classes and the rate structures.

STUDY PROCESS

The rate study was conducted following industry standards and practices promulgated by the American Water Works Association⁴ and the Water Environment Federation.⁵ A comprehensive rate study involves the four steps shown in the adjacent diagram.

Revenue requirements were projected for a ten-year planning period based on operations, maintenance, capital expenses, and contributions to reserves. The cost-of-service analysis allocates the projected expenses among the customer classes in proportion to their use of the systems. Rates are then designed so that rate payers are charged equitably. The impact on customers is then determined by comparing bills under the proposed rates with bills under the current rates.

During the course of the study, interim work products were presented at several public meetings and workshops:



⁴ *Principles of Water Rates, Fees, and Charges*. American Water Works Association Manual M1. 2012.

⁵ *Financing and Charges for Wastewater Systems*. Water Environment Federation Manual of Practice 27. 2018.

- January 18 – Administration & Finance Committee meeting: policy input.
- February 11 – Board meeting: water and sewer revenue requirements.
- March 30 – Board workshop: sewer cost of service, rate design, bill impacts.
- April 8 – Board workshop: water and recycled water cost of service, rates, bills.
- April 19 – Board workshop: follow-up discussion.
- April 27 – Board workshop: conclude discussion, authorize mailing ratepayer notices.

The input received from the Board is reflected in the recommended rates documented in this report.

REPORT ORGANIZATION

This report describes each of the four rate-making steps for the Water Fund followed by the Sewer Fund. A glossary of technical terms and acronyms is provided following the Table of Contents. An appendix contains a copy of portions of the rate model that are not included in the body of the report text as tables and figures.⁶

⁶ The full rate model contains projections that extend well beyond the ten-year period considered for this report and were therefore impractical to include in the appendix.

III. WATER REVENUE REQUIREMENTS

The revenue requirement analysis began with the FY 2021-22 budgeted O&M and capital expenditures. Revenue requirements for each fiscal year were then projected over a ten-year planning period. Revenue increases needed to cover the projected revenue requirements were then determined. Over a ten-year period it is possible to derive a relatively smooth series of annual revenue increases that minimize annual fluctuations.

ASSUMPTIONS AND PROJECTIONS

Expense projections combined with contributions to reserves constitute the revenue requirements. The assumptions shown in Table III-1 were used to project expenses through FY 2030-31.

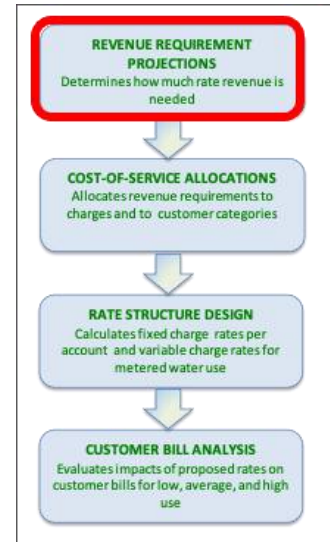


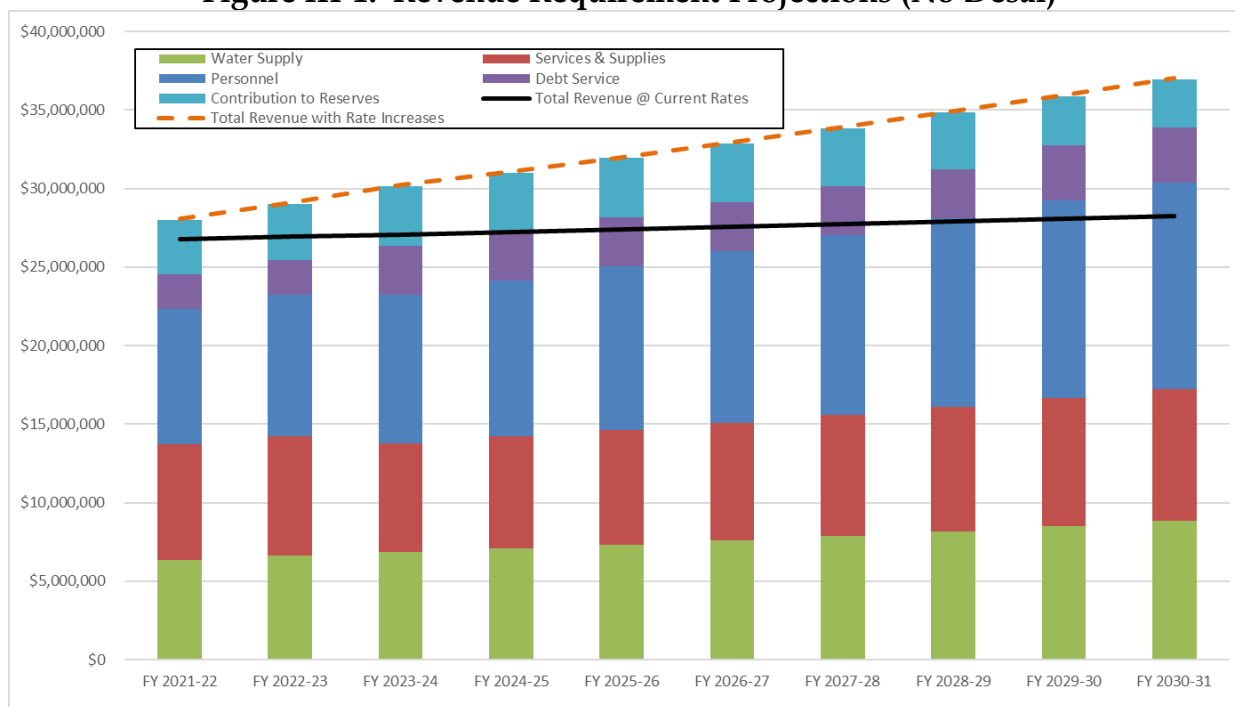
Table III-1. Projection Assumptions

	Budget					Projected					
	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
Growth in accounts	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
General Inflation	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%
Salaries & Wages	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Benefits (non PERS)	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Construction Cost Inflation	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Interest on Fund Balance	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Bad debt as % of rate revenue	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Utilities	9.8%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Recycled Water Account Growth	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Water Costs	3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
PERS % of Labor	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%

Source: Model Tab 1. Assumptions & Policies

The resulting revenue requirement projections are shown in Figure III-1 as stacked bars. In addition, the revenue from current rates is shown as a solid black line and the revenue with rate increases as a dashed brown line. Note that these projections represent the “No Desal” scenario. The District has been in the process of studying two desalinated water projects. If the decision were made to construct one of the desalination projects, it would likely come on-line sometime in the middle of this ten-year projection. It is expected that a decision will be made during the next two years as to which desalinated water project will be selected, if any. Until that decision is made, however, it would be premature to include desalination projects in the revenue requirement projections.

Figure III-1. Revenue Requirement Projections (No Desal)



Source: Model Table 2. Revenue Requirement; data from District’s FY 2020-21 Budget.

Operating Expenses

The projected operating expenses include the cost of purchased water from MWDOC, services and supplies, and personnel, all of which are projected to gradually increase based on the escalation factors in **Table III-1**. (The expense detail is in the model in the Appendix.)

Debt Service

The District has an extensive capital improvement program of which a portion is funded from debt. (A complete list of the capital improvement plan can be found in the Appendix.) Debt service is projected to increase in FY 2023-24 when debt is issued for a variety of both water and sewer capital improvements. For the remainder of the ten-year period, no further debt is currently planned.

Contributions to Reserves

The revenue requirements also include contributions to operating and capital reserves. The operating reserve provides working capital to meet month-to-month cash flow in O&M expenses. The capital reserve provides working capital for PAYGo capital projects. Because PAYGo projects fluctuate from year to year, they are funded from capital reserves, which buffers the annual fluctuations so that revenue requirements are relatively stable. To modulate these fluctuations, contributions from the revenue requirements are made to the capital reserve based on the five-year rolling average of annual PAYGo

capital expenses. The amount of these contributions is based on meeting target balances, which are discussed further below. These annual contributions gradually increase over the ten-year planning period.

Revenue Increases

In addition to showing the major components of the revenue requirements, **Figure III-1** also shows the revenue from current rates and from rate increases. The annual revenue increases are summarized in **Table III-2** along with other key financial indicators. The revenue increases prevent a decline in the fund balance, after which the fund balance gradually grows.

Table III-2. Projected Water Revenue Increases and Key Financial Parameters

	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
	a	b	c	d	e	f	g	h	i	j
1 Revenue increases	6.00%	4.00%	4.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
2										
3 Revenue requirement	\$22,100,999	\$23,009,026	\$22,986,305	\$23,903,475	\$24,771,813	\$25,750,611	\$26,768,281	\$27,838,916	\$28,967,162	\$30,145,437
4 EOY fund balance	\$15,153,215	\$16,447,082	\$18,818,481	\$21,611,131	\$24,365,170	\$26,652,641	\$28,855,744	\$30,946,705	\$32,601,833	\$34,088,552
5 Debt coverage ratio	2.65	2.72	2.27	2.27	2.29	2.28	2.27	2.26	1.98	1.95
6 Days of cash	250	261	299	330	359	378	393	406	411	413

It is noted that since the 2016 rate study, the Water Fund has been separated from the Sewer Fund, each of which was apportioned its share of the reserves. In the Water Fund’s case, its reserves provide much lower days of cash than the Sewer Fund and compared to industry practices.⁷ As a result of the Water Fund’s low cash reserve, the District was placed on negative watch by its rating agency, Fitch, when the District issued bonds in 2020. It is critical for the District to set its water rates so that its days of cash increase, which presumably will be viewed favorably by Fitch.

With the recommended revenue increases, debt coverage will continue to be adequate based on the current capital improvement program. These revenue increases are regarded as the minimum that are needed at this time. It is recommended that the District adopt water revenue increases for only the next two years. During that time, the District can presumably revise its reserve policy, complete its asset management plan, identify which desalination project to pursue, and evaluate whether to implement water budget based rates.

RESERVE FUND BALANCE

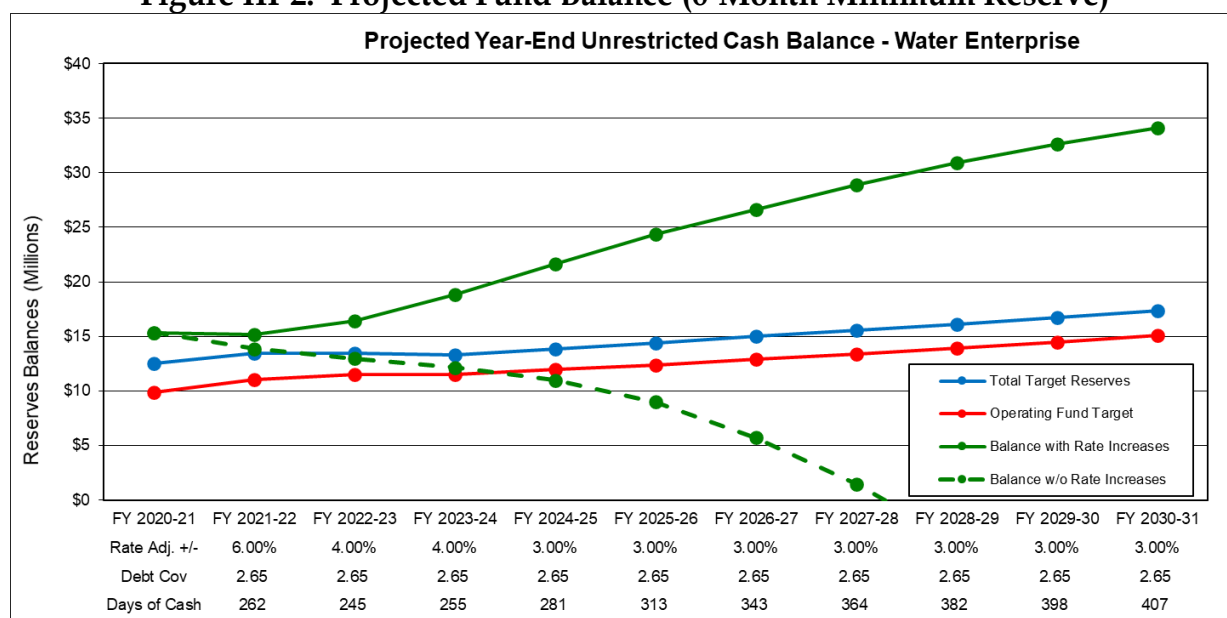
Rates are set to generate sufficient revenue to cover annual expenses and to maintain adequate reserves. The difference between annual revenue requirements and revenue from rates and other sources results in a surplus or deficit that either adds to or subtracts

⁷ Fitch reported in *2020 Water and Sewer Medians* that the median days of cash for agencies serving populations up to 100,000 is 600 days. This many days of cash represents the practices of the agencies included in Fitch’s report and is not a legal requirement or regulatory standard.

from the unrestricted fund balance. The fluctuations in the fund balance over the ten-year planning period are graphed in **Figure III-2**.

The solid green line represents the fund balance with the proposed annual revenue increases. **Figure III-2** also contains two target lines (red and blue), both of which represent minimum requirements. The District’s reserve policy states that the minimum Operating Reserve target balance (red line) should equal six months (50%) of annual O&M expenses. The District’s reserve policy also requires a Capital Reserve equal to the five-year annual rolling average of PAYGo projects, which, when added to the Operating Reserve target balance, equals the blue line.

Figure III-2. Projected Fund Balance (6-Month Minimum Reserve)



Source: Model Tab 4. Reserves
 Operating Fund Target: 6 months O&M costs
 Total Target Reserve: 6 months O&M costs plus 1-year average CIP PAYGo

It can be seen in **Figure III-2** that the projected fund balance *without* the proposed revenue increases (dashed green line) declines and drops below the target balance (blue line) during the projection period. *With* the revenue increases, the fund balance (solid green line) does not drop and gradually climbs above the target balance such that, by the tenth year, the fund balance is significantly higher than the target balance.

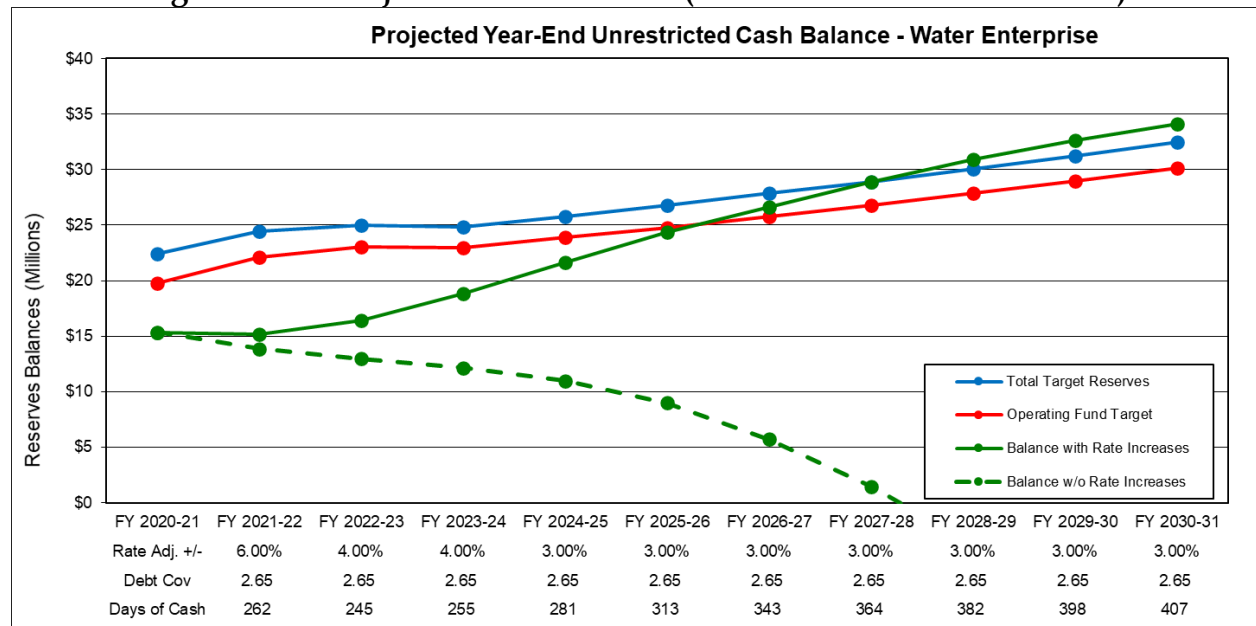
This increase in the projected fund balance is deliberate and should not be regarded as excessive. The revenue increases have been proposed that would increase the Water Fund’s unrestricted cash to help bolster its credit rating. Even with these increases, the days of cash in FY 2030-31 is 407, which is less than the current median reported by Fitch.

The projected fund balance in **Figure III-2** gives the appearance that it is excessively high because of how much the balance exceeds the target. The target of six months of O&M

expenses should be evaluated. Based on cash flow needs, six months of O&M is very low because the District bills the majority of water revenue on the tax rolls rather than monthly. The Operating Reserve target balance should be correlated with the billing frequency. As a *minimal* guideline, 1.5 times the billing frequency is recommended. Given that the majority of the revenue is billed on the tax roll and the minority on monthly bills, a target balance of 12 months should provide a prudent margin of safety for cash flow.

Figure III-3 replaces the six-month target in **Figure III-2** with a twelve-month target; the fund balances are the same in both figures. With the twelve-month Operating Reserve target, the proposed revenue increases gradually increase the fund balance to the target over several years. It has been recommended that the District revise its reserve policy during the next two years. For present purposes, the proposed revenue increases get the fund balance headed in the general direction that is advisable.

Figure III-3. Projected Fund Balance (12-Month Minimum Reserve)



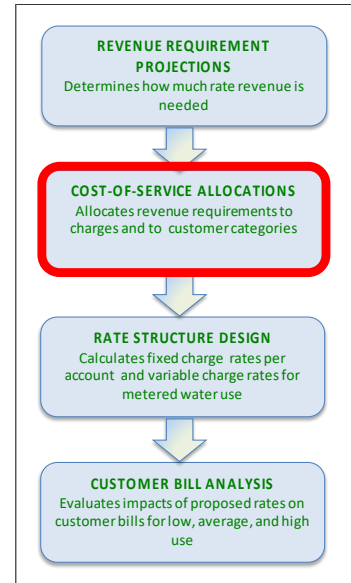
Source: Model Tab 4. Reserves
 Operating Fund Target: 12 months O&M costs
 Total Target Reserve: 12 months O&M costs plus 1-year average CIP PAYGo

IV. WATER COST-OF-SERVICE ANALYSIS

The revenue requirement analysis establishes how much revenue is required from rates. The next step in the analysis is determining the cost of the services provided by the District to its customers. Cost-of-service analysis is used to derive rates that proportionally allocate the cost of service among customers based on the services required by each customer.

ANALYTICAL APPROACH

The District provides demand services and customer services to water customers. Demand services include the costs related to meeting average and peak levels of demand. Customer services include the costs related to customer accounts and the capacity that customers require. The cost-of-service analysis performed in this study follows a procedure that has been long established by the American Water Works Association (AWWA),⁸ which is referred to as the “base/extra capacity method.”



The analytical procedure contains the following steps:

1. **Cost classification** - Costs in the FY 2020-21 revenue requirement are classified into the service categories related to providing for customer demands and for customer service. FY 2020-21 costs are used for the cost-of-service analysis because they are the most recent budget year.
2. **Cost allocation** - The classified costs are allocated to the functions associated with each service. For demand services, the functions are levels of service that comprise average day, maximum day, and maximum hour demands. For customer services, the functions are customer accounts and customer capacity.

The classifications of major costs are summarized as follows:

Demand services

- Average day – average daily demand: base supply (MWDOC).
- Maximum day – peaking on the maximum day: peak supply (groundwater), transmission mains to distribution storage, booster pumps.
- Maximum hour – peak hour on the maximum day: a portion of distribution storage, distribution mains to customers, hydrants, conservation programs.

⁸ *Principles of Water Rates, Fees, and Charges*. Manual M1. American Water Works Association. 2017.

Customer services

- Accounts: meter reading, billing, accounting, customer service.
- Capacity: a portion of distribution storage, distribution mains to customers, hydrants, conservation programs.

Composite services

- Indirect allocations for costs that are not directly related to either the demand or customer service functions: personnel, overhead, non-operating revenue.

Working with District staff, the individual line items in the revenue requirements were classified into either the demand or customer service categories. Certain costs, however, are not directly related to either demand or customer services. Such costs are considered to be composite in function and are allocated based on a composite of the direct allocations to the demand and customer service categories.

ALLOCATION FACTORS

Within the demand service function, allocations are made to varying levels of service ranging from average day demand to the highest level of peak demand for outdoor water use and irrigation during the peak hour of the peak day. With these allocations, rates can be designed to proportionately charge customers based on their demands.

Demand Services**Average Day Demand**

Average day demand represents demand that includes only an average level of peaking. The average day demand was derived for each customer class from the District's customer billing data for FY 2018-19, which is the most recent year after the prior drought but before the pandemic distorted demand in FY 2019-20.

Maximum Day Demand

Maximum day demand includes average day demand plus peak day demand in the irrigation season. The District does not directly meter maximum day demand, which is typically the case for most water systems. Hence, estimates were required based on industry guidelines⁹ and customer billing data. The system-wide maximum day demand was estimated by multiplying the average day demand by 1.75. This factor is slightly higher than Manual M31's rule of thumb due to the District's arid climate, which

⁹ "Where specific data on past consumption are not available, a good rule of thumb is that maximum daily demand is 1.5 times the average daily demand, while the peak hourly rate may vary from two to four times the average daily rate. In small water systems peaking factors may vary significantly higher than this." *Distribution System Requirements for Fire Protection*. American Water Works Association Manual M31. 1989. P. 16.

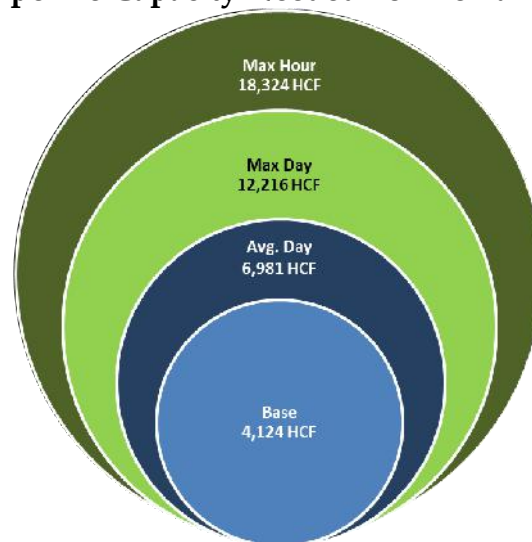
accentuates seasonal peaks. Customer billing data for each customer class in the maximum month was used to apportion the system-wide maximum day demand among the customer classes.

Maximum Hour Demand

Maximum hour demand represents the maximum hour demand on the maximum day. The District does not maintain data on its maximum hour demand, which is not unusual. An estimate was made by which the maximum demand was assumed to be 1.50 times the maximum day demand, which resulted in a maximum demand that is 2.63 times the average day demand. This value is consistent with industry guidelines. It is noted that sizing maximum hour facilities often serves to simultaneously provide capacity for both peak hour demands by customers and for fire flows. In effect, maximum day demands determine how much capacity should be built into facilities needed for maximum hour peaks, which also accommodate fire flow capacity.

Figure IV-1 is a graphical depiction of the capacities of pipelines that correspond to each demand service levels. This depiction is intended to exemplify the impact that peak levels of demand have on the design of facilities. The concentric circles are pipeline diameters proportionate to the levels of demand beginning with base demand, which is average winter demand when peaking is minimal. Average peaking during average day demands increases the capacity of the pipeline by 1.69 times. Maximum day demand requires a pipeline that is 2.96 times the capacity of base, non-peaking demand. Finally, to meet the highest level of service required by maximum hour demand, the pipeline capacity must be 4.46 times greater than the base demand. The larger capacities that are required to meet the higher levels of service require expenditures that cost-of-service analysis allocates proportionately to those who require the service.

Figure IV-1. Pipeline Capacity Needed For Demand Service Levels



Note: Pipeline diameters drawn to scale

Allocation Factors

The flows associated with the demand service levels for each customer class are shown in **Table IV-1**. In addition, the system-wide allocation percentages corresponding to those flows are shown. Note that costs that are classified as maximum day are allocated across average day and maximum day and not allocated only to maximum day. This is done because the capacity provided by maximum day facilities also provides capacity to meet average day demands. Similarly, maximum hour costs are spread across average day and maximum hour demands.

Table IV-1. Service Level Demands, Load Factors, and Allocation Factors

	Demand Service Levels			Total
	Average Day	Maximum Day	Maximum Hour	
	a	b	c	d
1 Demand (HCF)				
2 Residential	3,197	5,197	7,795	
3 Commercial	1,108	1,777	2,666	
4 Multi-Family	1,103	1,565	2,348	
5 Potable Irrigation	645	1,386	2,079	
6 Recycled	928	2,291	3,437	
7 Total Demand	6,981	12,216	18,324	
8				
9 Load Factors	1.00	1.75	2.63	
10				
11 Allocation Percentages				
12 Average Day	6,981			6,981
13 <i>Allocation</i>	100%			100%
14 Maximum Day	6,981	5,236		12,216
15 <i>Allocation</i>	57%	43%		100%
16 Maximum Hour	6,981	5,236	6,108	18,324
17 <i>Allocation</i>	38%	29%	33%	100%

Source: Data source as described in text.

The allocation factors for costs classified as Customer Service are either 100% customer account or capacity allocations. **Table IV-2** summarizes the allocation factors for the demand and customer service costs. In addition, it shows the composite allocations. The O&M and Capital composite allocations are based on subtotals of the O&M and Capital costs that were directly allocated to either the demand or customer service categories. The expense composite is based on the combined subtotal of all directly classified costs.

Table IV-2. Summary of Allocation Factors

Cost Allocation Factors	Demand Services				Customer Services		Total
	Average Day	Maximum Day	Maximum Hour	Maximum Recycled	Accounts	Capacity	
	a	b	c	d	e	f	g
1 <u>Demand Services</u>							
2 Average Day	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
3 Max Day	57.1%	42.9%	0.0%	0.0%	0.0%	0.0%	100.0%
4 Max Hour	38.1%	28.6%	33.3%	0.0%	0.0%	0.0%	100.0%
5 Recycled	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
6 <u>Customer Services</u>							
7 Capacity	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
8 Accounts	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
9 <u>Composite Allocations</u>							
10 O&M Composite	65.3%	10.9%	0.0%	10.2%	5.6%	8.0%	100.0%
11 Capital Composite	5.0%	3.1%	3.4%	0.0%	0.0%	88.5%	100.0%
12 Exp Composite	51.9%	9.2%	0.8%	8.0%	4.3%	25.8%	100.0%

Source: Data source as described in the text

COST ALLOCATIONS

O&M, Capital, and Composite Allocations

Tables IV-3, IV-4, and IV-5 show the FY 2020-21 revenue requirement allocated into the demand and customer services. Each line item was classified with the assistance of District staff according to the associated function. The allocation factors that are summarized in Table IV-2 allocate the costs across the services based on the cost classification in column b. Table IV-3 also shows the O&M composite allocation percentages that are used in Table IV-5.

Table IV-3. Direct Allocations - O&M Expenses

	FY 2020-21 Rev Req't	Allocation Factor	Demand Services				Customer Services	
			Average Day	Maximum Day	Maximum Hour	Maximum Recycled	Accounts	Capacity
	a	b	c	d	e	f	g	h
1 O&M Expenses								
2 Water Supply	\$779,215	Average Day	\$779,215	\$0	\$0	\$0	\$0	\$0
3 Water Supply Imports	\$6,127,844	Average Day	\$6,127,844	\$0	\$0	\$0	\$0	\$0
4 Water Supply Ground Water	\$865,110	Max Day	\$494,349	\$370,761	\$0	\$0	\$0	\$0
5 Water Supply Desal	\$0	Max Hour	\$0	\$0	\$0	\$0	\$0	\$0
6 Water Supply Recycled	\$494,288	Recycled	\$0	\$0	\$0	\$494,288	\$0	\$0
7 Transmission Potable	\$2,151,814	Max Day	\$1,229,608	\$922,206	\$0	\$0	\$0	\$0
8 Pumping Potable	\$455,552	Max Day	\$260,315	\$195,237	\$0	\$0	\$0	\$0
9 Pumping Recycled	\$381,744	Recycled	\$0	\$0	\$0	\$381,744	\$0	\$0
10 Storage Potable	\$692,955	Capacity	\$0	\$0	\$0	\$0	\$0	\$692,955
11 Storage Recycled	\$124,715	Recycled	\$0	\$0	\$0	\$124,715	\$0	\$0
12 Distribution Potable	\$178,160	Capacity	\$0	\$0	\$0	\$0	\$0	\$178,160
13 Distribution Recycled	\$391,636	Recycled	\$0	\$0	\$0	\$391,636	\$0	\$0
14 Customer Accounts	\$759,384	Accounts	\$0	\$0	\$0	\$0	\$759,384	\$0
15 Customer Capacity	\$221,622	Capacity	\$0	\$0	\$0	\$0	\$0	\$221,622
16 Subtotal	\$13,624,039		\$8,891,331	\$1,488,204	\$0	\$1,392,383	\$759,384	\$1,092,737
17 O&M Composite	100.0%		65.3%	10.9%	0.0%	10.2%	5.6%	8.0%

Table IV-4 shows the allocation of the capital expenses. The allocation of debt service is based on a composite of the projects funded by debt. **Table IV-4** also includes the calculation of the capital composite and expense composite allocation percentages that are used in **Table IV-5**.

Table IV-4. Direct Allocations - Capital Expenses

	FY 2020-21 Rev Req't	Allocation Factor	Demand Services				Customer Services	
			Average Day	Maximum Day	Maximum Hour	Recycled	Accounts	Capacity
	a	b	c	d	e	f	g	h
1 Capital Expenses								
2 Water Supply	\$34,000	Average Day	\$34,000	\$0	\$0	\$0	\$0	\$0
3 Water Supply Imports	\$0	Average Day	\$0	\$0	\$0	\$0	\$0	\$0
4 Water Supply Ground Water	\$15,000	Max Day	\$8,571	\$6,429	\$0	\$0	\$0	\$0
5 Water Supply Desal	\$394,600	Max Hour	\$150,324	\$112,743	\$131,533	\$0	\$0	\$0
6 Water Supply Recycled	\$0	Recycled	\$0	\$0	\$0	\$0	\$0	\$0
7 Transmission Potable	\$712,718	Capacity	\$0	\$0	\$0	\$0	\$0	\$712,718
8 Pumping Potable	\$115,000	Capacity	\$0	\$0	\$0	\$0	\$0	\$115,000
9 Pumping Recycled	\$0	Recycled	\$0	\$0	\$0	\$0	\$0	\$0
10 Storage Potable	\$68,000	Capacity	\$0	\$0	\$0	\$0	\$0	\$68,000
11 Storage Recycled	\$0	Recycled	\$0	\$0	\$0	\$0	\$0	\$0
12 Distribution Potable	\$246,750	Capacity	\$0	\$0	\$0	\$0	\$0	\$246,750
13 Distribution Recycled	\$0	Recycled	\$0	\$0	\$0	\$0	\$0	\$0
14 Customer Accounts	\$0	Accounts	\$0	\$0	\$0	\$0	\$0	\$0
15 Customer Capacity	\$280,000	Capacity	\$0	\$0	\$0	\$0	\$0	\$280,000
16 Current Debt Service	\$2,002,894	Capacity	\$0	\$0	\$0	\$0	\$0	\$2,002,894
17 Future Debt Service	\$0	Capacity	\$0	\$0	\$0	\$0	\$0	\$0
18 Subtotal	\$3,868,962		\$192,895	\$119,171	\$131,533	\$0	\$0	\$3,425,362
19 Capital Composite	100.0%		5.0%	3.1%	3.4%	0.0%	0.0%	88.5%
20 Subtotal - O&M and Capital	\$17,493,001		\$9,084,226	\$1,607,375	\$131,533	\$1,392,383	\$759,384	\$4,518,099
21 Expense Composite	100.0%		51.9%	9.2%	0.8%	8.0%	4.3%	25.8%

Table IV-5 shows the allocation of the composite expenses and non-operating revenues using the composite allocation factors from **Tables IV-3** and **IV-4**. **Table IV-5** also shows the distribution of the revenue requirement among the variable charge, peak demand charge, and the customer service charge.

It has been the District’s practice to split the revenue requirement that is allocated to demand services¹⁰ 50% to the variable charge and 50% to the peak demand charge. This practice has proven successful in reducing peaking on the system. That split is shown as the peak demand adjustment.

The customer accounts and capacity costs are combined for determining the customer service charges.

¹⁰ Excluding the portion allocated to recycled water.

Table IV-5. Composite Allocations and Peak Demand Adjustment

	FY 2020-21 Rev Req't	Allocation Factor	Demand Services				Customer Services	
			Average Day	Maximum Day	Maximum Hour	Recycled	Accounts	Capacity
			c	d	e		f	g
1 Composite Expenses								
2 Planned O&M Cutback	\$0	O&M Composite	\$0	\$0	\$0	\$0	\$0	\$0
3 O&M Composite Expenses	\$1,293,397	O&M Composite	\$844,098	\$141,283	\$0	\$132,186	\$72,092	\$103,739
4 Budget Reconciliation	\$107,457	O&M Composite	\$70,128	\$11,738	\$0	\$10,982	\$5,989	\$8,619
5 Transfers to Reserves	\$2,026,099	O&M Composite	\$1,322,274	\$221,318	\$0	\$207,068	\$112,932	\$162,506
6 CIP Capital Composite Expenses	\$477,425	Capital Composite	\$23,803	\$14,706	\$16,231	\$0	\$0	\$422,685
7 Other O&M Composite Expenses	\$4,737,313	Exp Composite	\$2,460,116	\$435,296	\$35,621	\$377,074	\$205,650	\$1,223,555
8 Other CIP Composite Expenses	\$301,055	Exp Composite	\$156,340	\$27,663	\$2,264	\$23,963	\$13,069	\$77,757
9 Subtotal	\$8,942,745		\$4,876,760	\$852,004	\$54,116	\$751,273	\$409,732	\$1,998,861
10								
11 Non-Operating Revenue								
12 Property Tax	(\$2,990,111)	Exp Composite	(\$1,552,784)	(\$274,752)	(\$22,483)	(\$238,003)	(\$129,803)	(\$772,287)
13 Rental Income	(\$1,094,000)	Exp Composite	(\$568,121)	(\$100,524)	(\$8,226)	(\$87,079)	(\$47,491)	(\$282,559)
14 Recreation Facilities	(\$197,200)	Exp Composite	(\$102,407)	(\$18,120)	(\$1,483)	(\$15,696)	(\$8,561)	(\$50,933)
15 Other Revenues	(\$705,500)	Exp Composite	(\$366,371)	(\$64,826)	(\$5,305)	(\$56,155)	(\$30,626)	(\$182,217)
16 Subtotal	(\$4,986,811)		(\$2,589,683)	(\$458,222)	(\$37,497)	(\$396,933)	(\$216,481)	(\$1,287,995)
17 Subtotal - Composite	\$3,955,934		\$2,287,077	\$393,782	\$16,619	\$354,340	\$193,251	\$710,865
18 Subtotal - O&M	\$13,624,039		\$8,891,331	\$1,488,204	\$0	\$1,392,383	\$759,384	\$1,092,737
19 Subtotal - Capital	\$3,868,962		\$192,895	\$119,171	\$131,533	\$0	\$0	\$3,425,362
20 Total Revenue Requirement	\$21,448,935		\$11,371,303	\$2,001,157	\$148,152	\$1,746,723	\$952,635	\$5,228,964
21								
22 Peak Demand Adjustment								
23 Peak Demand Allocation	\$6,760,306	50%	\$5,685,652	\$1,000,579	\$74,076			
24 Net Allocations	\$14,688,629		\$5,685,652	\$1,000,579	\$74,076	\$1,746,723	\$952,635	\$5,228,964
25								
26 Recap	\$6,760,306				\$6,760,306	\$1,746,723		\$6,181,600
27	100.0%	31.5%			31.5%	8.1%	0.0%	28.8%

Allocation Comparison

The results of the cost-of-service allocations are shown in Tables IV-6 and IV-7. Table IV-6 compares the revenue produced by the current rates for each of the three charges with the cost-of-service allocations, which do not include the proposed revenue increase. The allocations shift costs from the variable and service charges to the peak demand charge.

Table IV-6. Comparison of Current Revenue With COS Allocations (FY 2020-21)

	Current Rate Revenue		COS (No Revenue Increase)		Difference	
	FY 2020-21		FY 2020-21		COS Minus Current	
	a	b	c	d	e=c-a	f=e/a
1 Variable Charge Revenue	\$9,069,449	42.4%	\$8,479,731	39.6%	(\$589,718)	-6.5%
2 Service Charge Revenue	\$6,195,939	29.0%	\$6,173,918	28.9%	(\$22,021)	-0.4%
3 Peak Demand Charge	\$6,127,044	28.6%	\$6,738,783	31.5%	\$611,739	10.0%
4	\$21,392,432	100.0%	\$21,392,432	100.0%	\$0	0.0%

Table IV-7 compares the current revenue from each of the charges with the cost-of-service allocations including the proposed 6.0% revenue increase in FY 2021-22, which shows the combined impact. The net effect is a slight decrease in the variable charge

revenue, a moderate increase in the service charge revenue, and a significant increase in the peak demand charge revenue.

Table IV-7. Comparison of Current Revenue With COS Allocations (FY 2021-22)

	Current Rate Revenue FY 2020-21		COS (With Revenue Increase) FY 2021-22		Difference COS Minus Current	
	a	b	c	d	e=c-a	f=e/a
1 Variable Charge Revenue	\$9,069,449	42.4%	\$8,988,515	39.6%	(\$80,934)	-0.9%
2 Service Charge Revenue	\$6,195,939	29.0%	\$6,544,353	28.9%	\$348,415	5.6%
3 Peak Demand Charge	\$6,127,044	28.6%	\$7,143,110	31.5%	\$1,016,066	16.6%
4	\$21,392,432	100.0%	\$22,675,978	100.0%	\$1,283,546	6.00%

Variable Charge Cost Allocation

As previously mentioned, the customer service function is independent of the customer category. Once its allocation is derived, rates for the service charges are derived without any further allocation to customer classes. The demand service function requires further allocations to customer classes in deriving rates. **Table IV-8** derives the cost of service for each of the District’s customer classes. The allocation for the potable water classes encompasses each class’ proportionate share of the three demand service levels (i.e., average day, maximum day, and maximum hour) because they share common facilities. Moreover, the allocation of costs to the single family customers needs to be tracked by demand service level for purposes of calculating the single family tiered rates.

Recycled water facilities are separate from the potable water facilities and can be treated as a lump sum for purposes of calculating the recycled water variable rate, which is uniform rather than tiered.

Table IV-8. Variable Charge Cost Allocations By Customer Class

	Average Day	Maximum Day	Maximum Hour	Recycled	Total
	a	b	c	d	e
1 Total Variable Charge COS FY 2020-21	\$5,667,214	\$997,493	\$74,076	\$1,740,948	\$8,479,731
2 Total Variable Charge COS FY 2021-22	\$6,007,247	\$1,057,342	\$78,521	\$1,845,405	\$8,988,515
3					
4 Units of Service (hcf)					
5 Single Family	3,197	5,197	7,795	-	
6 Multi Family	1,103	1,565	2,348	-	
7 Commercial	1,108	1,777	2,666	-	
8 Potable Irrigation	645	1,386	2,079	-	
9 Recycled	-	-	-	6,733	
10	6,053	9,925	14,888	6,733	
11					
12 Proportional Allocation Factors					
13 Single Family	52.82%	52.36%	52.36%	0.00%	
14 Multi Family	18.22%	15.77%	15.77%	0.00%	
15 Commercial	18.30%	17.91%	17.91%	0.00%	
16 Potable Irrigation	10.65%	13.97%	13.97%	0.00%	
17 Recycled	0.00%	0.00%	0.00%	100.00%	
18	100.00%	100.00%	100.00%	100.00%	
19					
20 COS by Customer Class					
21 Single Family	\$3,173,174	\$553,624	\$41,113	\$0	\$3,767,911
22 Multi Family	\$1,094,695	\$166,720	\$12,381	\$0	\$1,273,797
23 Commercial	\$1,099,562	\$189,337	\$14,061	\$0	\$1,302,960
24 Potable Irrigation	\$639,815	\$147,661	\$10,966	\$0	\$798,441
25 Recycled	\$0	\$0	\$0	\$1,845,405	\$1,845,405
26	\$6,007,247	\$1,057,342	\$78,521	\$1,845,405	\$8,988,515

Summary of Allocations By Customer Class

The allocations by customer class are summarized in **Table IV- 9**. The commercial customer class is projected to have the lowest increase in allocated costs compared with the current revenue. The 3.0% increase for this class is half the overall proposed 6.0% revenue increase. The other classes with the exception of recycled water are projected to see a cost increase slightly less than the overall 6.0% revenue increase. Recycled water is projected to have the highest cost increase.

Comparing the unit cost of water across the customer classes is difficult because of differences in the rate structures and the fact that recycled water customers do not pay peak

demand charge rates. **Table IV-10** provides a comparison of the average cost¹¹ of water allocated to the variable and peak demand charges for each customer class. Recycled water has the lowest average cost per HCF even with its comparatively high cost increase. Recycled water’s average cost is almost \$2.00/HCF lower than or 74% of potable irrigation’s average cost.

Table IV-9. Customer Class Allocations for Demand Service Levels

	Current Rate Revenue FY 2020-21		COS Rate Revenue FY 2021-22		Difference COS Minus Current	
	a	b	c	d	e=c-a	f=e/a
1 Single-Family						
2 Variable Charge Revenue	\$3,988,302	36.1%	\$3,767,911	32.4%	(\$220,391)	-5.5%
3 Service Charge Revenue	\$3,780,487	34.2%	\$4,020,677	34.6%	\$240,190	6.4%
4 Peak Demand Charge	\$3,280,754	29.7%	\$3,824,812	32.9%	\$544,057	16.6%
5 Subtotal - Single-Family	\$11,049,544	100%	\$11,613,400	100%	\$563,856	5.1%
6 Multi-Family						
7 Variable Charge Revenue	\$1,296,388	38.7%	\$1,273,797	36.1%	(\$22,591)	-1.7%
8 Service Charge Revenue	\$1,088,357	32.4%	\$1,121,871	31.8%	\$33,514	3.1%
9 Peak Demand Charge	\$969,253	28.9%	\$1,129,987	32.1%	\$160,734	16.6%
10 Subtotal - Multi-Family	\$3,353,998	100%	\$3,525,654	100%	\$171,656	5.1%
11 Commercial						
12 Variable Charge Revenue	\$1,399,207	48.8%	\$1,302,960	44.1%	(\$96,246)	-6.9%
13 Service Charge Revenue	\$404,482	14.1%	\$409,982	13.9%	\$5,500	1.4%
14 Peak Demand Charge	\$1,065,626	37.1%	\$1,242,342	42.0%	\$176,716	16.6%
15 Subtotal - Commercial	\$2,869,315	100%	\$2,955,284	100%	\$85,969	3.0%
16 Potable Irrigation						
17 Variable Charge Revenue	\$844,763	37.3%	\$798,441	33.3%	(\$46,322)	-5.5%
18 Service Charge Revenue	\$610,179	26.9%	\$650,910	27.2%	\$40,731	6.7%
19 Peak Demand Charge	\$811,411	35.8%	\$945,969	39.5%	\$134,559	16.6%
20 Subtotal - Potable Irrigation	\$2,266,352	100%	\$2,395,320	100%	\$128,968	5.7%
21 Recycled						
22 Variable Charge Revenue	\$1,540,789	83.6%	\$1,845,405	84.8%	\$304,616	19.8%
23 Service Charge Revenue	\$303,143	16.4%	\$330,929	15.2%	\$27,787	9.2%
24 Peak Demand Charge	\$0	0.0%	\$0	0.0%	\$0	0.0%
25 Subtotal - Recycled	\$1,843,932	100%	\$2,176,334	100%	\$332,403	18.0%
26 Total						
27 Variable Charge Revenue	\$9,069,449	42.4%	\$8,988,515	39.7%	(\$80,934)	-0.9%
28 Service Charge Revenue	\$6,186,648	28.9%	\$6,534,369	28.8%	\$347,721	5.6%
29 Peak Demand Charge	\$6,127,044	28.7%	\$7,143,110	31.5%	\$1,016,066	16.6%
30	\$21,383,141	100%	\$22,665,994	100%	\$1,282,853	6.0%

Source: Model Tab 8. Allocations.

Table IV-10. Comparison of the Average Cost Per HCF

	Variable Rate	Peak Demand	FY 2021-22		Average
	Cost	Cost	Total Cost	Demand (hcf)	Cost
	a	b	c	d	e=c/d
1 Single Family	\$3,767,911	\$3,824,812	\$7,592,723	1,167,024	\$6.51
2 Multi Family	\$1,273,797	\$1,129,987	\$2,403,784	402,605	\$5.97
3 Commercial	\$1,302,960	\$1,242,342	\$2,545,302	404,395	\$6.29
4 Potable Irrigation	\$798,441	\$945,969	\$1,744,411	235,310	\$7.41
5 Recycled Water	\$1,845,405	\$0	\$1,845,405	338,635	\$5.45
6	\$8,988,515	\$7,143,110	\$16,131,625	2,547,969	\$6.33

¹¹ The average cost in **Table IV-10** is based on the variable and peak demand charges only, whereas the average cost calculated in **Table I-3** includes the service charge as well.

V. WATER RATE DESIGN

The District charges water customers the sum of a variable charge, a service charge, and a peak demand charge. This chapter explains the derivation of the rates that determine each customer’s charges. These rates are based on the results of the cost-of-service analysis in the preceding chapter.

CURRENT RATE STRUCTURE

Table V-1 summarizes the District’s current rates for its three charges. This structure, including the customer classes has been in place since the previous rate study in 2016. Generally speaking, service charges and the peak demand charge are billed annually on the tax rolls and variable charges are billed monthly by the District based on metered water use.

Table V-1. Current Water Rates

	Current Rates FY 2020-21	
	a	b
1 Service Charges (Annual)	Annual	Monthly Equivalent
2 3/4" Meter	\$324.10	\$27.01
3 1" Meter	\$540.20	\$45.02
4 1 1/2" Meter	\$1,080.35	\$90.03
5 2" Meter	\$1,728.55	\$144.05
6 3" Meter	\$3,781.15	\$315.10
7 4" Meter	\$6,806.05	\$567.17
8 6" Meter	\$14,044.15	\$1,170.35
9		
10 Variable Charges (Monthly)	Tier Size	\$/HCF
11 Single Family		
12 Tier 1	0-5 hcf	\$3.19
13 Tier 2	6-18 hcf	\$3.37
14 Tier 3	19+ hcf	\$3.56
15		
16 Multi Family		\$3.22
17 Commercial		\$3.46
18 Potable Irrigation		\$3.59
19 Recycled Water		\$4.55
20		
21 Peak Demand Charge (Annual)		\$23.10

Recycled water customers’ service charges are billed monthly and are not billed peak demand charges. In the present study, no changes to this structure are recommended with the exception of the size of the tiered variable charge rates for single family customers.

SERVICE CHARGE RATES

Service charge rates are fixed rates charged per account that recover the cost of the customer service function. Service charge rates are graduated in proportion to the capacity of the service (i.e., size of the water meter) serving a property. Service charge rates are also independent of customer classes because the capacity of a service does not change depending on what class of customer is connected to the water system. In other words, a one-inch meter provides the same capacity to any customer who is connected.

The cost-of-service analysis determined how much of the revenue requirement is attributable to the customer service function. The function has two components – customer accounts and customer capacity – each of which is itemized in the cost-of-service analysis. Costs attributable to customer accounts are allocated to customers in proportion to the number of accounts. Costs attributable to customer capacity are allocated to customers in proportion to the capacity of their services. The sum of the two components equals the service charge rate per connection.

Capacity costs associated with the distribution system are apportioned among the connections in proportion to the capacity associated with each connection. Accounts are converted to Equivalent Meter Units (EMUs) to apportion the customer capacity cost component. An EMU represents the number of $\frac{3}{4}$ -inch meters to which a larger meter is equivalent. The capacity multipliers are based on the manufacturer's nominal capacity of the District's current meters, which are of three types: disc, turbine, and compound.

The inventory of these meters is shown in **Table V-2**, which also shows the rated capacity in gallons per minute (GPM). Using the rated capacities, it is possible to calculate the EMUs for each size meter of each type. For example, a 1-inch disc meter provides 2.00 times as much capacity as a $\frac{3}{4}$ -inch disc meter. The 3,155 1-inch disc meters equal 6,310 EMUs. The number of EMUs was calculated for each meter type, summed up, and divided by total EMUs to determine the weighted average EMU multipliers, which serve as the basis for graduating the capacity portion of the service charge rates. This derivation of EMU multipliers is consistent with AWWA's Manual M1.

Table V-2. Equivalent Meter Unit Multipliers

Meter Size	EMU			
	GPM	Multiplier	Count	EMUs
	a	b	c	d=b*c
1 Disc				
2 3/4"	35	1.00	8,149	8,149
3 1"	70	2.00	3,155	6,310
4 1.5"	120	3.43	493	1,690
5 2"	170	4.86	464	2,254
6 3"	-	-	0	0
7 4"	-	-	0	0
8 6"	-	-	0	0
9			12,261	18,403
10 Turbine				
11 3/4"	-	-	0	0
12 1"	-	-	0	0
13 1.5"	200	5.71	23	131
14 2"	310	8.86	307	2,719
15 3"	550	15.71	13	204
16 4"	1250	35.71	16	571
17 6"	2500	71.43	6	429
18			365	4,055
19 Compound				
20 3/4"	-	-	0	0
21 1"	-	-	0	0
22 1.5"	-	-	0	0
23 2"	-	-	0	0
24 3"	450	12.86	7	90
25 4"	1000	28.57	8	229
26 6"	2000	57.14	5	286
27			20	604
28 Weighted				
29 3/4"		1.00	8,149	8,149
30 1"		2.00	3,155	6,310
31 1.5"		3.53	516	1,822
32 2"		6.45	771	4,973
33 3"		14.71	20	294
34 4"		33.33	24	800
35 6"		64.94	11	714
36			12,646	23,062

The resulting EMU multipliers in **Table V-2** differ from the current EMU multipliers adopted in the 2016 rate study. The reason for the difference is the EMU multipliers were based on only one meter type rather than the weighted average of the three meter types, as is proposed. The proposed EMU multipliers are similar to those that were used prior to the 2016 rate study. A comparison is shown in **Figure V-1**.

Figure V-1. Comparison of EMU Multipliers

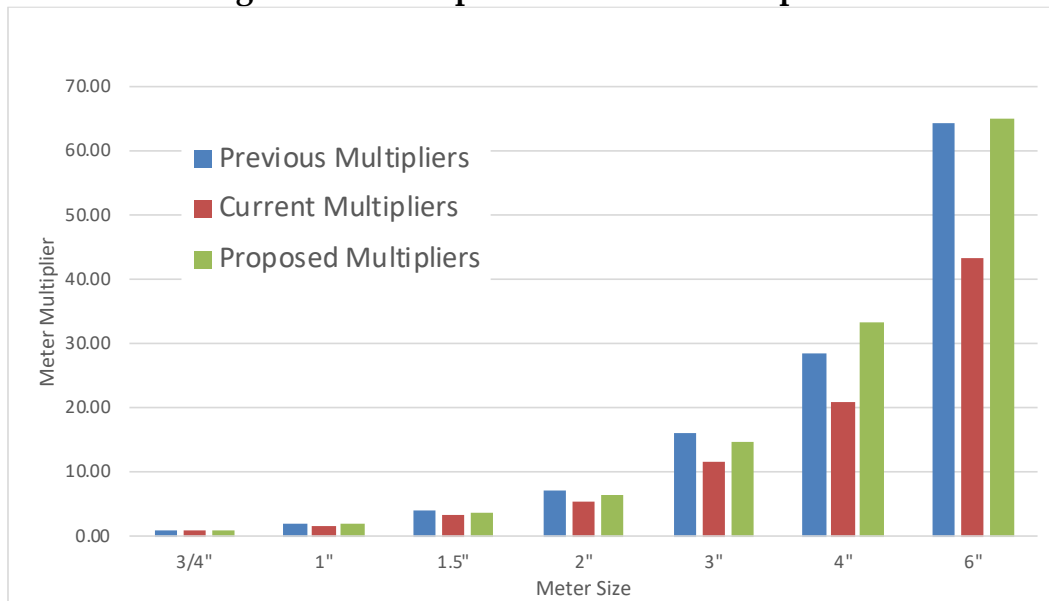


Table V-3 derives the unit costs for the customer accounts and customer capacity cost components. Each account is allocated \$6.77 for the customer account cost component. That amount represents the costs the District incurs to maintain an account regardless of the capacity of the service. Each account is also allocated \$21.57 per EMU. That amount represents a portion of the cost of providing distribution system capacity for each account, and increases in proportion to the capacity of the meter.

Table V-3. Service Charge Unit Costs

	Unit Costs Per Account and Per Equivalent Meter Unit (EMU)			
	Accounts	Distribution	Capacity	
			Multiplier	EMUs
	a	b	c	d=a*c
1 Meters				
2 3/4 inch	8,145	65.7%	1.00	8,145
3 1 inch	3,132	25.3%	2.00	6,264
4 1.5 inch	505	4.1%	3.53	1,783
5 2 inch	567	4.6%	6.45	3,657
6 3 inch	20	0.2%	14.71	294
7 4 inch	18	0.1%	33.33	600
8 6 inch	10	0.1%	64.94	649
9	12,397	100.0%		21,393
10				
11 Units Costs FY 2020-21	\$949,486			\$5,224,432
12 Units Costs FY 2021-22	\$1,006,455			\$5,537,898
13 Unit Costs				
14 per Account	\$6.77			
15 per EMU				\$21.57

Table V-4 combines the customer service and capacity components into a single service charge for each size service. These amounts are monthly equivalent values for FY 2020-21. They are compared with the current monthly equivalents.

Table V-4. Proposed Monthly Service Charge Rates

Meter Size	Account Component (\$/mo.)	Capacity Component			COS FY 2021-22 (\$/mo.)	FY 2020-21 Monthly Equivalent		
		\$/EMU	Capacity Multiplier	Capacity Total		Equivalent	Differences	
	a	b	c	d = b * c	e = a + d	f	g=e-f	h=g/f
3/4 inch	\$6.77	\$21.57	1.00	\$21.57	\$28.34	\$27.01	\$1.33	4.9%
1 inch	\$6.77	\$21.57	2.00	\$43.14	\$49.91	\$45.02	\$4.89	10.9%
1.5 inch	\$6.77	\$21.57	3.53	\$76.16	\$82.93	\$90.03	(\$7.10)	-7.9%
2 inch	\$6.77	\$21.57	6.45	\$139.14	\$145.91	\$144.05	\$1.86	1.3%
3 inch	\$6.77	\$21.57	14.71	\$317.42	\$324.19	\$315.10	\$9.09	2.9%
4 inch	\$6.77	\$21.57	33.33	\$719.08	\$725.85	\$567.17	\$158.68	28.0%
6 inch	\$6.77	\$21.57	64.94	\$1,400.81	\$1,407.58	\$1,170.35	\$237.23	20.3%

VARIABLE CHARGE RATES

The District’s single family customers pay variable charge rates that are tiered, increasing block rates. The other customer classes pay separate uniform variable charge rates.

Tiered Variable Charge Rates

The District’s single family residential customers are charged a three-tier increasing block rate structure.¹² The structure is a series of “blocks” of water whose unit cost increases with each block. The structure is “progressive” in the sense that water is billed sequentially by block up to the highest block. It is not the case that all of the water is billed at only the rate for the highest block. All metered water use is at least billed the Tier 1 rate. Water use beyond Tier 1 is only billed the Tier 2 rate for the volume of water allocated to Tier 2, and water use beyond the volume of water allocated to Tier 2 is billed at the Tier 3 rate.

Increasing block rates have become more common as the need has grown to set rates that more precisely recover the cost of service. Increasing block rates continue to be well suited for the District’s single family customer class.

When increasing block rates are implemented, the number of tiers must be determined. There is no absolute industry standard or law that prescribes how many tiers must be used. Judgment that is supported by facts is allowed. However, no matter how many tiers are used, the rates for each tier cannot exceed the proportional cost of service for each tier. In the District’s case, a three-tier structure aligns well with the three demand

¹² For simplicity, we use the term “tiered rates” synonymously with “increasing block rates.” “Inclining block rates” is commonly used for “increasing block rates.” However, because an incline can slope either up or down, it is ambiguous in this context and therefore is not used in this study.

service levels where Tier 1, Tier 2, and Tier 3 correspond with average day, maximum day, and maximum demands. Given a three-tier structure, the following describes how the size of the tiers and rate per tier were derived.

Breakpoints Between Tiers

The base/extra capacity cost-of-service analysis leads to three distinct levels of demand that are defined by the functions performed by facilities that are designed to provide the service levels. Each service has an average flow that can be used as the divider (i.e., “breakpoint”) between each service level. Based on single family billing data and estimates for peak demand, the breakpoints were calculated as shown in **Table V-5**.

Table V-5. Breakpoint Locations - Single Family Tiers

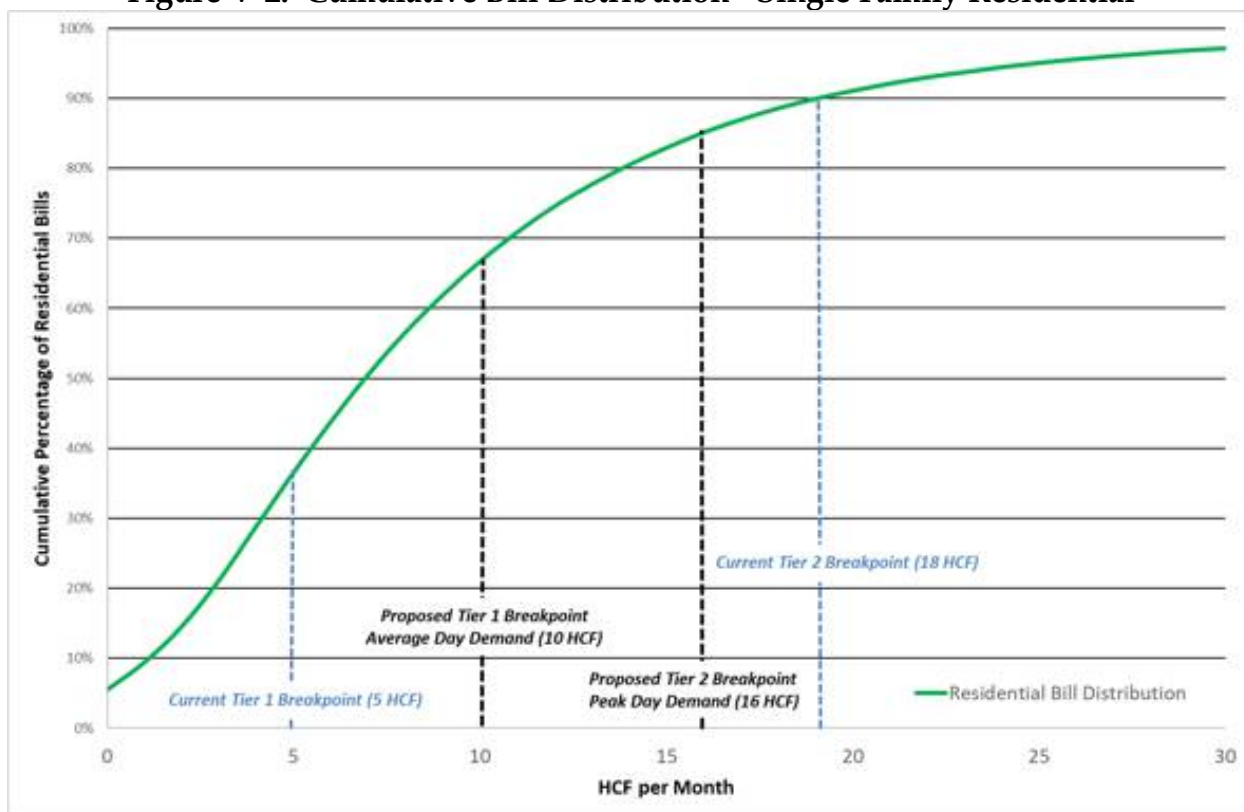
	Average Day	Maximum Day	Maximum Hour
	a	b	c
1 Single Family			
2 hcf per day	3,197	5,197	7,795
3 hcf per month	95,920	155,906	
4 # of Accounts	9,798	9,798	
5 Average flow per demand level (hcf/mo)	10	16	17+
6			
7 % of Bills in Tier	67%	18%	15%

The breakpoints create the following tiers, which apply to monthly water use:

- Tier 1 - 0 to 10 HCF per month (up to 125 GPD).
- Tier 2 - 11 to 16 HCF per month (up to 396 GPD).
- Tier 3 - Over 16 HCF per month (greater than 396 GPD).

The current breakpoints are compared with the updated breakpoints in **Figure V-2**. The green curved line represents the cumulative bill distribution based on a cumulation of single family bills from smallest to largest. The curve shows that bills up to 30 HCF per month amount to 97% of the total bills; 3% of the bills are greater than 30 HCF. The median bill is approximately 7 HCF. In other words 50% of the bills are 7 HCF or less and 50% of the bills are greater than 7 HCF.

Figure V-2. Cumulative Bill Distribution - Single Family Residential



Source: Model tab Bill Distribution.

The blue vertical dashed lines are the current breakpoints. 37% of the bills fall within Tier 1, which has a breakpoint at 5 HCF. 5 HCF equals half of average day demand, which is not congruent with the base/extra capacity cost allocations.

Based on the analysis of current customer billing data, 10 HCF is the Tier 1 breakpoint; 68% of the bills are 10 HCF or less. 10 HCF is average daily demand, which corresponds with the costs allocated to the average day demand level. Because 10 HCF aligns with the corresponding average day cost allocation, a rate for this tier can be calculated that corresponds with the cost of providing service up to average daily demand.

The current Tier 2 breakpoint at 18 HCF includes 90% of the bills. 18 HCF exceeds the maximum day demand of 16 HCF based on up-to-date customer billing data. Again, this 18 HCF breakpoint is incongruent with actual customer demands. 16 HCF corresponds with the costs allocated to the maximum day service level. 85% of the bills are 16 HCF or less, which means that the highest 15% of customer bills require facilities that provide the highest level of service for maximum hour demands.

Rates Per Tier

With breakpoints that correspond to the service levels in the cost-of-service analysis, it is possible to calculate the rate per tier by dividing the cost of service per tier by the water

demand in each tier. The resulting rates represent the *unit cost* of service for each tier.¹³ **Table V-6** shows the calculations of the incremental cost per tier.

Average day costs apply to all tiers. Usage up to the 10 HCF Tier 1 breakpoint is charged the average day rate only. Demand that does not exceed Tier 1 is not responsible for the additional costs of peaking that were allocated to the higher service levels. These additional peaking costs are both the initial capital cost, the subsequent rehabilitation and renewal costs, and the operations and maintenance costs for larger pipelines, additional pumps, and larger reservoirs. Bills that exceed Tier 1 pay additional rate increments.

Maximum day costs apply to all water use greater than Tier 1, namely, to Tier 2 and Tier 3. Usage between 11 and 16 HCF is charged the Tier 2 rate, which is the sum of the average day and maximum day incremental costs. Usage greater than 16 HCF pays the Tier 3 rate, which is the sum of the average day, maximum day, and maximum hour incremental costs. Clearly, as demand progresses through the tiers, the additional costs of higher levels of service associated with peaking are allocated to the higher tiers to recover the costs from those who require the higher levels of service.

Figure V-3 plots the cost increments per tier. We note that the cost increases from Tier 1 to Tier 3 are relatively flat (see also **Figure V-4**). In particular, the increment from Tier 2 to Tier 3 is so slight that the tier structure is mostly a two-tier structure. The flatness of the tiers is due to the fact that the variable rate only recovers 50% of the costs allocated to demand services. Moreover, only 1% of the cost is allocated to maximum hour peak service; some of the maximum hour costs are recovered by the service charges. As such, the tier structure does not have as strong a conservation signal as it would if it recovered 100% of the demand service costs. However, the other 50% is recovered by the peak demand charge rate, which provides an incentive to conserve.

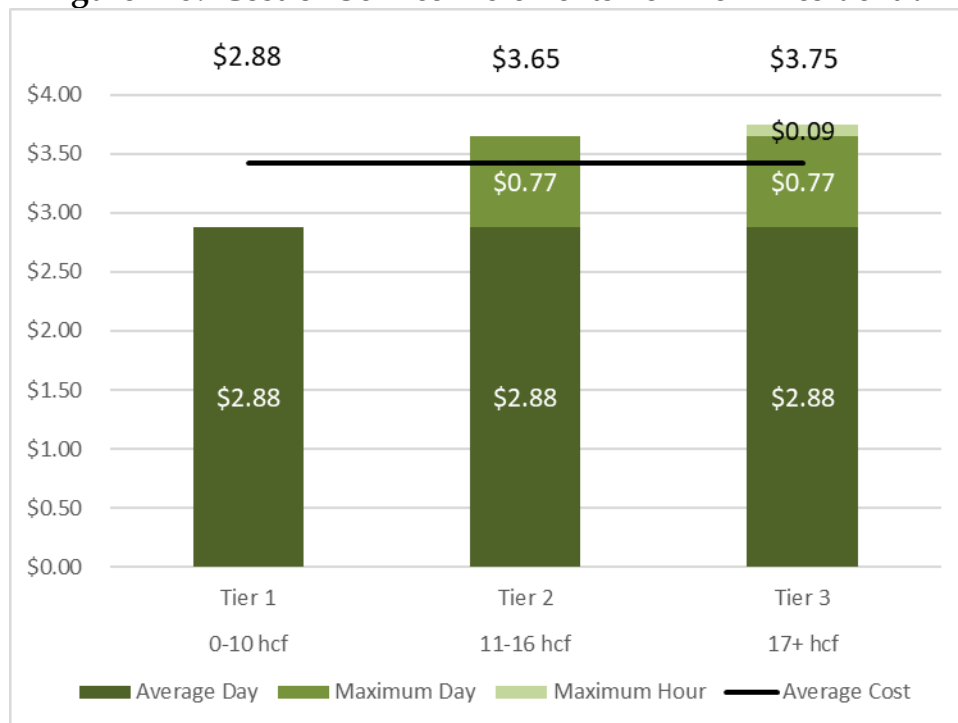
We further note that **Table V-6** also shows that the average unit cost (\$3,993,986 divided by 1,168,163) is \$3.42 per HCF. It can be seen that the Tier 1 rate is less than the average cost and the Tier 2 and Tier 3 rates are greater than the average cost.

¹³ In this report, “rates” and “unit costs” are synonymous.

Table V-6. Variable Charge Rates – Single Family Residential

	Tier 1 Average Day	Tier 2 Maximum Day	Tier 3 Maximum Hour	Total or Average
	a	b	c	d
1 COS Per Demand Level FY 2021-22	\$3,363,565	\$586,841	\$43,580	\$3,993,986
2	84%	15%	1%	100%
3 Demand Per Tier (hcf)				
4 Tier 1 - 1 to 10 hcf	410,590			
5 Tier 2 - 10 to 16 hcf	293,507	293,507		
6 Tier 3 - 16+ hcf	464,066	464,066	464,066	
7	1,168,163	757,573	464,066	1,168,163
8				
9 Unit Costs Per Tier	\$2.88	\$0.77	\$0.09	
10				
11 Variable Rates (\$/hcf)				
12 Tier 1 - 1 to 10 hcf	\$2.88	\$2.88	\$2.88	
13 Tier 2 - 10 to 16 hcf		\$0.77	\$0.77	
14 Tier 3 - 16+ hcf			\$0.09	
15	\$2.88	\$3.65	\$3.75	\$3.42

Figure V-3. Cost-of-Service Increments Per Tier – Residential



Source: Incremental cost components by Tier are calculated on Model Table. 8 Allocations.

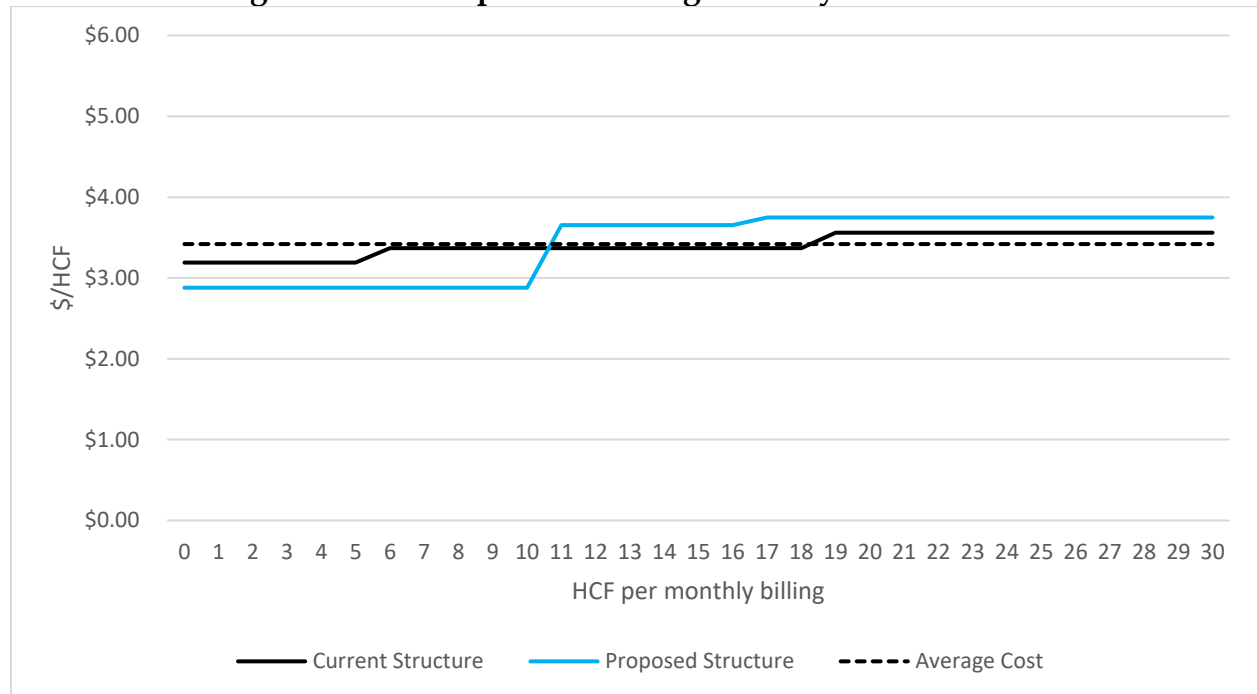
In effect, the average rate represents the non-tiered, uniform rate, which makes no distinction between different levels of service. The average rate is the most general form of the cost of service. It treats the cost of water service as though it is linear. A more exacting cost-of-service analysis derives the average rate for each level of service. In effect, tiered rates are a sequence of the average rates corresponding to discrete levels of service.

Each Service Level Pays Its Share

Even though facilities are designed for the maximum demand, their cost is allocated to all customers, not just to the highest peaking customers. The combination of all use determines the size of facilities. Low-use customers also contribute to the peak. Hence, all customers share in the cost in proportion to how much they peak.

Figure V-4 graphically compares the tier structures for the current structure with the proposed structure and with the average unit cost. Note that approximately two-thirds of the bills are within the first tier for the proposed rate structure, which is lower than the average cost. Note also that the proposed rates reflect the cost-of-service adjustments, which lowered the revenue generated by single family variable rates even when the 6.0% revenue increase is added (see **Table IV-9**); the proposed rates generate 5.5% less revenue than the current rates.

Figure V-4. Comparison of Single Family Tier Structure



Source: Model tab Rate Structure

Uniform Variable Charge Rates

The variable charge rates for multi family, commercial, potable irrigation, and recycled water are uniform rates that apply to all usage, which is an appropriate structure for classes consisting of a wide variety customers with dissimilar peaking requirements. Because

of their heterogeneous demand patterns, it is difficult to identify applicable breakpoints. For example some non-residential customers (e.g., retail businesses) may have very constant demands with very little peaking, while other classes (e.g., irrigation) may have significant seasonal fluctuations. Designing a common tiered structure for such a variety of customers may cause inequity.

The uniform rate is derived by dividing each class' costs allocated to demand services by its total demand as shown in **Table V-7**.

Table V-7. Calculation of Non-Residential Variable Charge Rates

Customer Class	COS Revenue	Water Use	COS Rate	Current Rate	Differences	
	FY 2021-22	(hcf)	(\$/hcf)	(\$/hcf)	e=c-d	f=e/d
	a	b	c=a/b	d		
1 Multi-Family	\$1,277,874	402,605	\$3.17	\$3.22	(\$0.05)	-1.4%
2 Commercial	\$1,307,123	404,395	\$3.23	\$3.46	(\$0.23)	-6.6%
3 Potable Irrigation	\$800,980	235,310	\$3.40	\$3.59	(\$0.19)	-5.2%
4 Recycled	\$1,851,526	338,635	\$5.47	\$4.55	\$0.92	20.2%

Source: Revenue requirement from Figure IV-9;
 Projected demand from Figure IV-10.

Again, although the recycled water variable charge rate is increasing significantly, recycled water customers do not also pay peak demand charges.

PEAK DEMAND CHARGE RATES

The peak demand charge rates are calculated in **Table V-8**.

Table V-8. Peak Demand Charge Rate

	Current	COS	COS	Difference	
	FY 2020-21	FY 2020-21	FY 2021-22	d=c-a	e=d/a
	a	b	c		
1 Revenue	\$6,127,044	\$6,760,306	\$7,165,925	\$1,038,881	17.0%
2 Consumption (hcf)	265,240	265,240	265,240		
3 Peak Demand Charge	\$23.10	\$25.49	\$27.02	\$3.92	17.0%

RATE SUMMARY

The proposed rates for service charges, variable charges, and the peak demand charge are summarized for FY 2021-22 and FY 2022-23.

Table V-9. Summary of Water Rates

	Current Rates		Proposed Rates							
	FY 2020-21		FY 2021-22		\$ Change	% Change	FY 2022-23		\$ Change	% Change
	a	b	c	d	e=d-b	f=e/b	g	h	i=h-d	j=i/d
1	Service Charges (annual)									
2		\$324.10		\$340.06	\$15.96	4.9%		\$353.66	\$13.60	4.0%
3		\$540.20		\$598.93	\$58.73	10.9%		\$622.88	\$23.96	4.0%
4		\$1,080.35		\$995.11	(\$85.24)	-7.9%		\$1,034.92	\$39.80	4.0%
5		\$1,728.55		\$1,750.86	\$22.31	1.3%		\$1,820.90	\$70.03	4.0%
6		\$3,781.15		\$3,890.27	\$109.12	2.9%		\$4,045.88	\$155.61	4.0%
7		\$6,806.05		\$8,710.18	\$1,904.13	28.0%		\$9,058.59	\$348.41	4.0%
8		\$14,044.15		\$16,890.92	\$2,846.77	20.3%		\$17,566.55	\$675.64	4.0%
9										
10	Variable Rates (monthly)									
11		<u>Tier Size</u>		<u>Tier Size</u>				<u>Tier Size</u>		
12	Tier 1	0-5 hcf \$3.19	Tier 1	0-10 hcf \$2.88	(\$0.31)	-9.7%	Tier 1	0-10 hcf \$2.99	\$0.12	4.0%
13	Tier 2	6-18 hcf \$3.37	Tier 2	11-16 hcf \$3.65	\$0.28	8.4%	Tier 2	11-16 hcf \$3.80	\$0.15	4.0%
14	Tier 3	19+ hcf \$3.56	Tier 3	17+ hcf \$3.75	\$0.19	5.3%	Tier 3	17+ hcf \$3.90	\$0.15	4.0%
15										
16	Multi Family	\$3.22		\$3.16	(\$0.06)	-1.7%		\$3.29	\$0.13	4.0%
17	Commercial	\$3.46		\$3.22	(\$0.24)	-6.9%		\$3.35	\$0.13	4.0%
18	Potable Irrigation	\$3.59		\$3.39	(\$0.20)	-5.5%		\$3.53	\$0.14	4.0%
19	Recycled Water	\$4.55		\$5.45	\$0.90	19.8%		\$5.67	\$0.22	4.0%
20										
21	Peak Demand Charge (annual)	\$23.10		\$26.93	\$3.83	16.6%		\$28.01	\$1.08	4.0%

VI. WATER CUSTOMER COST IMPACTS

A further understanding of the differences between the current and proposed rate structures is gained by comparing bills based on both rate structures. The bill comparison is complicated by the fact that some of the charges are billed monthly by the District and some are billed annually on the tax rolls. For purposes of this “bill” comparison, the annual charges have been converted to monthly equivalents and added to the charges that are billed monthly. The sum is indicated of the average monthly cost for these customers, who do not actually receive monthly bills in these amounts.

The monthly cost comparison is based on “typical” customers or customers that are most representative of a group of customers. The typical customer is based on the most common meter sizes for the class and the average water use for customers of that type.

The monthly cost for the proposed rates for FY 2021-22 and FY 2022-23 are compared in **Table VI-1** with what the monthly cost would be under the current rates (i.e., without rate increases).

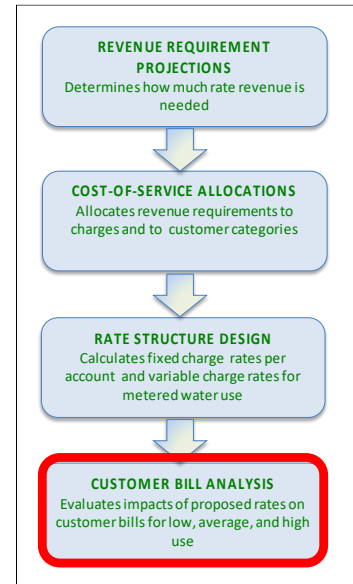


Table VI-1. Sample Water Cost Impacts

	Residential			Non Residential		
	Single Family	Single Family	Multi Family	Commercial	Irrigation	Recycled
Assumptions						
a	b	c	d	e	f	g
1 Flow per month (hcf)	9	13	22	60	58	146
2 Flow per day (gpd)	225	324	549	1,497	1,447	3,643
3 Peak Demand (hcf)	15	20	27	82	103	n/a
4 Meter Size	3/4"	1"	1.5"	1"	2"	2"
Projected Combined Monthly Cost						
5 FY 2020-21 Monthly Cost	\$85.31	\$126.43	\$212.84	\$410.47	\$496.52	\$754.33
6 FY 2021-22 Monthly Cost	\$87.92	\$132.23	\$213.13	\$427.26	\$510.88	\$878.56
7 FY 2022-23 Monthly Cost	\$91.43	\$137.52	\$221.65	\$444.35	\$531.32	\$913.70
Difference						
8 \$ Difference (row 6-row 5)	\$2.60	\$5.80	\$0.28	\$16.79	\$14.36	\$124.23
9 \$ Difference (row 7-row 6)	\$3.52	\$5.29	\$8.53	\$17.09	\$20.44	\$35.14
10 % Difference (row 6/row 5)	3.1%	4.6%	0.1%	4.1%	2.9%	16.5%
11 % Difference (row 7/row 6)	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%

VII. SEWER REVENUE REQUIREMENTS

Revenue requirement projections were prepared for the Sewer Fund following the same procedure that was used for the Water Fund.

ASSUMPTIONS AND PROJECTIONS

The assumptions shown in Table VII-1 were used to project expenses through FY 2030-31. The resulting revenue requirement projections are shown in Figure VII-1 as stacked bars. In addition, the revenue from current rates is shown as a solid black line and the revenue with rate increases as a dashed brown line.

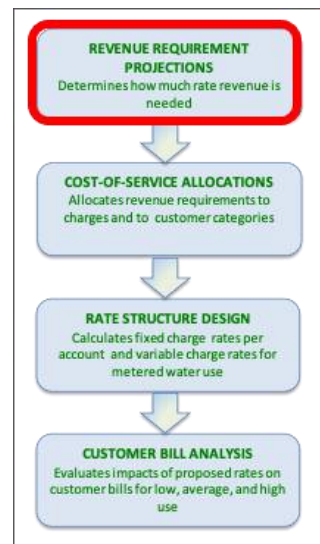


Table VII-1. Projection Assumptions

	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
Growth in accounts	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
General Inflation	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%
Salaries & Wages	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Benefits (non PERS)	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Construction Cost Inflation	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%
Interest on Fund Balance	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%
SOCWA O&M increases	budget	budget	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%
Utilities	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Recycled Water Account Grow	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Water Costs	3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
PERS % of Labor	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%

Source: Model Tab 1 Assumptions

Operating Expenses

The projected operating expenses include the cost of wastewater treatment by SOCWA, services and supplies, and personnel, all of which are projected to gradually increase based on the escalation factors in Table VII-1. (The expense detail is in the model in the Appendix.)

Debt Service

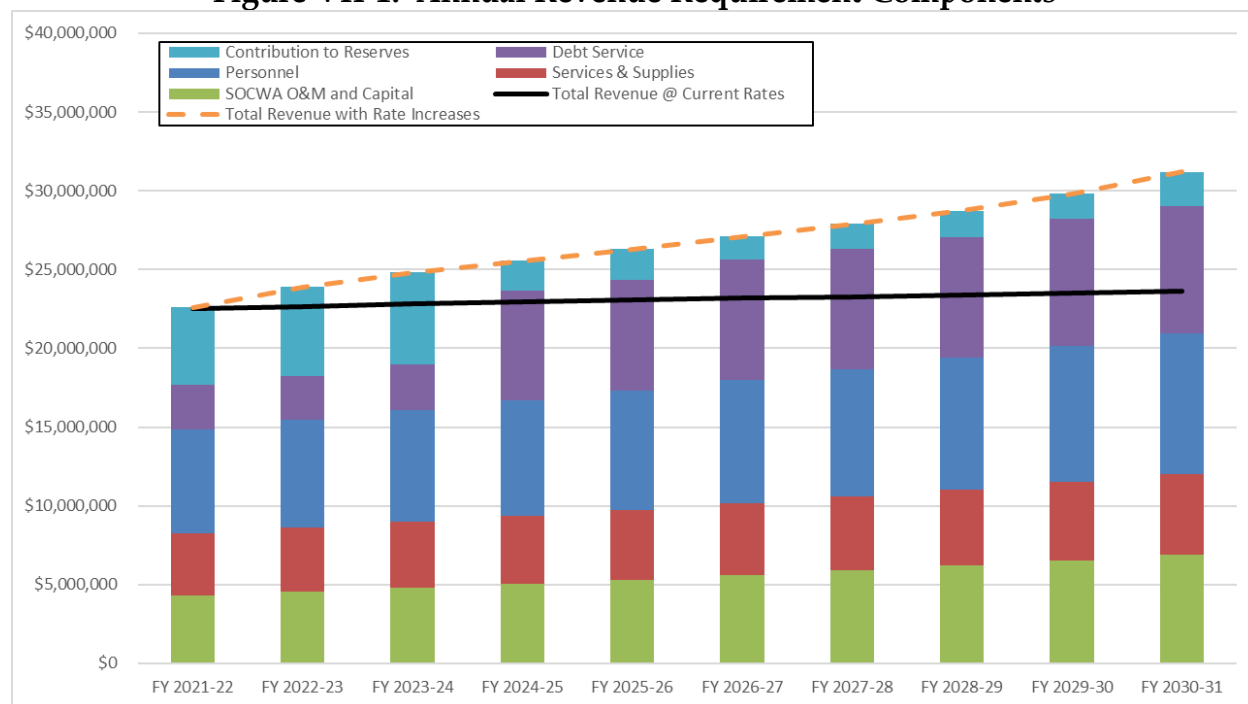
The District has an extensive capital improvement program of which a portion is funded from debt. (A complete list of the capital improvement plan can be found in the Appendix.) Debt service is projected to increase in FY 2023-24 when debt is issued for a variety

of both water and sewer capital improvements. For the remainder of the ten-year period, no further debt is currently planned.

Contributions to Reserves

The Sewer Fund’s reserves are much greater than the Water Fund’s reserves. Because of Water Fund’s low fund balance, annual revenue increases are needed to increase its fund balance. In the Sewer Fund’s case, it is able to draw down its reserves to reduce the amount of annual revenue increases.

Figure VII-1. Annual Revenue Requirement Components



Model Table 2

Revenue Increases

The revenue increases that are recommended to cover the projected revenue requirements are summarized in **Table VII-2**. The revenue increases represent how much more revenue is needed compared to existing rates. By comparison with the Water Fund, where the revenue increases are driven by the need to increase the fund balance, the revenue increases for the Sewer Fund are driven by the need to maintain a coverage ratio of at least 1.25. The recommended revenue increases are sufficient to keep the debt coverage rate above 1.25 during the ten-year planning period; the low point is 1.26 in FY 2029-30.

These revenue increases are regarded as the minimum that are needed at this time. It is recommended that the District also adopt sewer revenue increases for only the next two

years. During that time, the District can presumably revise its reserve policy and complete its asset management plan.

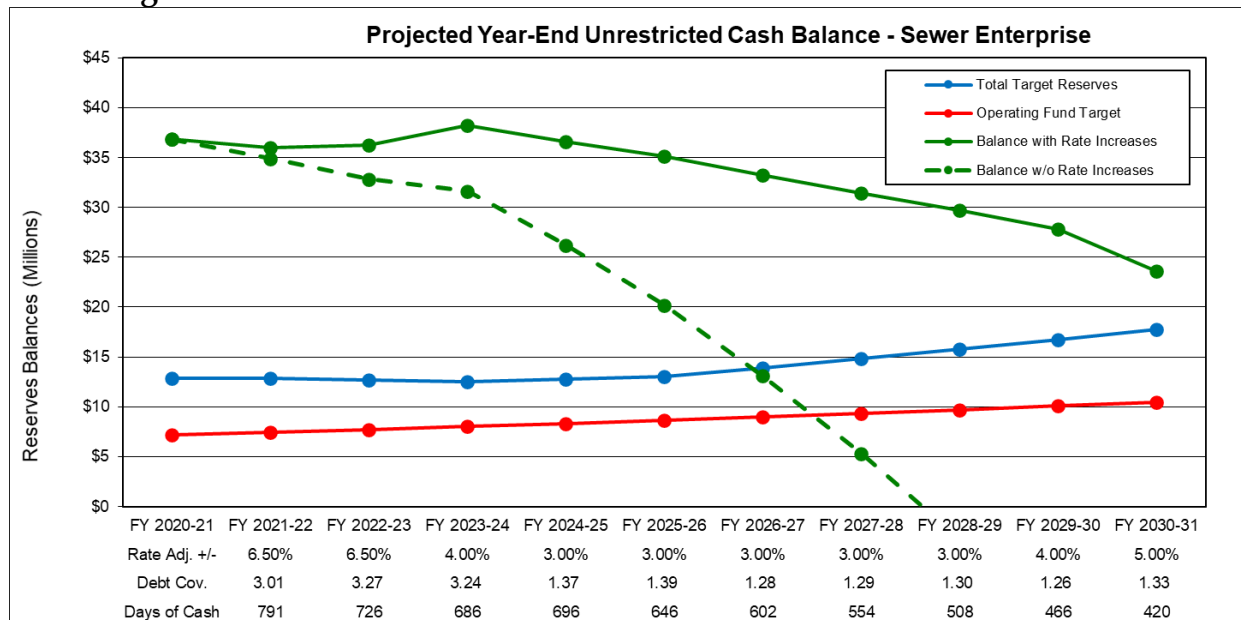
Table VII-2. Projected Sewer Revenue Increases and Key Financial Parameters

	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
	a	b	c	d	e	f	g	h	i	j
1 Revenue increases	6.50%	6.50%	4.00%	3.00%	3.00%	3.00%	3.00%	3.00%	4.00%	5.00%
2										
3 Revenue requirement	\$18,100,532	\$19,280,922	\$20,056,169	\$20,661,986	\$21,286,102	\$21,929,070	\$22,591,459	\$23,273,857	\$24,209,652	\$31,191,662
4 EOY fund balance	\$35,988,878	\$36,263,514	\$38,217,473	\$36,593,844	\$35,109,081	\$33,268,611	\$31,471,061	\$29,726,843	\$27,829,583	\$23,648,557
5 Debt coverage ratio	3.01	3.27	3.24	1.37	1.39	1.28	1.29	1.30	1.26	1.33
6 Days of cash	726	686	696	646	602	554	508	466	420	277

RESERVE FUND BALANCE

The discussion of how the Water Fund’s projected unrestricted fund balance compares with the target balance applies to the Sewer Fund as well. The projected Sewer Fund balance with a 6-month Operating Reserve target is shown in **Figure VII-2**. During the ten-year planning period, the fund balance gradually declines without dropping below the target balance.

Figure VII-2. Fund Balance With and Without Increased Rate Revenue

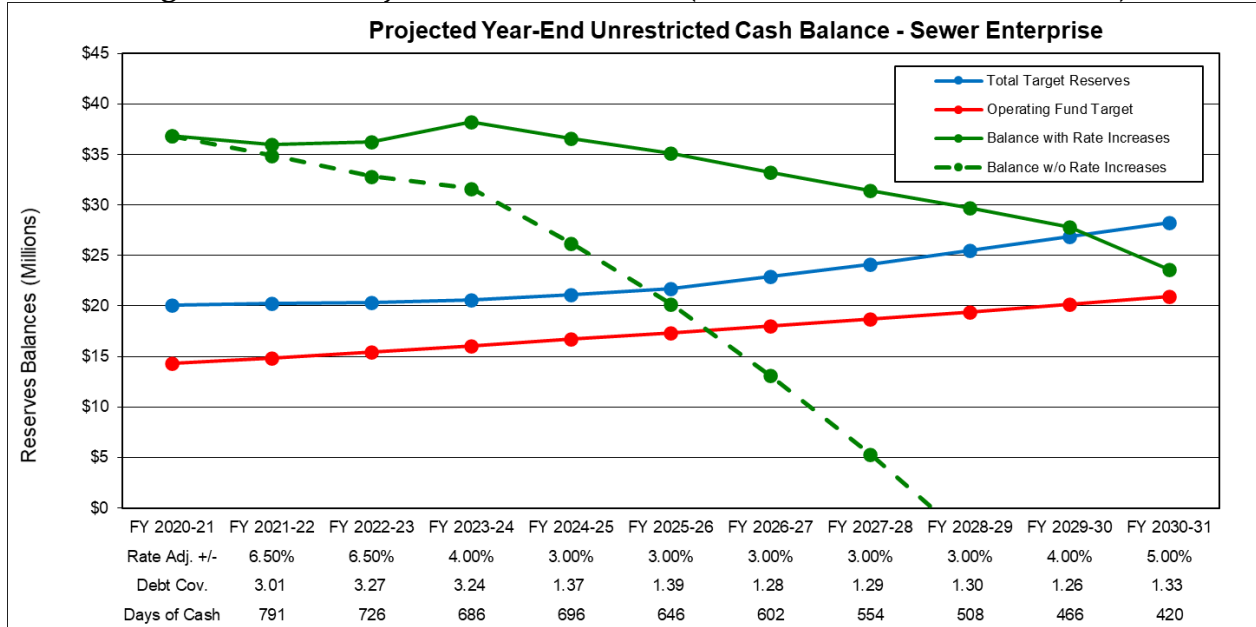


Model Table 4 Reserves
 Operating Fund Target: 6 months O&M costs
 Total Target Reserves: 6 months O&M costs plus 1-year average CIP PAYGo

Figure VII-3 shows the same projected fund balance with a 12-month Operating Reserve target, which shows that the fund balance stays above the higher target balance until near the end of the ten-year planning period. It has been recommended that the District revise

its reserve policy during the next two years. For present purposes, the proposed revenue increases get the fund balance headed in the general direction that is warranted. The proposed revenue increases will be able to accommodate a higher reserve target. However, the proposed revenue increases for the Sewer Fund are essential for maintaining adequate coverage. By doing so, the fund balance remains strong.

Figure VII-3. Projected Fund Balance (12-Month Minimum Reserve)



Model Table 4 Reserves

Operating Fund Target: 12 months O&M costs

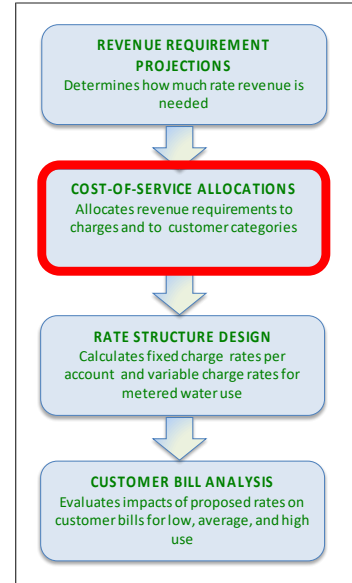
Total Target Reserves: 12 months O&M costs plus 1-year average CIP PAYGo

VIII. SEWER COST-OF-SERVICE ANALYSIS

The cost-of-service analysis for the Sewer Fund has the same general analytical steps that are found in the cost-of-service analysis for the Water Fund.

ANALYTICAL APPROACH

The sewer cost-of-service analysis differs from the water cost-of-service analysis because providing wastewater collection, treatment, and disposal services needs to account for the strength of wastewater, which is different from providing water service where peak demands and capacity are a primary consideration. The cost-of-service analysis in this report follows wastewater rate-making techniques promulgated by the Water Environment Federation, which is the wastewater industry’s equivalent to the American Water Works Association.



The analytical procedure contains the following steps:

1. **Cost classification** - Costs in the FY 2020-21 revenue requirement are classified into the service categories related to providing for customer wastewater loadings (i.e., hydraulic and strength) and for customer accounts. FY 2020-21 costs are used for the cost-of-service analysis because they are the most recent budget year.
2. **Cost allocation** - The classified costs are allocated to the functions associated with each service. For loading services, the volume of flow and the strength concentrations of BOD and TSS are the basis for allocating costs among customer classes. Costs related to customer service functions are allocated to customer accounts.

The classifications of major costs are summarized as follows:

Loading services

- Flow: collection system O&M and capital costs including lift stations and a portion of the cost of treatment by SOCWA.
- BOD: a portion of the cost of treatment by SOCWA.
- TSS: a portion of the cost of treatment by SOCWA.

Customer accounts

- Customer service: billing, accounting, customer service.

Composite services

- Indirect allocations for costs that are not directly related to specific service functions: personnel, overhead, non-operating revenue.

Working with District staff, the individual line items in the operating and capital budgets were classified into either the loading, customer accounts, and composite categories. The composite costs, which are not directly related to either the loading or customer accounts categories, are reallocated to those two categories based on a composite of their costs.

ALLOCATION FACTORS

The allocation factors that apply to the six different cost categories are summarized in **Table VIII-1**. Treatment costs by SOCWA are allocated across the Flow, BOD, and TSS categories based on estimates in the absence of allocations provided by SOCWA. The allocations are the same as were used in the 2016 rate study, which HF&H believes are reasonable. The same allocation percentages occur in SOCWA’s documentation. All collection system costs referred to as “Conveyance” are allocated entirely to Flow. All customer accounts costs are allocated entirely to Accounts. With those direct allocations, the subtotals of O&M and capital expenses are used to derive composite allocation factors whose combined subtotal is used to derive the overall expense composite.

Table VIII-1. Summary of Allocation Factors

Cost Allocation Factors	Accounts	Loading Services			Total
		Flow	BOD	TSS	
	a	b	c	d	e
1 Treatment	0.0%	50.0%	25.0%	25.0%	100.0%
2 Conveyance	0.0%	100.0%	0.0%	0.0%	100.0%
3 Accounts	100.0%	0.0%	0.0%	0.0%	100.0%
4 O&M Composite	6.2%	66.2%	13.8%	13.8%	100.0%
5 Capital Composite	6.4%	65.0%	14.3%	14.3%	100.0%
6 Expense Composite	6.3%	65.6%	14.0%	14.0%	100.0%

COST ALLOCATIONS

Tables VIII-2 and VIII-3 show the FY 2020-21 revenue requirement allocated into the loading and customer services. Each line item was classified with the assistance of District staff according to the associated function. The allocation factors that are summarized in **Table VIII-1** allocate the costs across the services based on the cost classification in column b in **Tables VIII-2 and VIII-3**. **Table VIII-2** also shows the O&M and Capital composite allocation percentages that are used in **Table VIII-3**.

Table VIII-2. Direct Allocations - O&M and Capital Expenses

REVENUE REQUIREMENT ALLOCATION	Rev. Req't 2020-21	Allocation Type	Cost Allocation			
			Accounts	Flow	BOD	TSS
	a	b	c	d	e	f
1 Operating Costs						
2 SOCWA Treatment	\$4,288,737	Treatment	\$0	\$2,144,369	\$1,072,184	\$1,072,184
3 Sewer Conveyance	\$3,007,751	Conveyance	\$0	\$3,007,751	\$0	\$0
4 Customer Accounts	\$485,158	Accounts	\$485,158	\$0	\$0	\$0
5 Subtotal	\$7,781,646		\$485,158	\$5,152,120	\$1,072,184	\$1,072,184
6 <i>O&M Composite</i>	<i>100%</i>		<i>6.2%</i>	<i>66.2%</i>	<i>13.8%</i>	<i>13.8%</i>
7 Capital Costs						
8 Existing Debt						
9 Sewer Conveyance	\$2,332,978	Conveyance	\$0	\$2,332,978	\$0	\$0
10 Customer Accounts	\$29,777	Accounts	\$29,777	\$0	\$0	\$0
11 Subtotal	\$2,362,755		\$29,777	\$2,332,978	\$0	\$0
12 Future Debt						
13 Sewer Conveyance	\$0	Conveyance	\$0	\$0	\$0	\$0
14 Customer Accounts	\$0	Accounts	\$0	\$0	\$0	\$0
15 Subtotal	\$0		\$0	\$0	\$0	\$0
16 PAYGo						
17 SOCWA Treatment	\$4,598,816	Treatment	\$0	\$2,299,408	\$1,149,704	\$1,149,704
18 Sewer Conveyance	\$608,226	Conveyance	\$0	\$608,226	\$0	\$0
19 Customer Accounts	\$489,275	Accounts	\$489,275	\$0	\$0	\$0
20 Subtotal	\$5,696,317		\$489,275	\$2,907,634	\$1,149,704	\$1,149,704
21 <i>Capital Composite</i>	<i>100%</i>		<i>6.4%</i>	<i>65.0%</i>	<i>14.3%</i>	<i>14.3%</i>
22 O&M and Capital Subtotal	\$15,840,718		\$1,004,210	\$10,392,732	\$2,221,888	\$2,221,888
23 <i>Expense Composite</i>	<i>100%</i>		<i>6.3%</i>	<i>65.6%</i>	<i>14.0%</i>	<i>14.0%</i>

Table VIII-3. Composite Allocations

REVENUE REQUIREMENT ALLOCATION	Rev. Req't 2020-21	Allocation Type	Cost Allocation			
			Accounts	Flow	BOD	TSS
1 Composite Costs						
2 Fleet	\$346,116	O&M Composite	\$21,579	\$229,159	\$47,689	\$47,689
3 Support Services	\$286,651	O&M Composite	\$17,872	\$189,788	\$39,496	\$39,496
4 O&M Cutback	\$0	O&M Composite	\$0	\$0	\$0	\$0
5 Facilities Maintenance	\$333,580	Capital Composite	\$21,485	\$216,919	\$47,588	\$47,588
6 Administration	\$169,840	Expense Composite	\$10,767	\$111,428	\$23,822	\$23,822
7 Board of Directors	\$140,205	Expense Composite	\$8,888	\$91,985	\$19,666	\$19,666
8 Engineering	\$1,158,539	Expense Composite	\$73,445	\$760,091	\$162,502	\$162,502
9 Environmental Health	\$286,902	Expense Composite	\$18,188	\$188,230	\$40,242	\$40,242
10 Executive	\$729,652	Expense Composite	\$46,256	\$478,708	\$102,344	\$102,344
11 Finance	\$836,934	Expense Composite	\$53,057	\$549,093	\$117,392	\$117,392
12 Human Resources	\$289,922	Expense Composite	\$18,379	\$190,211	\$40,666	\$40,666
13 Information Technology	\$999,929	Expense Composite	\$63,390	\$656,030	\$140,254	\$140,254
14 Non-Departmental	\$798,623	Expense Composite	\$50,628	\$523,958	\$112,018	\$112,018
15 Public Information	\$194,450	Expense Composite	\$12,327	\$127,574	\$27,274	\$27,274
16 Non-Rate Revenues	(\$4,374,988)	Expense Composite	(\$277,349)	(\$2,870,329)	(\$613,655)	(\$613,655)
17 Transfers to/(from):						
18 Operating Reserve	(\$1,044,666)	O&M Composite	(\$65,131)	(\$691,659)	(\$143,938)	(\$143,938)
19 Subtotal	\$1,151,688		\$73,779	\$751,185	\$163,362	\$163,362
20 Total Revenue Requirement	\$16,992,406		\$1,077,990	\$11,143,917	\$2,385,250	\$2,385,250

Unit costs of service will be calculated for each of the four cost categories. These unit costs will then be applied to the units of service associated with each class, as explained below.

UNITS OF SERVICE

The units of service for each customer class are required in order to calculate the unit costs of service, which are used to calculate each customer class’ share of the revenue requirement. The units of service for the Customer Accounts costs are accounts or dwelling units. For the loading services, the units of service are HCF and pounds of BOD and TSS. A mass balance was performed to improve the accuracy of some of the estimates that are required for lack of direct data for each class.

The mass balance is based on the total loading from the District received by SOCWA for treatment. The average of loadings at the Coastal and JB Latham treatment plants was used to determine the values on line 12 of **Table VIII-4**. Based on guidelines from the State Water Resources Control Board’s *Revenue Program Guidelines*, the commercial concentrations in column d were estimated. With the known flows from the customer classes, the residential BOD concentration was derived. The TSS concentrations were determined based on the total proportion of BOD and TSS on line 12 (TSS by class = BOD by class times 439/300)

Table VIII-4. Units of Service

	Accts/Units	Loading Services					
		Discharge		BOD	TSS	BOD	TSS
		(hcf)	(mgd)	(mg/l)	(mg/l)	(lbs/year)	(lbs/year)
	a	b	c	d	e	f	g
1 Residential							
2 Single Family Residences	11,765	759,763	1.557	249	364	1,179,183	1,725,538
3 Multiple Family Residences	7,471	266,734	0.547	249	364	413,981	605,793
4 Total Residential	19,236	1,026,497	2.104			1,593,164	2,331,330
5							
6 Commercial							
7 Low Strength	314	55,095	0.113	200	293	68,745	100,597
8 Medium Strength	195	183,679	0.376	500	732	572,963	838,436
9 High Strength	73	35,595	0.073	900	1,317	199,863	292,466
10 Total Commercial	582	274,369	0.562			841,571	1,231,499
11							
12 Units of Service	19,818	1,300,866	2.666	300	439	2,434,735	3,562,829

Model Table 10.

Cost of Service By Customer Class

In cost-of-service analysis, all customer classes are treated equally through the application of the same unit costs to all customers, which is the fundamental purpose of cost-of-service analysis. In this way, cost-of-service analysis proportionately distributes the

revenue requirement to customers without discrimination, after which rates can be designed to generate the revenue required to provide the necessary level of service to each class.

The cost of service corresponding to each of the four functions is calculated by dividing the functional costs in **Table VIII-3** by the units of service in **Table VIII-4**. The result is shown in **Table VIII-5**. The unit costs of service on row 7 are applied to the units of service for each customer class on rows 10 through 16 to determine each class' respective share of the revenue requirement for FY 2020-21.

Table VIII-5. Unit Costs of Service (FY 2020-21)

	Functional Allocations				Total
	Accts/DUs	Flow	BOD	TSS	
	a	b	c	d	e
1 Functional Costs					
2 Operating	\$485,158	\$5,152,120	\$1,072,184	\$1,072,184	\$7,781,646
3 Capital Costs	\$519,052	\$5,240,612	\$1,149,704	\$1,149,704	\$8,059,072
4 Composite	\$73,779	\$751,185	\$163,362	\$163,362	\$1,151,688
5	\$1,077,990	\$11,143,917	\$2,385,250	\$2,385,250	\$16,992,406
6 Units of Service - Total	19,818	1,300,866	2,434,735	3,562,829	
7 Unit Cost of Service	\$54.39	\$8.57	\$0.98	\$0.67	
8	per acct/unit	per hcf	per lb	per lb	
9 Units of Service					
10 Single Family	11,765	759,763	1,179,183	1,725,538	
11 Multi Family	7,471	266,734	413,981	605,793	
12 Commercial					
13 Low Strength	314	55,095	68,745	100,597	
14 Medium Strength	195	183,679	572,963	838,436	
15 High Strength	73	35,595	199,863	292,466	
16 Total Commercial	582	274,369	841,571	1,231,499	
17	19,818	1,300,866	2,434,735	3,562,829	
18					
19 Cost of Service					
20 Single Family	\$639,951	\$6,508,541	\$1,155,216	\$1,155,216	\$9,458,925
21 Multi Family	\$406,381	\$2,284,984	\$405,567	\$405,567	\$3,502,500
22 Commercial					
23 Low Strength	\$17,080	\$471,975	\$67,348	\$67,348	\$623,750
24 Medium Strength	\$10,607	\$1,573,490	\$561,318	\$561,318	\$2,706,733
25 High Strength	\$3,971	\$304,927	\$195,800	\$195,800	\$700,499
26 Total Commercial	\$31,658	\$2,350,392	\$824,466	\$824,466	\$4,030,982
27	\$1,077,990	\$11,143,917	\$2,385,250	\$2,385,250	\$16,992,406

Model Table 11.

The results of the updated cost-of-service analysis for FY 2020-21 shown in **Table VIII-5** (column e, rows 20 through 26) are compared with the revenue from current rates in **Table VIII-6**. Updating the loadings for each customer class shifts cost from the multi family and commercial classes to the single family class.

Table VIII-6. Customer Class Allocations

		FY 2020-21	FY 2020-21		
		Revenue	COS	\$ Change	% Change
		a	b	c=b-a	d=c/a
1	Single Family	\$8,990,496	\$9,458,925	\$468,429	5.2%
2					
3	Multi Family	\$3,909,812	\$3,502,500	(\$407,313)	-10.4%
4					
5	Commercial				
6	Low Strength	\$714,611	\$623,750	(\$90,861)	-12.7%
7	Medium Strength	\$2,701,350	\$2,706,733	\$5,383	0.2%
8	High Strength	\$676,137	\$700,499	\$24,362	3.6%
9	Subtotal	\$4,092,098	\$4,030,982	(\$61,116)	-1.5%
10	Total	\$16,992,406	\$16,992,406	\$0	0.0%

IX. SEWER RATE DESIGN

This rate analysis recommends adjustments to the rates without making any changes to the rate structure, *per se*. This structure, including the customer classes, has been in place since the previous rate study in 2016. Residential rates are charged flat rates per dwelling unit, which is a common industry practice. The variable rates for multi family and commercial customers is also a common industry practice that should be continued at the District.

CURRENT RATE STRUCTURE

Table IX-1 summarizes the District’s current rates for its three charges. Generally speaking, service charge rates are billed annually on the tax rolls. The single family blocks are based on each customer’s winter quarter (i.e., December through February) average (WQA) metered water use. A single family customers’ WQA determines in which block the customer will be billed.¹⁴ Variable charge rates for multi family and commercial customers are billed monthly by the District based on each customer’s metered water use.

Table IX-1. Current Sewer Rates

Customer Class	Current Rate FY 2020-21
	a
1 Service Charges (annual., per account)	
2 Single Family Residential	
3 Block 1 (0-5 hcf)	\$696.00
4 Block 2 (6-10 hcf)	\$758.00
5 Block 3 (11+ hcf)	\$868.00
6	
7 Multi Family Residential	\$453.25
8	
9 Variable Rates (monthly, \$/hcf)	
10 Multi Family Residential	\$1.30
11 Commercial	
12 Low Strength	\$8.59
13 Medium Strength	\$9.74
14 High Strength	\$12.58

¹⁴ This block structure is not a tiered structure like the District’s water rates.

SERVICE CHARGE AND VARIABLE CHARGE RATES

It has been the District's practice to derive single and multi family residential rates so that the majority of the cost is covered by a fixed component, which is consistent with the fact that the majority of a sewer system's collection system cost is fixed. In the District's case, 85% of the costs are covered by the fixed component and 15% by the variable component. For single family customers, the variable component differentiates between the annual charges for each of the three blocks, which represent average annual flows per block. For multi family customers, the variable component varies by individual customer from month to month. Commercial customers do not have separate fixed and variable rate components. Instead, all of the cost is covered by the variable component, which varies by commercial class depending on the strength of the flow for the class.

Table IX-2 shows how the costs allocated to each class are apportioned between their respective fixed and variable rate components.

Table IX-2. Fixed and Variable Rate Components

	FY 2020-21 COS	FY 2021-22 COS	Fixed Portion	Variable Portion	Fixed Cost	Variable Cost
	a	b	c	d	e=b*c	f=b*d
1 Single Family	\$9,458,925	\$10,073,755	85%	15%	\$8,562,691	\$1,511,063
2 Multi Family	\$3,502,500	\$3,730,162	85%	15%	\$3,170,638	\$559,524
3 Commercial						
4 Low Strength	\$623,750	\$664,294	0%	100%	\$0	\$664,294
5 Medium Strength	\$2,706,733	\$2,882,671	0%	100%	\$0	\$2,882,671
6 High Strength	\$700,499	\$746,032	0%	100%	\$0	\$746,032
7 Subtotal	\$4,030,982	\$4,292,996			\$0	\$4,292,996
8 Total	\$16,992,406	\$18,096,913			\$11,733,329	\$6,363,583

Based on the apportionment in **Table IX-2**, the rates for each charge for the customer classes are derived in **Table IX-3**. These FY 2021-22 rates reflect the cost-of-service adjustments and the 6.5% revenue increase. The rates for FY 2021-22 and FY 2022-23 are summarized in **Table IX-4**, which also shows the year-over-year change. The changes vary by customer class for FY 2021-22 because of the cost-of-service adjustments, which shifted cost away from multi family and low strength commercial customers to the other classes.

Table IX-3. Calculation of Service and Variable Charge Rates - FY 2021-22

Fixed and Variable Rate Calculations (FY 2021-22 With Revenue Increase)							
	a	b	c	d	e	f	g
1 Single Family							
2 Allocated Costs	\$8,562,691	fixed portion			\$1,511,063	variable portion	
3 Units of Service	11,765	accounts			1,147,206	hcf	
4 Unit Costs of Service	\$727.81	per account			\$1.32	per hcf	
5							
6	Fixed				Variable Portion	Variable	Total Charge
7	Portion	Annual HCF	Accounts	HCF/Account	(\$/HCF)	Portion	(per Acct)
8							
9 Block 1 (0-5 HCF)	\$727.81	153,690	4,357	35	\$1.32	\$46.46	\$774.27
10 Block 2 (6-10 HCF)	\$727.81	379,889	4,292	89	\$1.32	\$116.58	\$844.39
11 Block 3 (11+ HCF)	\$727.81	613,627	3,116	197	\$1.32	\$259.39	\$987.20
12		1,147,206	11,765				
	Fixed Rate				Variable Rate		
	Per DU				(\$/HCF)		
13 Multi Family							
14 Allocated Costs	\$3,170,638	fixed portion			\$559,524	variable portion	
15 Units of Service	7,471	dwelling units			402,755	hcf	
16 Unit Costs of Service	\$424.39	per dwelling unit			\$1.39	per hcf	
	Allocated				Variable Rate		
	Costs	Annual HCF			(\$/HCF)		
17 Commercial							
18 Low Strength	\$664,294	83,191	hcf		\$7.99		
19 Medium Strength	\$2,882,671	277,346	hcf		\$10.39		
20 High Strength	\$746,032	53,747	hcf		\$13.88		
21	\$4,292,996	414,284	hcf				

Model Table 11. Units of service from Table 5-2. Unit costs from Table 5-3.

Table IX-4. Summary of Proposed Sewer Rates

Customer Class	Current Rate	Proposed Rates					
	FY 2020-21	FY 2021-22	\$ Change	% Change	FY 2022-23	\$ Change	% Change
	a	b	c=b-a	d=c/a	e	f=e-b	g=f/b
1 Service Charges (annual., per account)							
2 Single Family Residential							
3 Block 1 (0-5 hcf)	\$696.00	\$774.27	\$78.27	11.2%	\$824.60	\$50.33	6.5%
4 Block 2 (6-10 hcf)	\$758.00	\$844.39	\$86.39	11.4%	\$899.28	\$54.89	6.5%
5 Block 3 (11+ hcf)	\$868.00	\$987.20	\$119.20	13.7%	\$1,051.37	\$64.17	6.5%
6							
7 Multi Family Residential	\$453.25	\$424.39	(\$28.86)	-6.4%	\$451.98	\$27.59	6.5%
8							
9 Variable Rates (monthly, \$/hcf)							
10 Multi Family Residential	\$1.30	\$1.39	\$0.09	6.9%	\$1.48	\$0.09	6.5%
11 Commercial							
12 Low Strength	\$8.59	\$7.99	(\$0.60)	-7.0%	\$8.50	\$0.52	6.5%
13 Medium Strength	\$9.74	\$10.39	\$0.65	6.7%	\$11.07	\$0.68	6.5%
14 High Strength	\$12.58	\$13.88	\$1.30	10.3%	\$14.78	\$0.90	6.5%

X. SEWER CUSTOMER COST IMPACTS

As with the comparison of monthly water “bills,” the comparison of monthly sewer “bills” requires the conversion of annual charges to monthly equivalents. As a result, the monthly comparison is better called a *cost* comparison than a *bill* comparison. The comparison is made for the typical sewer customers in the single family, multi family and commercial classes. No comparison is made for potable irrigation and recycled water customers because these two classes do not receive sewer service.

The monthly costs for the proposed rates for FY 2021-22 and FY 2022-23 are compared in **Table X-1** with what the monthly cost would be under the current rates (i.e., without rate increases).

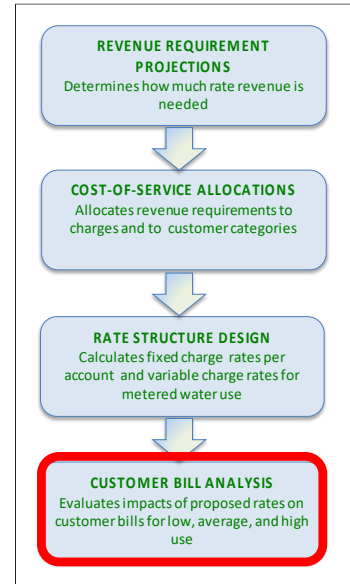


Table X-1. Sample Sewer Cost Impacts

	Residential			Non Residential
	Single Family [1]	Single Family [2]	Multi Family [3]	Commercial [4]
a	b	c	d	e
Projected Combined Monthly Cost				
1 FY 2020-21 Monthly Cost	\$58.00	\$63.17	\$217.45	\$584.40
2 FY 2021-22 Monthly Cost	\$64.52	\$70.37	\$207.39	\$623.63
3 FY 2022-23 Monthly Cost	\$68.72	\$74.94	\$220.87	\$664.16
Difference				
4 \$ Difference (row 2-row 1)	\$6.52	\$7.20	(\$10.06)	\$39.23
5 \$ Difference (row 3-row 2)	\$4.19	\$4.57	\$13.48	\$40.54
6 % Difference (row 2/row 1)	11.2%	11.4%	-4.6%	6.7%
7 % Difference (row 3/row 2)	6.5%	6.5%	6.5%	6.5%

[1] 3 HCF winter quarter average per month - Block 2 Sewer Category

[2] 7 HCF winter quarter average per month - Block 2 Sewer Category

[3] 5 dwelling units per Multi Family connection

[4] Average Commercial water use, medium strength sewer customer



WATER, RECYCLED WATER, AND SEWER RATE STUDY

APPENDIX

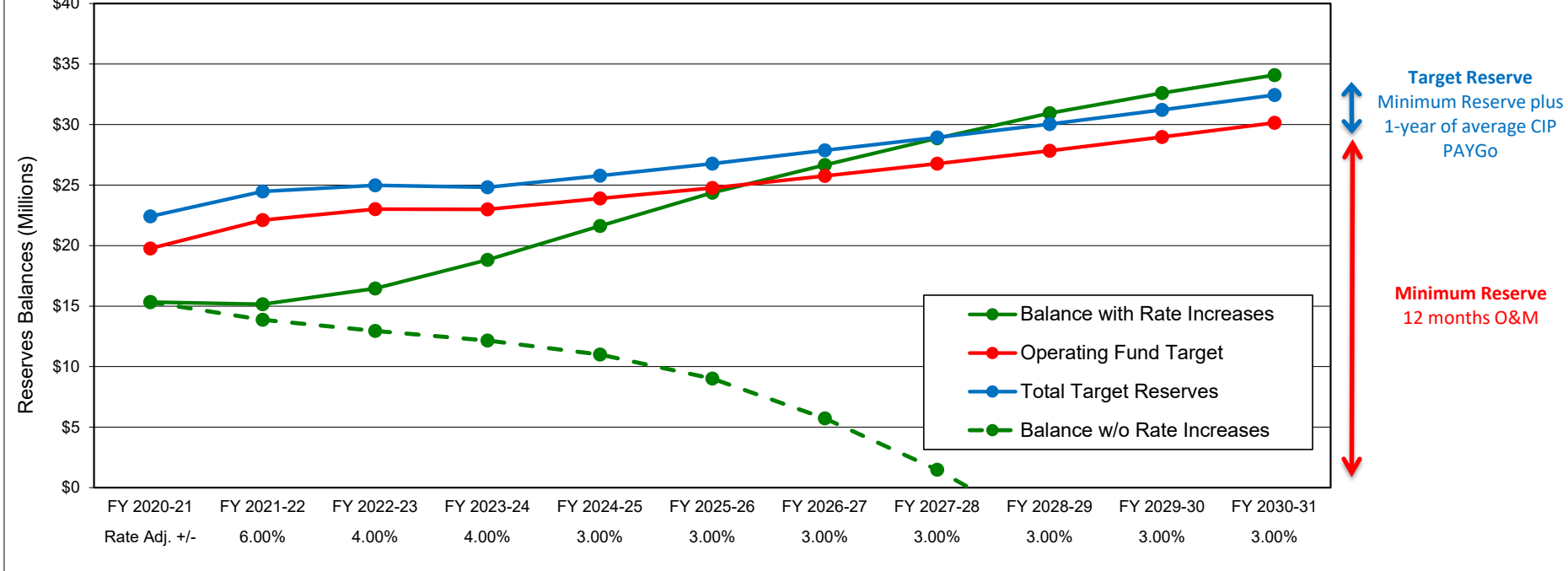
- A. WATER RATE MODEL**
- B. SEWER RATE MODEL**

Appendix A

Water Rate Model

	A	B	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District											
2	Financial Planning Tool - Water											
3	Table 1A - Summary											
4												
5									Projected			
6												
7	Annual Rate Revenue Increases	Eff. Date	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
8	Rate Revenue Increase		6.00%	4.00%	4.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
10	Debt Coverage Ratio		2.65	2.72	2.27	2.27	2.29	2.28	2.27	2.26	1.98	1.95
11	Days of Cash		261.54	244.59	255.25	280.81	313.07	342.66	363.90	382.48	398.22	407.28

Projected Year-End Unrestricted Cash Balance - Water Enterprise



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
2	Financial Planning Tool - Water												
3	Table 1B - Assumptions												
4													
5													
6	Inflation Factor Assumptions used for projections:												
7		Budget					Projected						
8		FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	
9	a	Growth in accounts	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
10	b	General Inflation	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%
11	c	Salaries & Wages	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
12	d	Benefits (non PERS)	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
13	e	Construction Cost Inflation	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
14	f	Interest on Fund Balance	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
15	g	Bad debt as % of rate revenue	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
18	j	Utilities	9.8%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
19	k	Recycled Water Account Growth	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
20	l	Water Costs	3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
21	m	PERS % of Labor	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District												
2	Financial Planning Tool - Water												
3	Table 2 - Revenue Requirements												
4													
5		Inflation	Budgeted						Projected				
6		Factor	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
7	Operating Expenses												
8	Salaries	c	\$5,331,974	\$5,598,573	\$5,878,501	\$6,172,426	\$6,481,048	\$6,805,100	\$7,145,355	\$7,502,623	\$7,877,754	\$8,271,642	\$8,685,224
9	Part Time Salaries	c	\$193,132	\$202,789	\$212,928	\$223,574	\$234,753	\$246,491	\$258,815	\$271,756	\$285,344	\$299,611	\$314,592
10	Overtime Salary	c	\$283,347	\$297,514	\$312,390	\$328,010	\$344,410	\$361,631	\$379,712	\$398,668	\$418,633	\$439,564	\$461,542
11	PERS Employer Contribution	d	\$499,173	\$464,777	\$698,016	\$732,917	\$769,563	\$808,041	\$848,443	\$890,865	\$935,409	\$982,179	\$1,031,288
12	Medicare	d	\$79,244	\$83,206	\$87,367	\$91,735	\$96,322	\$101,138	\$106,195	\$111,504	\$117,079	\$122,933	\$129,800
13	Social Security	c	\$15,056	\$15,809	\$16,599	\$17,429	\$18,301	\$19,216	\$20,176	\$21,185	\$22,245	\$23,357	\$24,520
14	Medical Dental Vision	d	\$769,398	\$807,868	\$848,261	\$890,674	\$935,208	\$981,968	\$1,031,067	\$1,082,620	\$1,136,751	\$1,193,589	\$1,253,268
15	Life Disability Insurance	d	\$20,251	\$21,264	\$22,327	\$23,443	\$24,615	\$25,846	\$27,138	\$28,495	\$29,920	\$31,416	\$32,987
16	Workers Compensation	d	\$154,846	\$162,588	\$170,718	\$179,254	\$188,216	\$197,627	\$207,508	\$217,884	\$228,778	\$240,217	\$252,228
17	Unemployment Insurance	d	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
18	457 Plan Matching	d	\$55,908	\$58,703	\$61,639	\$64,720	\$67,957	\$71,354	\$74,922	\$78,668	\$82,602	\$86,732	\$91,068
19	PERS UAL Contribution	b	\$370,103	\$429,210	\$461,623	\$498,029	\$514,202	\$527,567	\$541,296	\$555,405	\$569,901	\$584,797	\$600,102
20	OPEB Contribution	b	\$71,250	\$262,500	\$262,500	\$262,500	\$262,500	\$262,500	\$262,500	\$262,500	\$262,500	\$262,500	\$262,500
21	Materials	b	\$406,243	\$417,617	\$429,311	\$441,331	\$453,689	\$466,392	\$479,451	\$492,875	\$506,676	\$520,863	\$535,447
22	Chemicals	b	\$120,000	\$123,360	\$126,814	\$130,365	\$134,015	\$137,768	\$141,625	\$145,591	\$149,667	\$153,858	\$158,166
23	Lubricants	b	\$5,632	\$5,790	\$5,952	\$6,118	\$6,290	\$6,466	\$6,647	\$6,833	\$7,024	\$7,221	\$7,423
24	Laboratory Tests	b	\$121,000	\$124,388	\$127,871	\$131,451	\$135,132	\$138,916	\$142,805	\$146,804	\$150,914	\$155,140	\$159,484
25	Electric Power	j	\$534,375	\$550,406	\$566,918	\$583,926	\$601,444	\$619,487	\$638,072	\$657,214	\$676,930	\$697,238	\$718,155
26	Water	b	\$33,158	\$34,086	\$35,041	\$36,022	\$37,031	\$38,067	\$39,133	\$40,229	\$41,355	\$42,513	\$43,704
27	Telephone	b	\$185,608	\$190,805	\$196,148	\$201,640	\$207,286	\$213,090	\$219,056	\$225,190	\$231,495	\$237,977	\$244,640
28	Permits and Fees	b	\$75,713	\$77,832	\$80,012	\$82,250	\$84,555	\$86,923	\$89,357	\$91,859	\$94,431	\$97,075	\$99,793
29	Outside Services	b	\$611,370	\$628,488	\$646,086	\$664,176	\$682,773	\$701,891	\$721,544	\$741,747	\$762,516	\$783,867	\$805,815
30	SCADA Maintenance	b	\$21,258	\$22,465	\$23,712	\$25,004	\$26,341	\$27,726	\$29,158	\$30,638	\$32,164	\$33,736	\$35,355
31	Small Tools and Equipment	b	\$75,719	\$77,839	\$80,019	\$82,259	\$84,562	\$86,930	\$89,364	\$91,866	\$94,439	\$97,083	\$99,801
32	Equipment Rental	b	\$5,000	\$5,140	\$5,284	\$5,432	\$5,584	\$5,740	\$5,901	\$6,066	\$6,236	\$6,411	\$6,590
33	Office Supplies	b	\$16,635	\$17,101	\$17,580	\$18,072	\$18,578	\$19,098	\$19,633	\$20,183	\$20,748	\$21,329	\$21,926
34	Uniforms/Safety Boots	b	\$42,884	\$44,084	\$45,319	\$46,588	\$47,892	\$49,233	\$50,611	\$52,029	\$53,485	\$54,983	\$56,523
35	Printing and Reproduction	b	\$58,181	\$59,810	\$61,485	\$63,206	\$64,976	\$66,795	\$68,666	\$70,588	\$72,565	\$74,597	\$76,685
36	Office Furniture/Equipment	b	\$19,573	\$20,121	\$20,684	\$21,263	\$21,858	\$22,470	\$23,107	\$23,772	\$24,464	\$25,184	\$25,937
37	Repairs and Maintenance	b	\$1,026,366	\$1,055,104	\$1,084,647	\$1,115,017	\$1,146,238	\$1,178,332	\$1,211,326	\$1,245,243	\$1,280,110	\$1,315,953	\$1,352,799
38	Refuse and Waste Hauling	b	\$13,925	\$14,315	\$14,716	\$15,128	\$15,551	\$15,987	\$16,434	\$16,895	\$17,368	\$17,854	\$18,354
39	Natural Gas	b	\$900	\$925	\$951	\$978	\$1,005	\$1,033	\$1,062	\$1,092	\$1,123	\$1,154	\$1,186
40	Catholic Protect Inspecti Svc	b	\$6,000	\$6,168	\$6,341	\$6,518	\$6,705	\$6,898	\$7,097	\$7,301	\$7,511	\$7,727	\$7,948
41	Temporary Services	b	\$14,013	\$14,405	\$14,808	\$15,223	\$15,649	\$16,087	\$16,538	\$17,001	\$17,477	\$17,966	\$18,469
42	Emergency Repairs/Response	b	\$202,613	\$208,286	\$214,118	\$220,113	\$226,276	\$232,612	\$239,125	\$245,820	\$252,703	\$259,779	\$267,053
43	Water Conservation Program	b	\$70,000	\$71,960	\$73,975	\$76,046	\$78,175	\$80,364	\$82,615	\$84,928	\$87,306	\$89,750	\$92,263
44	Membership dues and fees	b	\$41,828	\$42,999	\$44,203	\$45,441	\$46,713	\$48,021	\$49,366	\$50,748	\$52,169	\$53,630	\$55,131
45	Postage	b	\$13,135	\$13,503	\$13,881	\$14,270	\$14,669	\$15,080	\$15,502	\$15,936	\$16,382	\$16,841	\$17,313
46	Subscriptions/Publications	b	\$7,917	\$8,138	\$8,366	\$8,601	\$8,841	\$9,089	\$9,343	\$9,603	\$9,871	\$10,145	\$10,435
47	Training	b	\$83,496	\$85,834	\$88,238	\$90,708	\$93,248	\$95,859	\$98,543	\$101,302	\$104,139	\$107,055	\$110,052
48	Mileage Reimbursements	b	\$3,219	\$3,309	\$3,402	\$3,497	\$3,595	\$3,696	\$3,799	\$3,906	\$4,015	\$4,128	\$4,243
49	Underground Utility Location	b	\$10,570	\$11,051	\$11,561	\$12,099	\$12,666	\$13,262	\$13,887	\$14,541	\$15,224	\$15,936	\$16,678
50	Leak Detection Svcs	b	\$12,000	\$12,336	\$12,681	\$13,036	\$13,402	\$13,777	\$14,163	\$14,559	\$14,967	\$15,386	\$15,817
51	Corrosion Inspection and Repai	b	\$15,000	\$15,420	\$15,852	\$16,296	\$16,752	\$17,221	\$17,703	\$18,199	\$18,708	\$19,231	\$19,771
52	Laguna Canyon Line - SOS	b	\$80,000	\$82,240	\$84,543	\$86,910	\$89,343	\$91,845	\$94,417	\$97,060	\$99,778	\$102,572	\$105,444
53	Laguna Sur Reservoir SOS	b	\$3,500	\$3,598	\$3,699	\$3,802	\$3,909	\$4,018	\$4,131	\$4,246	\$4,365	\$4,488	\$4,613
54	City of San Clemente	b	\$15,000	\$15,420	\$15,852	\$16,296	\$16,752	\$17,221	\$17,703	\$18,199	\$18,708	\$19,231	\$19,771
55	Worker Incentive Awards	b	\$25,000	\$25,700	\$26,420	\$27,159	\$27,920	\$28,702	\$29,505	\$30,331	\$31,181	\$32,054	\$32,951
56	Computer Supplies/Equipment	b	\$69,600	\$71,549	\$73,552	\$75,619	\$77,752	\$79,955	\$82,238	\$84,601	\$87,053	\$89,595	\$92,227
57	Software Maint Agreements	b	\$411,674	\$423,201	\$435,050	\$447,232	\$459,754	\$472,628	\$485,861	\$499,465	\$513,450	\$527,827	\$542,606
58	Parts and Supplies	b	\$14,250	\$14,649	\$15,059	\$15,481	\$15,914	\$16,360	\$16,818	\$17,289	\$17,773	\$18,271	\$18,784
59	Employee Relations/Events	b	\$10,925	\$11,231	\$11,545	\$11,869	\$12,201	\$12,543	\$12,894	\$13,255	\$13,626	\$14,007	\$14,400
60	Consulting and Professional Sv	b	\$424,743	\$436,635	\$448,861	\$461,429	\$474,349	\$487,631	\$501,285	\$515,321	\$529,750	\$544,583	\$559,831
61	Recruiting and Advertising	b	\$2,442	\$2,512	\$2,589	\$2,672	\$2,760	\$2,852	\$2,948	\$3,048	\$3,151	\$3,257	\$3,366
62	Certifications	b	\$7,078	\$7,276	\$7,479	\$7,689	\$7,904	\$8,125	\$8,353	\$8,587	\$8,827	\$9,074	\$9,328
63	Elections	b	\$19,000	\$19,532	\$20,079	\$20,641	\$21,219	\$21,813	\$22,424	\$23,057	\$23,713	\$24,392	\$25,094
64	City of Dana Point Rent	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
65	South Laguna Representation	b	\$7,125	\$7,325	\$7,530	\$7,740	\$7,957	\$8,180	\$8,409	\$8,644	\$8,886	\$9,135	\$9,391
66	Sponsorships	b	\$11,875	\$12,208	\$12,549	\$12,901	\$13,262	\$13,633	\$14,015	\$14,407	\$14,811	\$15,226	\$15,652
67	Grant Writing	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
68	MWDOC Choice Program	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
69	Legal Services	b	\$315,875	\$324,720	\$333,812	\$343,158	\$352,767	\$362,644	\$372,798	\$383,237	\$393,967	\$404,998	\$416,338
70	Agency Contributions	b	\$13,538	\$13,917	\$14,307	\$14,707	\$15,119	\$15,542	\$15,978	\$16,425	\$16,885	\$17,358	\$17,844
71	Social Media	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
72	Promotion	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
73	Air Quality Compliance	b	\$7,838	\$8,057	\$8,283	\$8,514	\$8,753	\$8,998	\$9,250	\$9,509	\$9,775	\$10,049	\$10,330
74	Safety and Regulatory compl	b	\$29,118	\$29,933	\$30,771	\$31,632	\$32,518	\$33,429	\$34,365	\$35,327	\$36,316	\$37,333	\$38,378
75	AMI Cellular	b	\$15,892	\$16,337	\$16,794	\$17,264	\$17,748	\$18,245	\$18,756	\$19,281	\$19,821	\$20,376	\$20,946
76	Property Tax Collection Chrgs	b	\$16,800	\$17,270	\$17,754	\$18,251	\$18,762	\$19,287	\$19,828	\$20,383	\$20,953	\$21,540	\$22,143
77	Bad Debt Expense	b	\$2,640	\$2,714	\$2,790	\$2,868	\$2,948	\$3,031	\$3,116	\$3,203	\$3,293	\$3,385	\$3,480
78	Auditing and Accounting Svcs	b	\$19,000	\$19,532	\$20,079	\$20,641	\$21,219	\$21,813	\$22,424	\$23,057	\$23,713	\$24,392	\$25,094
79	Banking Fees	b	\$67,125	\$69,005	\$70,937	\$72,923	\$74,965	\$77,064	\$79,217	\$81,424	\$83,720	\$86,064	\$88,474
80	Fiscal Agent Fees	b	\$5,225	\$5,371	\$5,522	\$5							

	A	B	C	D	E	F	G	H	I	J	K	L	M
105	Water Purchase CM10SO		\$0										
106	Water Purchase Mndtd Fees		\$350,000										
107	Water Purchase SDCW		\$0										
108	Future Water Supply		\$0	\$6,368,516	\$6,664,320	\$6,840,410	\$7,110,517	\$7,307,303	\$7,585,643	\$7,872,630	\$8,180,984	\$8,513,906	\$8,862,307
109	Planned O&M Cutback		\$0	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)
110		Total O&M	\$19,762,205	\$22,100,999	\$23,009,026	\$22,986,305	\$23,903,475	\$24,771,813	\$25,750,611	\$26,768,281	\$27,838,916	\$28,967,162	\$30,145,437
111		Total Operating Costs	\$19,762,205	\$22,100,999	\$23,009,026	\$22,986,305	\$23,903,475	\$24,771,813	\$25,750,611	\$26,768,281	\$27,838,916	\$28,967,162	\$30,145,437
114	Non-Rate Revenues												
115	Property Tax	b	(\$2,990,111)	(\$3,073,834)	(\$3,159,901)	(\$3,248,379)	(\$3,339,333)	(\$3,432,835)	(\$3,528,954)	(\$3,627,765)	(\$3,729,342)	(\$3,833,764)	(\$3,941,109)
116	Rental Income	b	(\$1,094,000)	(\$1,124,632)	(\$1,156,122)	(\$1,188,493)	(\$1,221,771)	(\$1,255,980)	(\$1,291,148)	(\$1,327,300)	(\$1,364,464)	(\$1,402,670)	(\$1,441,944)
117	Recreation Facilities	b	(\$197,200)	(\$202,722)	(\$208,398)	(\$214,233)	(\$220,231)	(\$226,398)	(\$232,737)	(\$239,254)	(\$245,953)	(\$252,840)	(\$259,919)
118	Other Revenues	b	(\$705,500)	(\$725,254)	(\$745,561)	(\$766,437)	(\$787,897)	(\$809,958)	(\$832,637)	(\$855,951)	(\$879,917)	(\$904,555)	(\$929,883)
119	Non-Operating Expenses/(Revenues)		(\$4,986,811)	(\$5,126,442)	(\$5,269,982)	(\$5,417,542)	(\$5,569,233)	(\$5,725,171)	(\$5,885,476)	(\$6,050,269)	(\$6,219,677)	(\$6,393,828)	(\$6,572,855)
120		Subtotal	14,775,394	\$16,974,557	\$17,739,044	\$17,568,764	18,334,243	\$19,046,642	\$19,865,135	\$20,718,011	\$21,619,239	\$22,573,334	\$23,572,582
122	Debt Service												
123	Total Water Debt Service		\$2,002,894	\$2,189,790	\$2,189,736	\$3,118,681	\$3,118,523	\$3,119,366	\$3,119,931	\$3,119,176	\$3,119,276	\$3,510,560	\$3,510,038
124		Total Debt Service	\$2,002,894	\$2,189,790	\$2,189,736	\$3,118,681	\$3,118,523	\$3,119,366	\$3,119,931	\$3,119,176	\$3,119,276	\$3,510,560	\$3,510,038
125	Transfers to/(from):												
126	Operating Reserves		\$1,969,596	\$1,067,913	\$1,622,770	\$1,945,464	\$1,867,744	\$1,785,799	\$1,628,718	\$1,540,400	\$1,427,273	\$895,276	\$715,919
127	Capital Reserves		\$2,644,548	\$2,380,391	\$1,966,973	\$1,827,777	\$1,875,461	\$2,001,552	\$2,119,729	\$2,159,532	\$2,199,094	\$2,238,358	\$2,297,266
128		Total Transfers	\$4,614,144	\$3,448,304	\$3,589,743	\$3,773,241	\$3,743,205	\$3,787,351	\$3,748,447	\$3,699,932	\$3,626,367	\$3,133,634	\$3,013,185
129													
130	Total Revenue Requirement		21,392,432	\$22,612,651	\$23,518,524	\$24,460,686	\$25,195,971	\$25,953,359	\$26,733,513	\$27,537,120	\$28,364,883	\$29,217,528	\$30,095,804
131		<i>Annual Change</i>		5.7%	4.0%	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
2	Financial Planning Tool - Water											
3	Table 2 - Water Supply Costs											
4												
5		Budgeted					Projected					
6		FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
7	Water Demand	5,519	5,520	5,521	5,522	5,523	5,525	5,526	5,527	5,528	5,529	5,530
8	Water Losses	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
9	Water Production Needed	5,690	5,691	5,692	5,693	5,694	5,695	5,697	5,698	5,699	5,700	5,701
10												
11	Groundwater (AF)	800	700	700	700	700	700	700	700	700	700	700
12	Desal Production	-	-	-	-	-	-	-	-	-	-	-
13	MWDOC Purchases	4,890	4,991	4,992	4,993	4,994	4,995	4,997	4,998	4,999	5,000	5,001
14		5,690	5,691	5,692	5,693	5,694	5,695	5,697	5,698	5,699	5,700	5,701
15		TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
16												
17	\$/AF per Source											
18	Met Low	\$1,220	\$1,276	\$1,335	\$1,370	\$1,409	\$1,433	\$1,469	\$1,505	\$1,545	\$1,591	\$1,639
19	Met Average	\$1,220	\$1,276	\$1,335	\$1,370	\$1,424	\$1,463	\$1,518	\$1,575	\$1,637	\$1,703	\$1,772
20	Met High	\$1,220	\$1,276	\$1,335	\$1,370	\$1,439	\$1,493	\$1,567	\$1,646	\$1,728	\$1,814	\$1,905
21	5 MGD Base Case	\$1,805	\$1,859	\$1,915	\$1,972	\$2,032	\$2,092	\$2,155	\$2,220	\$2,287	\$2,355	\$2,426
22	2 MGD Average	\$2,610	\$2,688	\$2,769	\$2,852	\$2,938	\$3,026	\$3,116	\$3,210	\$3,306	\$3,405	\$3,508
23	2 MGD Low	\$1,834	\$1,889	\$1,946	\$2,004	\$2,194	\$2,194	\$2,194	\$2,194	\$2,194	\$2,194	\$2,194
24	2 MGD High	\$2,032	\$2,093	\$2,156	\$2,220	\$2,431	\$2,431	\$2,431	\$2,431	\$2,431	\$2,431	\$2,431
25												
26	Water Supply Costs											
27	No Desal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
28	Met Average	\$5,965,800	\$6,368,516	\$6,664,320	\$6,840,410	\$7,110,517	\$7,307,303	\$7,585,643	\$7,872,630	\$8,180,984	\$8,513,906	\$8,862,307
29	Total Water Supply Costs	\$5,965,800	\$6,368,516	\$6,664,320	\$6,840,410	\$7,110,517	\$7,307,303	\$7,585,643	\$7,872,630	\$8,180,984	\$8,513,906	\$8,862,307

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District												
2	Financial Planning Tool - Water												
3	Table 3 - Revenue Increases												
4													
5													
6		Months											
7		Increase											
8		In Effect											
9													
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	A	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District												
2	Financial Planning Tool - Water												
3	Table 4 - Reserve Funds												
4		Days of Cash	262	245	255	281	313	343	364	382	398	407	
5		Debt Cov	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	
6		Rate Adj. +/-	6.00%	4.00%	4.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	
7		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
8	Operating Fund												
9	With Rate Increases												
10		Increase in Rate Revenue:	2.95%	6.0%	4.0%	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
11		Beginning Balance	\$13,161,012	\$15,272,066	\$16,498,039	\$18,293,904	\$20,432,035	\$22,513,438	\$24,533,300	\$26,415,495	\$28,227,752	\$29,944,439	\$31,143,636
12		Net Operating Gain/Loss	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
13		Transfers (to)/from:											
14		Revenue Requirements	\$1,969,596	\$1,067,913	\$1,622,770	\$1,945,464	\$1,867,744	\$1,785,799	\$1,628,718	\$1,540,400	\$1,427,273	\$895,276	\$715,919
15		Capital Reserve	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16		Fund Subtotal	\$15,130,608	\$16,339,979	\$18,120,810	\$20,239,368	\$22,299,779	\$24,299,236	\$26,162,018	\$27,955,895	\$29,655,025	\$30,839,715	\$31,859,554
17		Estimated Interest Earnings	\$141,458	\$158,060	\$173,094	\$192,666	\$213,659	\$234,063	\$253,477	\$271,857	\$289,414	\$303,921	\$315,016
18		Ending Balance with Rate Increase	\$13,161,012	\$15,272,066	\$16,498,039	\$18,293,904	\$20,432,035	\$22,513,438	\$24,533,300	\$26,415,495	\$28,227,752	\$29,944,439	\$31,143,636
19		Target Balance	\$19,762,205	\$19,762,205	\$22,100,999	\$23,009,026	\$22,986,305	\$23,903,475	\$24,771,813	\$25,750,611	\$26,768,281	\$27,838,916	\$28,967,162
20		Fund Balance Compared to Minimum		77%	75%	80%	89%	94%	99%	103%	105%	108%	107%
21													
22													
23													
24	Capital Reserve												
25		Beginning Balance	\$0	\$56,673	(\$1,344,825)	(\$1,846,822)	(\$1,613,554)	(\$902,307)	(\$168,129)	\$237,146	\$627,992	\$1,002,266	\$1,458,197
26		Connection Fees	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000
27		Capital Projects Expenditures (PAYGO)	(\$2,913,157)	(\$4,106,889)	(\$2,793,970)	(\$1,919,509)	(\$1,489,214)	(\$1,592,375)	(\$2,039,797)	(\$2,097,991)	(\$2,157,930)	(\$2,119,668)	(\$2,183,258)
28		Cash Needs for SRF Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29		Transfers (to)/from:											
30		Revenue Requirements	\$2,644,548	\$2,380,391	\$1,966,973	\$1,827,777	\$1,875,461	\$2,001,552	\$2,119,729	\$2,159,532	\$2,199,094	\$2,238,358	\$2,297,266
31		Operating Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
32		Fund Subtotal	\$56,391	(\$1,344,825)	(\$1,846,822)	(\$1,613,554)	(\$902,307)	(\$168,129)	\$236,803	\$623,688	\$994,155	\$1,445,956	\$1,897,205
33		Estimated interest earnings	\$282	\$0	\$0	\$0	\$0	\$0	\$343	\$4,304	\$8,111	\$12,241	\$16,777
34		Ending Balance	\$0	\$56,673	(\$1,344,825)	(\$1,846,822)	(\$1,613,554)	(\$902,307)	(\$168,129)	\$237,146	\$627,992	\$1,002,266	\$1,458,197
35		Target Balance	\$2,644,548	\$2,644,548	\$2,380,391	\$1,966,973	\$1,827,777	\$1,875,461	\$2,001,552	\$2,119,729	\$2,159,532	\$2,199,094	\$2,238,358
36		Fund Balance Compared to Target		2%	-56%	-94%	-88%	-48%	-8%	11%	29%	46%	65%
37													
38													
39	Operating Fund												
40	Without Rate Increases												
41		Increase in Rate Revenue:	3.0%	6.0%	4.0%	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
42		Beginning Balance	\$13,161,012	\$15,272,066	\$15,211,678	\$14,799,162	\$13,761,201	\$11,897,036	\$9,171,946	\$5,478,931	\$853,848	(\$4,742,390)	(\$11,722,030)
43		Transfer to/(from) Operating Fund	\$0	(\$1,279,961)	(\$2,184,594)	(\$3,125,517)	(\$3,859,562)	(\$4,615,709)	(\$5,394,624)	(\$6,196,989)	(\$7,023,511)	(\$7,874,916)	(\$8,751,951)
44		Transfers (to)/from:											
45		Capital Reserve	\$1,969,596	\$1,067,913	\$1,622,770	\$1,945,464	\$1,867,744	\$1,785,799	\$1,628,718	\$1,540,400	\$1,427,273	\$895,276	\$715,919
46		Fund Subtotal	\$15,130,608	\$15,060,018	\$14,649,854	\$13,619,109	\$11,769,383	\$9,067,125	\$5,406,041	\$822,342	(\$4,742,390)	(\$11,722,030)	(\$19,758,062)
47		Estimated Interest Earnings	\$141,458	\$151,660	\$149,308	\$142,091	\$127,653	\$104,821	\$72,890	\$31,506	\$0	\$0	\$0
48		Ending Balance with Rate Increase	\$13,161,012	\$15,272,066	\$15,211,678	\$14,799,162	\$13,761,201	\$11,897,036	\$9,171,946	\$5,478,931	\$853,848	(\$4,742,390)	(\$11,722,030)
49		Target Balance	\$19,762,205	\$19,762,205	\$22,100,999	\$23,009,026	\$22,986,305	\$23,903,475	\$24,771,813	\$25,750,611	\$26,768,281	\$27,838,916	\$28,967,162
50		Fund Balance Compared to Minimum		77%	69%	64%	60%	50%	37%	21%	3%	-17%	-40%
51													
52													
53													
54	Reserve Funds												
55		Balance with Rate Increases	\$13,161,012	\$15,328,739	\$15,153,215	\$16,447,082	\$18,818,481	\$21,611,131	\$24,365,170	\$26,652,641	\$28,855,744	\$30,946,705	\$32,601,833
56		Balance w/o Rate Increases	\$13,161,012	\$15,328,739	\$13,866,853	\$12,952,340	\$12,147,647	\$10,994,729	\$9,003,816	\$5,716,077	\$1,481,840	(\$3,740,124)	(\$10,263,833)
57		Operating Fund Target	\$19,762,205	\$19,762,205	\$22,100,999	\$23,009,026	\$22,986,305	\$23,903,475	\$24,771,813	\$25,750,611	\$26,768,281	\$27,838,916	\$28,967,162
58		Capital Reserve Target	\$2,644,548	\$2,644,548	\$2,380,391	\$1,966,973	\$1,827,777	\$1,875,461	\$2,001,552	\$2,119,729	\$2,159,532	\$2,199,094	\$2,238,358
59		Modified Target	\$19,762,205	\$19,762,205	\$22,100,999	\$23,009,026	\$22,986,305	\$23,903,475	\$24,771,813	\$25,750,611	\$26,768,281	\$27,838,916	\$28,967,162
60		Total Target Reserves	\$22,406,753	\$22,406,753	\$24,481,390	\$24,975,999	\$24,814,082	\$25,778,937	\$26,773,365	\$27,870,340	\$28,927,813	\$30,038,010	\$31,205,520
61		Fund Balance Compared to Target		68%	62%	66%	76%	84%	91%	96%	100%	103%	104%
62		Estimated Interest Earnings	\$141,740	\$158,060	\$173,094	\$192,666	\$213,659	\$234,063	\$253,820	\$276,161	\$297,525	\$316,162	\$331,793
63		Net Change in Reserves	\$2,167,727	(\$175,525)	\$1,293,868	\$2,371,399	\$2,792,650	\$2,754,039	\$2,287,471	\$2,203,103	\$2,090,961	\$1,655,127	\$1,486,720
64													
65													
66													

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
1	South Coast Water District																					
2	Financial Planning Tool - Water																					
3	Table 5 - Capital Improvement Program																					
4																						
											2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
5	Functional Cost	Include	Funding Source	SRF/Bond #	% Water	% Sewer	Start Year	Duration	Total	Project Description	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	
6	Water Supply Desal	yes	PAYGo		100.0%	0.0%	2021	3	\$1,973,000	Doheny Desalination (Studies/Planning)	\$973,000	\$500,000	\$500,000									
7	Storage Potable	Yes	Issued Bond		100.0%	0.0%	2021	1	\$690,000	Tank Recoating at 0.6 MG Reservoir 1A; 0.6 MG Reservoir 2C	\$690,000											
8	Distribution Potable	Yes	Issued Bond		100.0%	0.0%	2021	1	\$400,000	AC Watermain Replacement at Via California	\$400,000											
9	Distribution Potable	Yes	PAYGo		100.0%	0.0%	2021	4	\$340,000	Equipment Replacement	\$160,000		\$120,000	\$60,000	\$0							
10	Storage Potable	Yes	PAYGo		100.0%	0.0%	2021	1	\$190,000	Reservoir 2B and 3B Replacement Project	\$190,000											
11	Storage Potable	Yes	Issued Bond		100.0%	0.0%	2023	3	\$2,400,000	Reservoir 2B and 3B Replacement Project		\$400,000	\$1,000,000	\$1,000,000								
12	Capital Composite	Yes	PAYGo		100.0%	0.0%	2021	5	\$914,500	Vehicle Replacement	\$150,000	\$212,000	\$165,000	\$210,000	\$177,500							
13	Capital Composite	Yes	Issued Bond		100.0%	0.0%	2021	2	\$400,000	Water Operations - Victoria Warehouse Building	\$150,000	\$250,000										
14	Water Supply	Yes	PAYGo		100.0%	0.0%	2021	1	\$120,000	Integrated Water Resources Plan	\$120,000											
15	Storage Potable	Yes	Issued Bond		100.0%	0.0%	2021	3	\$1,975,000	Rehabilitate Reservoirs 5A1 and 5B	\$75,000	\$900,000	\$1,000,000									
16	Water Supply Ground Water	Yes	PAYGo		100.0%	0.0%	2021	1	\$75,000	GRF Tenant Improvements	\$75,000											
17	Pumping Potable	Yes	Issued Bond		100.0%	0.0%	2021	2	\$650,000	PS9 Upgrades	\$50,000	\$600,000										
18	Water Supply	Yes	PAYGo		100.0%	0.0%	2021	2	\$100,000	Urban Water Management Plan (UWMP)	\$50,000					\$50,000						
19	Distribution Potable	Yes	Issued Bond		100.0%	0.0%	2021	2	\$225,000	Waterline Replacement at Camel Point	\$25,000	\$200,000										
20	Pumping Potable	Yes	PAYGo		100.0%	0.0%	2021	2	\$325,000	PS1 Fire Hardening	\$25,000	\$300,000										
21	Capital Composite	Yes	PAYGo		100.0%	0.0%	2021	1	\$25,000	Water Asset Improvements	\$25,000											
22	Transmission Potable	Yes	PAYGo		100.0%	0.0%	2022	2	\$900,000	Coast Hwy Water Transmission Line Replacement Study		\$400,000	\$500,000									
23	Transmission Potable	Yes	Bond	Bond #3	100.0%	0.0%	2024	2	\$9,000,000	Coast Hwy Water Transmission Line Replacement Study				\$4,500,000	\$4,500,000							
24	Customer Capacity	Yes	PAYGo		100.0%	0.0%	2022	3	\$1,500,000	Annual City Resurfacing Projects - Water Svc Replacements		\$500,000		\$500,000		\$500,000						
25	Pumping Potable	Yes	PAYGo		100.0%	0.0%	2024	1	\$100,000	PS4 Pump Replacements				\$100,000								
26	Water Supply Ground Water	Yes	Issued Bond		100.0%	0.0%	2022	1	\$600,000	GRF Emergency Generator		\$600,000										
27	Transmission Potable	Yes	Issued Bond		100.0%	0.0%	2022	2	\$100,000	Discontinuity Survey	\$25,000	\$75,000										
28	Transmission Potable	Yes	Issued Bond		100.0%	0.0%	2022	2	\$1,000,000	Stonehill 24-inch Cathodic Protection Upgrades		\$500,000	\$500,000									
29	Distribution Potable	Yes	Issued Bond		100.0%	0.0%	2022	2	\$1,138,000	Fire Flow Pipeline Upgrades-Laguna Cliffs Marriott Ph 1-2		\$145,000	\$993,000									
30	Distribution Potable	Yes	Issued Bond		100.0%	0.0%	2022	2	\$875,000	Sea Cliff Water Main Improvements		\$75,000	\$800,000									
31	Distribution Potable	Yes	Issued Bond		100.0%	0.0%	2022	2	\$675,000	Via Sacramento Water Main Improvements		\$75,000	\$600,000									
32	Pumping Potable	Yes	PAYGo		100.0%	0.0%	2025	1	\$150,000	Replace Pumps at PS1					\$150,000							
33	Distribution Potable	Yes	Issued Bond		100.0%	0.0%	2022	2	\$1,100,000	2017 Master Plan Projects - Potable Water - Priority 1&2 (including Mission Hospital fire flow		\$200,000	\$900,000									
34	Distribution Potable	Yes	Bond	Bond #3	100.0%	0.0%	2024	2	\$4,000,000	2017 Master Plan Projects - Potable Water - Priority 1&2 (including Mission Hospital fire flow improvement project)				\$1,300,000	\$2,700,000							
35	Distribution Potable	Yes	PAYGo		100.0%	0.0%	2024	1	\$225,000	Reina Water Main Rehabilitation				\$225,000								
36	Customer Capacity	Yes	PAYGo		100.0%	0.0%	2022	8	\$800,000	Annual meter box relocation, high priority		\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	
37	Storage Recycled	Yes	Bond	Bond #3	0.0%	100.0%	2024	2	\$650,000	New 2.0 MG Recycled Water Reservoir				\$150,000	\$500,000							
38	Storage Potable	Yes	PAYGo		100.0%	0.0%	2023	1	\$100,000	Dana Hills Tennis Facility - Differential Settlement Improvements						\$100,000						
39	Storage Potable	Yes	PAYGo		100.0%	0.0%		0	\$0	Fall Protection Upgrades to 11 Reservoirs												
40	Water Supply Ground Water	Yes	PAYGo		100.0%	0.0%		0	\$0	GRF Plant Expansion - Well No. 2												
41	Water Supply Ground Water	Yes	PAYGo		100.0%	0.0%	2022	0	\$0	San Juan Basin Optimization Project												
42	Water Supply Desal	no	SRF	SRF #2 Desal	100.0%	0.0%	2022	0	\$0	Doheny Desalination (Projected Expenditures)												
43	Water Supply Desal	no	WIFIA	WIFIA #1	100.0%	0.0%	2022	0	\$0	Doheny Desalination (Projected Expenditures)												
44	Distribution Potable	Yes	PAYGo		100.0%	0.0%		0	\$0	Sea Island Drive 920 Zone Meter Installation												
45	Storage Potable	Yes	PAYGo		100.0%	0.0%	2022	3	\$250,000	Dana Hills Tennis Center Facility Improvements		\$50,000			\$100,000	\$100,000						
46	Distribution Potable	Yes	PAYGo		100.0%	0.0%	2022	1	\$75,000	Valve Replacement Study		\$75,000										
47	Distribution Potable	Yes	Issued Bond		100.0%	0.0%	2023	4	\$1,600,000	Valve Replacement Project			\$400,000	\$400,000	\$400,000	\$400,000						
48	Distribution Potable	Yes	Bond	Bond #3	100.0%	0.0%	2024	2	\$575,000	Ascension Road Watermain Upsize				\$75,000	\$500,000							
49	Distribution Potable	Yes	Bond	Bond #3	100.0%	0.0%	2024	2	\$250,000	9th Avenue Watermain Upgrades				\$50,000	\$200,000							
50	Distribution Potable	Yes	Bond	Bond #3	100.0%	0.0%	2026	1	\$150,000	PCH North of Eastline Road Watermain Upgrades						\$150,000						
51	Distribution Potable	Yes	Bond	Bond #3	100.0%	0.0%	2026	1	\$150,000	PCH just north of Vista del Sol Watermain Upgrades						\$150,000						
52	Distribution Potable	Yes	Bond	Bond #3	100.0%	0.0%	2026	1	\$50,000	Mesa Vista Drive Watermain Upsize						\$50,000						
53	Distribution Potable	Yes	PAYGo		100.0%	0.0%	2026	1	\$50,000	SCWD Site Piping						\$50,000						
54	Distribution Potable	Yes	Bond	Bond #3	100.0%	0.0%	2025	2	\$900,000	Vista San Clemente Watermain Upgrades					\$100,000	\$800,000						
55	Distribution Potable	Yes	Bond	Bond #3	100.0%	0.0%	2025	2	\$550,000	Mesa Vista Drive Watermain Upgrades					\$50,000	\$500,000						
56		Yes	SRF	SRF #1 Tunnel	0.0%	100.0%	2021	4	\$40,340,764	Tunnel Project	\$12,412,543	\$12,412,543	\$12,412,543	\$3,103,136								
57		Yes	Issued Bond		0.0%	100.0%	2021	2	\$11,100,000	LS2 Station Rehabilitation/Replacement	\$1,100,000	\$10,000,000										
58		Yes	Issued Bond		0.0%	100.0%	2023	1	\$9,000,000	LS2 Station Rehabilitation/Replacement			\$9,000,000									
59		Yes	Issued Bond		0.0%	100.0%	2021	1	\$300,000	LS6 Improvements & Force Main Replacement	\$300,000											
60		Yes	PAYGo		0.0%	100.0%	2021	4	\$1,000,000	Annual Gravity Sewer Lining	\$250,000	\$250,000	\$250,000	\$250,000								
61		Yes	Issued Bond		0.0%	100.0%	2021	2	\$775,000	LS11 Replacement	\$150,000	\$625,000										
62		Yes	PAYGo		0.0%	100.0%	2021	2	\$200,000	LS10 Dry Well Structural Rehabilitation	\$150,000	\$50,000										
63		Yes	PAYGo		0.0%	100.0%	2021	1	\$100,000	Lift Station Assessment	\$100,000											
64		Yes	PAYGo		0.0%	100.0%	2021	1	\$100,000	LS12 Site Improvements	\$100,000											
65		Yes	PAYGo		0.0%	100.0%	2021	1	\$100,000	Los Monteros Pavement Repairs	\$100,000											
66		Yes	Bond	Bond #3	0.0%	100.0%	2025	2	\$3,770,000	Golden Lantern/Stonehill RW Bottleneck					\$2,620,000	\$1,150,000						
67		Yes	PAYGo		0.0%	100.0%	2021	4	\$80,000	Golden Lantern/Stonehill RW Bottleneck	\$20,000	\$60,000										
68		Yes	PAYGo		0.0%	100.0%	2021	1	\$75,000	Calle Fortuna Manhole Installation	\$75,000											
69		Yes	PAYGo		0.0%	100.0%	2021	2	\$150,000	Sewer System Model Updates	\$50,000	\$100,000										
70	Water Supply Recycled	Yes	PAYGo		0.0%	100.0%	2021	1	\$50,000	ACWRF Roof Replacement - Recycle	\$50,000											
71	Distribution Recycled	Yes	Issued Bond		0.0%	100.0%	2021	6	\$1,050,000	Recycled Water Extensions/Conversions	\$50,000	\$2										

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District												
2	Financial Planning Tool - Water												
3	Table 6 - Debt Service & Coverage												
6													
7													
8													
9	SRF - 2005 #45	% Water											
10	Principal	50%		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	Interest	% Sewer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12	Total Payments	50%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
13													
14	Revenue Bonds Series 2019A	% Water											
15	Principal	29%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,000	\$10,000
16	Interest	% Sewer	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,250
17	Total Payments	71%	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,040,750	\$1,040,250
18													
19	2019 Refunding of 2010 BABS	% Water											
20	Principal	50%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,325,000	\$1,395,000
21	Interest	% Sewer	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$704,375
22	Total Payments	50%	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$2,095,625	\$2,099,375
23													
24	Series 2016A	% Water											
25	Principal	50%	\$920,000	\$955,000	\$995,000	\$1,030,000	\$1,085,000	\$1,135,000	\$1,195,000	\$1,245,000	\$1,295,000	\$0	\$0
26	Interest	% Sewer	\$426,700	\$389,900	\$351,700	\$311,900	\$260,400	\$206,150	\$149,400	\$101,600	\$51,800	\$0	\$0
27	Total Payments	50%	\$1,346,700	\$1,344,900	\$1,346,700	\$1,341,900	\$1,345,400	\$1,341,150	\$1,344,400	\$1,346,600	\$1,346,800	\$0	\$0
28													
29	Series 2020A	% Water											
30	Principal	53%	\$925,000	\$545,000	\$565,000	\$590,000	\$610,000	\$640,000	\$670,000	\$700,000	\$735,000	\$785,000	\$820,000
31	Interest	% Sewer	\$292,574	\$1,026,906	\$1,005,106	\$982,506	\$958,906	\$934,506	\$902,506	\$869,006	\$834,006	\$797,256	\$758,006
32	Total Payments	47%	\$1,217,574	\$1,571,906	\$1,570,106	\$1,572,506	\$1,568,906	\$1,574,506	\$1,572,506	\$1,569,006	\$1,569,006	\$1,582,256	\$1,578,006
33													
34	Future Bonds & WIFIA												
35	P&I		\$0	\$0	\$0	\$930,073	\$930,073	\$930,073	\$930,073	\$930,073	\$930,073	\$1,322,334	\$1,322,334
36	Total Payments		\$0	\$0	\$0	\$930,073	\$930,073	\$930,073	\$930,073	\$930,073	\$930,073	\$1,322,334	\$1,322,334
37													
38	Future SRF Loans												
39	P&I		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
40	Total Payments		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41													
42	Total Water Debt Service		\$2,002,894	\$2,189,790	\$2,189,736	\$3,118,681	\$3,118,523	\$3,119,366	\$3,119,931	\$3,119,176	\$3,119,276	\$3,510,560	\$3,510,038
43													
44													
45													
46													
47													
48													
49													
50													
51													
52													
53													
54		SRF	\$0	\$0	\$0	\$0	\$0	\$0	\$1,494,017	\$1,494,017	\$1,494,017	\$1,494,017	\$1,494,017
55		WIFIA	\$0	\$0	\$0	\$0	\$0	\$2,126,471	\$2,126,471	\$2,126,471	\$2,126,471	\$2,126,471	\$2,126,471
56		Total	\$0	\$0	\$0	\$0	\$0	\$2,126,471	\$3,620,488	\$3,620,488	\$3,620,488	\$3,620,488	\$3,620,488
57													
58													
59	Debt Coverage Calculation - Water												
60	Funds Available for Debt Service												
61	Rate revenue - Service Charge		\$21,392,432	\$22,612,651	\$23,518,524	\$24,460,686	\$25,195,971	\$25,953,359	\$26,733,513	\$27,537,120	\$28,364,883	\$29,217,528	\$30,095,804
62	Non-Operating Income		\$4,986,811	\$5,126,442	\$5,269,982	\$5,417,542	\$5,569,233	\$5,725,171	\$5,885,476	\$6,050,269	\$6,219,677	\$6,393,828	\$6,572,855
63	Interest income		\$141,740	\$158,060	\$173,094	\$192,666	\$213,659	\$234,063	\$253,820	\$276,161	\$297,525	\$316,162	\$331,793
64	Total Funds Available		\$26,520,983	\$27,897,153	\$28,961,600	\$30,070,894	\$30,978,863	\$31,912,593	\$32,872,809	\$33,863,550	\$34,882,084	\$35,927,518	\$37,000,452
65													
66	Expenses												
67	O&M		\$19,762,205	\$22,100,999	\$23,009,026	\$22,986,305	\$23,903,475	\$24,771,813	\$25,750,611	\$26,768,281	\$27,838,916	\$28,967,162	\$30,145,437
68	Total Expenses		\$19,762,205	\$22,100,999	\$23,009,026	\$22,986,305	\$23,903,475	\$24,771,813	\$25,750,611	\$26,768,281	\$27,838,916	\$28,967,162	\$30,145,437
69													
70	Net Revenue		\$6,758,778	\$5,796,155	\$5,952,574	\$7,084,589	\$7,075,387	\$7,140,780	\$7,122,198	\$7,095,269	\$7,043,168	\$6,960,356	\$6,855,015
71													
72	Debt Service		\$2,002,894	\$2,189,790	\$2,189,736	\$3,118,681	\$3,118,523	\$3,119,366	\$3,119,931	\$3,119,176	\$3,119,276	\$3,510,560	\$3,510,038
73	Debt Coverage Ratio (1.10 Min)		3.37	2.65	2.72	2.27	2.27	2.29	2.28	2.27	2.26	1.98	1.95

D/S Schedule for Desal Project - not included in revenue requirements since it is already included in water supply costs on tab 2B

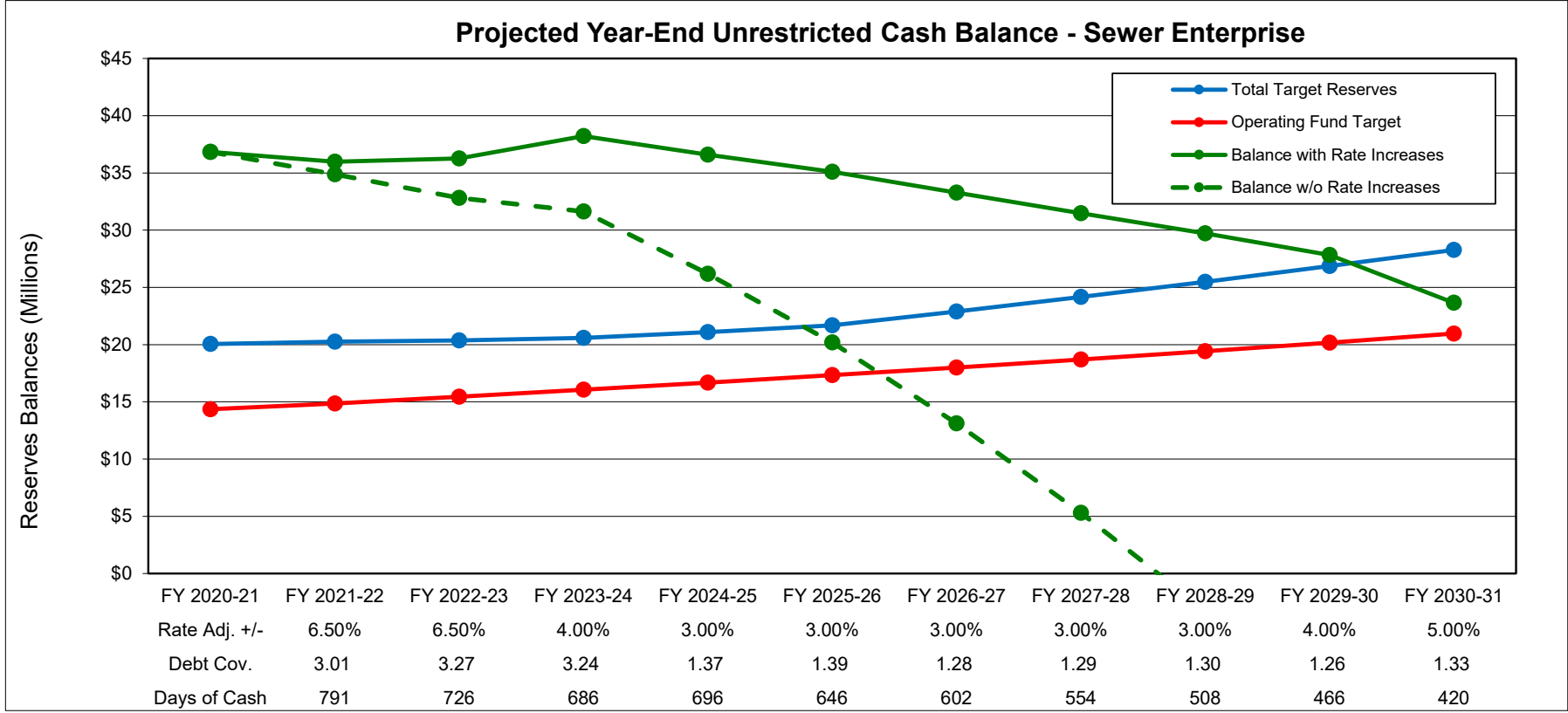
	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	
50	5 mgd facility (CEC study, not included in Coverage since it will be funded by a JPA per D Moore)											
51	\$0	\$0	\$0	\$0	\$4,098,000	\$4,200,000	\$4,305,000	\$4,413,000	\$4,523,000	\$4,636,000	\$4,752,000	
53	2 mgd facility (HF&H estimates)											
54	SRF	\$0	\$0	\$0	\$0	\$0	\$0	\$1,494,017	\$1,494,017	\$1,494,017	\$1,494,017	
55	WIFIA	\$0	\$0	\$0	\$0	\$0	\$2,126,471	\$2,126,471	\$2,126,471	\$2,126,471	\$2,126,471	
56	Total	\$0	\$0	\$0	\$0	\$0	\$2,126,471	\$3,620,488	\$3,620,488	\$3,620,488	\$3,620,488	

Appendix B

Sewer Rate Model

	A	B	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District											
2	Financial Planning Tool - Sewer											
3	Table 1A - Summary											
4												
5									Projected			
6		FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	
7	Eff. Date	7/1/2021	7/1/2022	7/1/2023	7/1/2024	7/1/2025	7/1/2026	7/1/2027	7/1/2028	7/1/2029	7/1/2030	

7	Annual Rate Revenue Increases (Sewer)											
8	Rate Revenue Increase	6.50%	6.50%	4.00%	3.00%	3.00%	3.00%	3.00%	3.00%	4.00%	5.00%	
10	Debt Coverage Ratio	3.01	3.27	3.24	1.37	1.39	1.28	1.29	1.30	1.26	1.33	
11	Days of Cash	791	726	686	696	646	602	554	508	466	420	



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
2	Financial Planning Tool - Sewer												
3	Table 1B - Assumptions												
4													
5													
6	Inflation Factor Assumptions used for projections:												
7													
8			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
10	a	Growth in accounts	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
11	b	General Inflation	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%	2.80%
12	c	Salaries & Wages	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
13	d	Benefits (non PERS)	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
14	e	Construction Cost Inflation	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%	2.38%
15	f	Interest on Fund Balance	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%	1.89%
16	g	SOCWA O&M increases	budget	budget	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%
19	j	Utilities	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
20	k	Recycled Water Account Growth	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
21	l	Water Costs	3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
22	m	PERS % of Labor	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%	10.9%
23													

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District												
2	Financial Planning Tool - Sewer												
3	Table 2 - Revenue Requirements												
4													
5		Inflation Factor	Budgeted FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
6	Operating Expenses												
7	Salaries	c	\$4,155,944	\$4,301,402	\$4,451,951	\$4,607,769	\$4,769,041	\$4,935,958	\$5,108,716	\$5,287,521	\$5,472,585	\$5,664,125	\$5,862,369
8	Part Time Salaries	c	\$126,149	\$130,564	\$135,134	\$139,864	\$144,759	\$149,825	\$155,069	\$160,497	\$166,114	\$171,928	\$177,946
9	Overtime Salary	c	\$166,704	\$172,539	\$178,577	\$184,828	\$191,297	\$197,992	\$204,922	\$212,094	\$219,517	\$227,200	\$235,152
10	PERS Employer Contribution	d	\$385,609	\$501,891	\$519,457	\$537,638	\$556,456	\$575,932	\$596,089	\$616,952	\$638,546	\$660,895	\$684,026
11	Medicare	d	\$59,334	\$61,707	\$64,176	\$66,743	\$69,412	\$72,189	\$75,076	\$78,079	\$81,203	\$84,451	\$87,239
12	Social Security	c	\$16,521	\$17,099	\$17,698	\$18,317	\$18,958	\$19,622	\$20,309	\$21,019	\$21,755	\$22,516	\$23,305
13	Medical Dental Vision	d	\$564,000	\$586,560	\$610,022	\$634,423	\$659,800	\$686,192	\$713,640	\$742,186	\$771,873	\$802,748	\$834,858
14	Life Disability Insurance	d	\$14,814	\$15,407	\$16,023	\$16,664	\$17,330	\$18,023	\$18,744	\$19,494	\$20,274	\$21,085	\$21,928
15	Workers Compensation	d	\$83,725	\$87,074	\$90,557	\$94,179	\$97,946	\$101,864	\$105,939	\$110,176	\$114,583	\$119,167	\$123,933
16	Unemployment Insurance	d	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
17	457 Plan Matching	d	\$44,834	\$46,627	\$48,492	\$50,432	\$52,449	\$54,547	\$56,729	\$58,998	\$61,358	\$63,813	\$66,365
18	PERS UAL Contribution	b	\$370,103	\$429,210	\$461,623	\$498,029	\$514,202	\$527,567	\$541,296	\$555,405	\$569,901	\$584,797	\$600,102
19	OPEB Contribution	b	\$78,750	\$237,500	\$237,500	\$237,500	\$237,500	\$237,500	\$237,500	\$237,500	\$237,500	\$237,500	\$237,500
20	Materials	b	\$134,808	\$138,582	\$142,462	\$146,451	\$150,552	\$154,767	\$159,101	\$163,556	\$168,135	\$172,843	\$177,683
21	Chemicals	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
22	Laboratory Tests	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
23	Electric Power	b	\$158,625	\$163,067	\$167,632	\$172,326	\$177,151	\$182,111	\$187,211	\$192,452	\$197,841	\$203,381	\$209,075
24	Natural Gas	b	\$500	\$514	\$528	\$543	\$558	\$574	\$590	\$607	\$624	\$641	\$659
25	Water	b	\$21,742	\$22,351	\$22,977	\$23,620	\$24,281	\$24,961	\$25,660	\$26,379	\$27,117	\$27,876	\$28,657
26	Permits and Fees	b	\$4,525	\$4,652	\$4,782	\$4,916	\$5,053	\$5,195	\$5,340	\$5,490	\$5,644	\$5,802	\$5,964
27	Outside Services	b	\$299,476	\$307,861	\$316,481	\$323,343	\$334,453	\$343,817	\$353,444	\$363,341	\$373,514	\$383,972	\$394,724
28	Small Tools and Equipment	b	\$62,567	\$64,319	\$66,120	\$67,971	\$69,874	\$71,831	\$73,842	\$75,910	\$78,035	\$80,220	\$82,466
29	Repairs and Maintenance	b	\$444,460	\$456,905	\$469,698	\$482,850	\$496,370	\$510,268	\$524,555	\$539,243	\$554,342	\$569,863	\$585,820
30	Catholic Protect Inspecti Svc	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
31	SCADA Maintenance	b	\$15,208	\$15,634	\$16,072	\$16,522	\$16,984	\$17,460	\$17,949	\$18,451	\$18,968	\$19,499	\$20,045
32	Telephone	b	\$205,926	\$211,692	\$217,619	\$223,713	\$229,977	\$236,416	\$243,036	\$249,841	\$256,836	\$264,028	\$271,420
33	Emergency Repairs/Response	b	\$2,888	\$2,968	\$3,051	\$3,137	\$3,225	\$3,315	\$3,408	\$3,503	\$3,601	\$3,702	\$3,806
34	Office Supplies	b	\$12,712	\$13,068	\$13,434	\$13,810	\$14,197	\$14,594	\$15,003	\$15,423	\$15,855	\$16,299	\$16,755
35	Office Furniture/Equipment	b	\$19,163	\$19,699	\$20,251	\$20,818	\$21,401	\$22,000	\$22,616	\$23,249	\$23,900	\$24,569	\$25,257
36	Computer Supplies/Equipment	b	\$75,400	\$77,511	\$79,682	\$81,913	\$84,206	\$86,564	\$88,988	\$91,479	\$94,041	\$96,674	\$99,381
37	Software Maint Agreements	b	\$443,126	\$455,534	\$468,288	\$481,401	\$494,880	\$508,736	\$522,981	\$537,624	\$552,678	\$568,153	\$584,061
38	Equipment Rental	b	\$5,000	\$5,140	\$5,284	\$5,432	\$5,584	\$5,740	\$5,901	\$6,066	\$6,236	\$6,411	\$6,590
39	Parts and Supplies	b	\$15,750	\$16,191	\$16,644	\$17,110	\$17,589	\$18,082	\$18,588	\$19,109	\$19,644	\$20,194	\$20,759
40	Uniforms/Safety Boots	b	\$45,370	\$46,640	\$47,946	\$49,288	\$50,666	\$52,087	\$53,545	\$55,045	\$56,586	\$58,170	\$59,799
41	Membership dues and fees	b	\$42,369	\$43,555	\$44,775	\$46,029	\$47,317	\$48,642	\$50,004	\$51,404	\$52,844	\$54,323	\$55,844
42	Printing and Reproduction	b	\$74,435	\$76,519	\$78,662	\$80,864	\$83,128	\$85,456	\$87,849	\$90,309	\$92,837	\$95,437	\$98,109
43	Subscriptions/Publications	b	\$8,759	\$9,005	\$9,257	\$9,516	\$9,782	\$10,056	\$10,338	\$10,627	\$10,925	\$11,231	\$11,545
44	Employee Relations/Events	b	\$12,075	\$12,413	\$12,761	\$13,118	\$13,485	\$13,863	\$14,251	\$14,650	\$15,060	\$15,482	\$15,915
45	Mileage Reimbursements	b	\$3,007	\$3,091	\$3,177	\$3,266	\$3,358	\$3,452	\$3,549	\$3,648	\$3,750	\$3,855	\$3,963
46	Temporary Services	b	\$13,863	\$14,251	\$14,650	\$15,060	\$15,482	\$15,915	\$16,361	\$16,819	\$17,290	\$17,774	\$18,271
47	Consulting and Professional Sv	b	\$529,758	\$544,591	\$559,839	\$575,515	\$591,629	\$608,195	\$625,224	\$642,731	\$660,727	\$679,227	\$698,246
48	Recruiting and Advertising	b	\$2,625	\$2,699	\$2,774	\$2,852	\$2,932	\$3,014	\$3,098	\$3,185	\$3,274	\$3,366	\$3,460
49	Postage	b	\$3,208	\$3,298	\$3,390	\$3,485	\$3,583	\$3,683	\$3,786	\$3,892	\$4,001	\$4,113	\$4,228
50	Certifications	b	\$7,823	\$8,042	\$8,267	\$8,498	\$8,736	\$8,981	\$9,232	\$9,491	\$9,756	\$10,030	\$10,310
51	Elections	b	\$21,000	\$21,588	\$22,192	\$22,814	\$23,453	\$24,109	\$24,784	\$25,478	\$26,192	\$26,925	\$27,679
52	City of Dana Point Rent	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
53	South Laguna Representation	b	\$7,875	\$8,096	\$8,322	\$8,555	\$8,795	\$9,041	\$9,294	\$9,554	\$9,822	\$10,097	\$10,380
54	Sponsorships	b	\$13,125	\$13,493	\$13,870	\$14,259	\$14,658	\$15,068	\$15,490	\$15,924	\$16,370	\$16,828	\$17,299
55	Grant Writing	d	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
56	MWDOC Choice Program	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
57	Legal Services	b	\$329,650	\$338,880	\$348,369	\$358,123	\$368,151	\$378,459	\$389,056	\$399,949	\$411,148	\$422,660	\$434,494
58	Agency Contributions	b	\$14,962	\$15,381	\$15,812	\$16,254	\$16,709	\$17,177	\$17,658	\$18,153	\$18,661	\$19,183	\$19,721
59	Social Media	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
60	Promotion	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
61	Air Quality Compliance	b	\$8,663	\$8,905	\$9,154	\$9,411	\$9,674	\$9,945	\$10,224	\$10,510	\$10,804	\$11,107	\$11,418
62	Safety and Regulatory compl	b	\$32,183	\$33,084	\$34,010	\$34,962	\$35,941	\$36,948	\$37,982	\$39,046	\$40,139	\$41,263	\$42,418
63	AMI Cellular	b	\$17,216	\$17,698	\$18,194	\$18,703	\$19,227	\$19,765	\$20,319	\$20,888	\$21,472	\$22,074	\$22,692
64	Property Tax Collection Chrgs	b	\$18,200	\$18,710	\$19,233	\$19,772	\$20,326	\$20,895	\$21,480	\$22,081	\$22,700	\$23,335	\$23,988
65	Bad Debt Expense	b	\$2,860	\$2,940	\$3,022	\$3,107	\$3,194	\$3,283	\$3,375	\$3,470	\$3,567	\$3,667	\$3,770
66	Auditing and Accounting Svcs	b	\$21,000	\$21,588	\$22,192	\$22,814	\$23,453	\$24,109	\$24,784	\$25,478	\$26,192	\$26,925	\$27,679
67	Banking Fees	b	\$70,875	\$72,860	\$74,900	\$76,997	\$79,153	\$81,369	\$83,647	\$85,989	\$88,397	\$90,872	\$93,417
68	Fiscal Agent Fees	b	\$5,775	\$5,937	\$6,103	\$6,274	\$6,449	\$6,630	\$6,816	\$7,007	\$7,203	\$7,404	\$7,612
69	General Liability Insurance	b	\$119,300	\$122,640	\$126,074	\$129,604	\$133,233	\$136,964	\$140,799	\$144,741	\$148,794	\$152,960	\$157,243
70	Liability Claims	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
71	Tuition Reimbursement	b	\$10,500	\$10,794	\$11,096	\$11,407	\$11,726	\$12,055	\$12,392	\$12,739	\$13,096	\$13,463	\$13,840
72	Depreciation Expense	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
73	Interest Expense	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
74	Miscellaneous Expense	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
75	Amortization Expense	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
76	Transfer Out	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
77	Lubricants	b	\$5,118	\$5,261	\$5,409	\$5,560	\$5,716	\$5,876	\$6,040	\$6,209	\$6,383	\$6,562	\$6,746
78	Fuel	b	\$63,500	\$65,278	\$67,106	\$68,985	\$70,916	\$72,902	\$74,943	\$77,042	\$79,199	\$81,416	\$83,696
79	Underground Utility Location	b	\$5,250	\$5,397	\$5,548	\$5,703	\$5,863	\$6,027	\$6,196	\$6,370	\$6,548	\$6,731	\$6,920
80	Underground Tanks	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
81	Landscape Maintenance	b	\$47,223	\$48,545	\$49,905	\$51,302	\$52,738	\$54,215	\$55,733	\$57,294	\$58,898	\$60,547	\$62,242
82	Tree Trimming	b	\$21,000	\$21,588	\$22,192	\$22,814	\$23,453	\$24,109	\$24,784	\$25,478	\$26,192	\$26,925	\$27,679
83	Janitorial Services	b	\$21,000	\$21,588	\$22,192	\$22,814	\$23,453	\$24,109	\$24,784	\$25,478	\$26,192	\$26,925	\$27,679
84	Refuse and Waste Hauling	b	\$7,875	\$8,096	\$8,322	\$8,555	\$8,795	\$9,041	\$9,294	\$9,554	\$9,822	\$10,097	\$10,380
85	Worker Incentive Awards	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
86	Odor Control	b	\$250,000	\$257,000	\$264,196	\$271,593	\$279,198	\$287,016	\$295,052	\$303,314	\$311,806	\$320,537	\$329,512
87	FOG Implementation Program	b	\$60,000	\$61,680	\$63,407	\$65,182	\$67,008	\$68,884	\$70,813	\$72,795	\$74,834	\$76,929	\$79,083
88	Grease Intercept Program	b	\$15,000	\$15,420	\$15,852	\$16,296	\$16,752	\$17,221	\$17,703	\$18,199	\$18,708	\$19,232	\$19,771
89	Manhole Monitoring	b	\$50,000	\$51,400	\$52,839	\$54,319	\$55,840	\$57,403	\$59,010	\$60,663	\$62,361	\$64,107	\$65,902
90	SOCWA Coastal Treatment PC15	g	\$1,574,565	\$1,618,653	\$1,704,441	\$1,794,777	\$1,889,900	\$1,990,065	\$2,095,538	\$2,206,602	\$2,323,552	\$2,446,700	\$2,576,375
91	SOCWA JB Latham PC2	g	\$1,896,078	\$1,949,168	\$2,052,474	\$2,161,255	\$2,275,802	\$2,396,419	\$2,523,429	\$2,657,171	\$2,798,001	\$2,946,295	\$3,102,449
92	SOCWA Reg Trmt Plnt PC17	g	\$474,755	\$488,046	\$513,915	\$541,152	\$569,833	\$600,304	\$631,836	\$665,324	\$700,586	\$737,717	\$776,816
93	SOCWA Ocean Fallout PC5	g	\$83,965	\$86,318	\$90,891	\$95,708	\$100,781	\$106,122	\$111,746				

	A	B	C	D	E	F	G	H	I	J	K	L	M
105													
106	Non-Rate Revenues												
107	Property Tax	b	(\$3,962,238)	(\$4,073,181)	(\$4,187,230)	(\$4,304,472)	(\$4,424,997)	(\$4,548,897)	(\$4,676,266)	(\$4,807,202)	(\$4,941,804)	(\$5,080,174)	(\$5,222,419)
108	Rental Income	b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
109	Other Revenues	b	(\$412,750)	(\$424,307)	(\$436,188)	(\$448,401)	(\$460,956)	(\$473,863)	(\$487,131)	(\$500,771)	(\$514,792)	(\$529,206)	(\$544,024)
110	Non-Operating Expenses/(Revenues)		(\$4,374,988)	(\$4,497,488)	(\$4,623,417)	(\$4,752,873)	(\$4,885,953)	(\$5,022,760)	(\$5,163,397)	(\$5,307,973)	(\$5,456,596)	(\$5,609,380)	(\$5,766,443)
111													
112	Subtotal		9,978,000	\$10,358,616	\$10,822,941	\$11,310,721	11,798,637	\$12,305,064	\$12,834,174	\$13,387,027	\$13,964,725	\$14,568,432	\$15,199,359
113	Debt Service												
114	Total Water Debt Service		\$2,362,755	\$2,801,050	\$2,801,104	\$2,927,896	\$6,996,734	\$6,997,241	\$7,627,431	\$7,626,886	\$7,626,986	\$8,067,216	\$8,066,738
115	Total Debt Service		\$2,362,755	\$2,801,050	\$2,801,104	\$2,927,896	\$6,996,734	\$6,997,241	\$7,627,431	\$7,626,886	\$7,626,986	\$8,067,216	\$8,066,738
116	Transfers to/(from):												
117	Capital Reserves		\$5,696,317	\$5,401,995	\$4,919,621	\$4,517,293	\$4,400,747	\$4,356,039	\$4,884,526	\$5,468,899	\$6,066,949	\$6,679,003	\$7,305,391
118	Operating Reserve		(\$1,044,666)	(\$461,129)	\$737,256	\$1,300,258	(\$2,534,132)	(\$2,372,242)	(\$3,417,061)	(\$3,891,352)	(\$4,384,803)	(\$5,104,998)	(\$5,146,270)
119	Total Transfers		\$4,651,651	\$4,940,866	\$5,656,877	\$5,817,552	\$1,866,615	\$1,983,797	\$1,467,465	\$1,577,547	\$1,682,146	\$1,574,005	\$2,159,121
120													
121	Net Sewer Revenue Requirement		16,992,406	\$18,100,532	\$19,280,922	\$20,056,169	\$20,661,986	\$21,286,102	\$21,929,070	\$22,591,459	\$23,273,857	\$24,209,652	\$25,425,219
122	<i>Annual Change</i>			6.5%	6.5%	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%	4.0%	5.0%

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District												
2	Financial Planning Tool - Sewer												
3	Table 3 - Revenue Increases												
4													
5													
6		Months											
7		Increase											
8		In Effect											
9	Rate Revenue at Current Rates												
10	Total Rate Revenue (after rate increases)												
11	Increase in Rate Revenue												
12													
13	Revenue from Current Rates												
14	Revenue from Rate Increases												
15													
16	FY 2020-21 (eff. Jul 1, 2020)	12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
17	FY 2021-22 (eff. Jul 1, 2021)	12		\$1,104,727	\$1,104,948	\$1,105,169	\$1,105,390	\$1,105,611	\$1,105,832	\$1,106,054	\$1,106,275	\$1,106,496	\$1,106,717
18	FY 2022-23 (eff. Jul 1, 2022)	12			\$1,176,770	\$1,177,005	\$1,177,241	\$1,177,476	\$1,177,712	\$1,177,947	\$1,178,183	\$1,178,418	\$1,178,654
19	FY 2023-24 (eff. Jul 1, 2023)	12				\$771,391	\$771,545	\$771,700	\$771,854	\$772,008	\$772,163	\$772,317	\$772,472
20	FY 2024-25 (eff. Jul 1, 2024)	12					\$601,805	\$601,926	\$602,046	\$602,167	\$602,287	\$602,407	\$602,528
21	FY 2025-26 (eff. Jul 1, 2025)	12						\$619,984	\$620,108	\$620,232	\$620,356	\$620,480	\$620,604
22	FY 2026-27 (eff. Jul 1, 2026)	12							\$638,839	\$638,966	\$639,094	\$639,222	\$639,350
23	FY 2027-28 (eff. Jul 1, 2027)	12								\$658,004	\$658,135	\$658,267	\$658,399
24	FY 2028-29 (eff. Jul 1, 2028)	12									\$677,879	\$678,015	\$678,151
25	FY 2029-30 (eff. Jul 1, 2029)	12										\$931,140	\$931,327
26	FY 2030-31 (eff. Jul 1, 2030)	12											\$1,210,725
27	FY 2031-32 (eff. Jul 1, 2031)	12											
28	FY 2032-33 (eff. Jul 1, 2032)	12											
29	FY 2033-34 (eff. Jul 1, 2033)	12											
30	FY 2034-35 (eff. Jul 1, 2034)	12											
31	FY 2035-36 (eff. Jul 1, 2035)	12											
32	FY 2036-37 (eff. Jul 1, 2036)	12											
33	FY 2037-38 (eff. Jul 1, 2037)	12											
34	FY 2038-39 (eff. Jul 1, 2038)	12											
35	FY 2039-40 (eff. Jul 1, 2039)	12											
36	FY 2040-41 (eff. Jul 1, 2040)	12											
37	FY 2041-42 (eff. Jul 1, 2041)	12											
38	FY 2042-43 (eff. Jul 1, 2042)	12											
39	FY 2043-44 (eff. Jul 1, 2043)	12											
40	FY 2044-45 (eff. Jul 1, 2044)	12											
41	FY 2045-46 (eff. Jul 1, 2045)	12											
42	FY 2046-47 (eff. Jul 1, 2046)	12											
43	FY 2047-48 (eff. Jul 1, 2047)	12											
44	FY 2048-49 (eff. Jul 1, 2048)	12											
45	FY 2049-50 (eff. Jul 1, 2049)	12											
46	FY 2050-51 (eff. Jul 1, 2050)	12											
47	FY 2051-52 (eff. Jul 1, 2051)	12											
48	FY 2052-53 (eff. Jul 1, 2052)	12											
49	FY 2053-54 (eff. Jul 1, 2053)	12											
50	FY 2054-55 (eff. Jul 1, 2054)	12											
51	FY 2055-56 (eff. Jul 1, 2055)	12											
52	FY 2056-57 (eff. Jul 1, 2056)	12											
53	FY 2057-58 (eff. Jul 1, 2057)	12											
54	FY 2057-58 (eff. Jul 1, 2058)	12											
55	Total Revenue from Rate Increases		\$0	\$1,104,727	\$2,281,718	\$3,053,566	\$3,655,982	\$4,276,696	\$4,916,263	\$5,575,250	\$6,254,244	\$7,186,635	\$8,398,797
56	Total Current Revenue		\$16,992,406	\$16,995,805	\$16,999,204	\$17,002,604	\$17,006,004	\$17,009,405	\$17,012,807	\$17,016,210	\$17,019,613	\$17,023,017	\$17,026,422
57	Total Revenue with Rate Increases		\$16,992,406	\$18,100,532	\$19,280,922	\$20,056,169	\$20,661,986	\$21,286,102	\$21,929,070	\$22,591,459	\$23,273,857	\$24,209,652	\$25,425,219
58	Total Revenue Requirement		\$16,992,406	\$18,100,532	\$19,280,922	\$20,056,169	\$20,661,986	\$21,286,102	\$21,929,070	\$22,591,459	\$23,273,857	\$24,209,652	\$25,425,219
59	Surplus/(deficit)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
60													
61	Transfer to/(from) Reserves without Increases		\$0	(\$1,104,727)	(\$2,281,718)	(\$3,053,566)	(\$3,655,982)	(\$4,276,696)	(\$4,916,263)	(\$5,575,250)	(\$6,254,244)	(\$7,186,635)	(\$8,398,797)

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District												
2	Financial Planning Tool - Sewer												
3	Table 4 - Reserve Funds												
4		Days of Cash	791	726	686	696	646	602	554	508	466	420	
5		Debt Cov.	3.01	3.27	3.24	1.37	1.39	1.28	1.29	1.30	1.26	1.33	
6		Rate Adj. +/-	6.50%	6.50%	4.00%	3.00%	3.00%	3.00%	3.00%	3.00%	4.00%	5.00%	
7		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31
8	Operating Fund												
9	With Rate Increases												
10		Increase in Rate Revenue:	3.1%	6.5%	6.5%	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%	4.0%	5.0%
11		Beginning Balance	\$37,231,716	\$36,880,857	\$37,112,419	\$38,558,067	\$40,599,360	\$38,808,608	\$37,147,431	\$34,400,166	\$31,122,204	\$27,284,174	\$22,646,605
12		Operations Surplus (Deficit)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
13		Transfers (to)/from:											
14		Capital Reserve	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15		Revenue Requirement	(\$1,044,666)	(\$461,129)	\$737,256	\$1,300,258	(\$2,534,132)	(\$2,372,242)	(\$3,417,061)	(\$3,891,352)	(\$4,384,803)	(\$5,104,998)	(\$5,146,270)
16		Fund Subtotal	\$36,187,050	\$36,419,729	\$37,849,675	\$39,858,325	\$38,065,228	\$36,436,366	\$33,730,371	\$30,508,814	\$26,737,401	\$22,179,176	\$17,500,334
17		Estimated Interest Earnings	\$693,807	\$692,691	\$708,392	\$741,035	\$743,380	\$711,065	\$669,795	\$613,390	\$546,773	\$467,429	\$379,389
18		Ending Balance with Rate Increase	\$37,231,716	\$36,880,857	\$37,112,419	\$38,558,067	\$40,599,360	\$38,808,608	\$37,147,431	\$34,400,166	\$31,122,204	\$27,284,174	\$22,646,605
19		Target Balance	\$14,352,988	\$14,352,988	\$14,856,104	\$15,446,359	\$16,063,594	\$16,684,590	\$17,327,824	\$17,997,571	\$18,694,999	\$19,421,321	\$20,177,812
20		Fund Balance Compared to Minimum		257%	250%	250%	253%	233%	214%	191%	166%	140%	112%
21													
22													
23													
24	Capital Reserve												
25		Beginning Balance	\$0	(\$45,428)	(\$1,123,541)	(\$2,294,553)	(\$2,381,887)	(\$2,214,764)	(\$2,038,350)	(\$1,131,554)	\$348,858	\$2,442,669	\$5,182,979
26		Connection Fees	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000
27		Capital Projects Expenditures (PAYGO)	(\$5,976,237)	(\$6,714,600)	(\$6,325,125)	(\$4,907,000)	(\$4,558,625)	(\$4,504,625)	(\$4,302,730)	(\$4,313,487)	(\$4,324,271)	(\$4,335,081)	(\$7,147,062)
28		Cash Needs for SRF Projects	(\$90,508)	(\$90,508)	(\$90,508)	(\$22,628)	\$1	\$0	\$0	\$0	\$0	\$0	\$0
29		Transfers (to)/from:											
30		Revenue Requirements	\$5,696,317	\$5,401,995	\$4,919,621	\$4,517,293	\$4,400,747	\$4,356,039	\$4,884,526	\$5,468,899	\$6,066,949	\$6,679,003	\$7,305,391
31		Operating Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
32		Fund Subtotal	(\$45,428)	(\$1,123,541)	(\$2,294,553)	(\$2,381,887)	(\$2,214,764)	(\$2,038,350)	(\$1,131,554)	\$348,858	\$2,416,536	\$5,111,591	\$5,666,308
33		Estimated interest earnings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$26,133	\$71,388	\$102,526
34		Ending Balance	\$0	(\$45,428)	(\$1,123,541)	(\$2,294,553)	(\$2,381,887)	(\$2,214,764)	(\$2,038,350)	(\$1,131,554)	\$348,858	\$2,442,669	\$5,182,979
35		Target Balance	\$5,696,317	\$5,696,317	\$5,401,995	\$4,919,621	\$4,517,293	\$4,400,747	\$4,356,039	\$4,884,526	\$5,468,899	\$6,066,949	\$6,679,003
36		Fund Balance Compared to Target		-1%	-21%	-47%	-53%	-50%	-47%	-23%	6%	40%	78%
37													
38													
39	Operating Fund												
40	Without Rate Increases												
41		Increase in Rate Revenue:	3.1%	6.5%	6.5%	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%	4.0%	5.0%
42		Beginning Balance	\$37,231,716	\$36,880,857	\$35,997,252	\$35,118,543	\$34,012,408	\$28,406,631	\$22,231,746	\$14,239,852	\$4,952,925	(\$5,686,122)	(\$17,977,755)
43		Transfer to/(from) Operating Fund	\$0	(\$1,104,727)	(\$2,281,718)	(\$3,053,566)	(\$3,655,982)	(\$4,276,696)	(\$4,916,263)	(\$5,575,250)	(\$6,254,244)	(\$7,186,635)	(\$8,398,797)
44		Transfers (to)/from:											
45		Capital Reserve	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
46		Revenue Requirement	(\$1,044,666)	(\$461,129)	\$737,256	\$1,300,258	(\$2,534,132)	(\$2,372,242)	(\$3,417,061)	(\$3,891,352)	(\$4,384,803)	(\$5,104,998)	(\$5,146,270)
47		Fund Subtotal	\$36,187,050	\$35,315,001	\$34,452,790	\$33,365,236	\$27,822,293	\$21,757,693	\$13,898,422	\$4,773,251	(\$5,686,122)	(\$17,977,755)	(\$31,522,823)
48		Estimated Interest Earnings	\$693,807	\$682,251	\$665,753	\$647,172	\$584,338	\$474,053	\$341,430	\$179,674	\$0	\$0	\$0
49		Ending Balance with Rate Increase	\$37,231,716	\$36,880,857	\$35,997,252	\$35,118,543	\$34,012,408	\$28,406,631	\$22,231,746	\$14,239,852	\$4,952,925	(\$5,686,122)	(\$17,977,755)
50		Target Balance	\$14,352,988	\$14,352,988	\$14,856,104	\$15,446,359	\$16,063,594	\$16,684,590	\$17,327,824	\$17,997,571	\$18,694,999	\$19,421,321	\$20,177,812
51		Fund Balance Compared to Minimum		257%	242%	227%	212%	170%	128%	79%	26%	-29%	-89%
52													
53													
54	Reserve Funds												
55		Balance with Rate Increases	\$37,231,716	\$36,835,429	\$35,988,878	\$36,263,514	\$38,217,473	\$36,593,844	\$35,109,081	\$33,268,611	\$31,471,061	\$29,726,843	\$27,829,583
56		Balance w/o Rate Increases	\$37,231,716	\$36,835,429	\$34,873,711	\$32,823,990	\$31,630,520	\$26,191,867	\$20,193,395	\$13,108,298	\$5,301,782	(\$3,243,453)	(\$12,794,777)
57		Operating Fund Target	\$14,352,988	\$14,352,988	\$14,856,104	\$15,446,359	\$16,063,594	\$16,684,590	\$17,327,824	\$17,997,571	\$18,694,999	\$19,421,321	\$20,177,812
58		Capital Reserve Target	\$5,696,317	\$5,696,317	\$5,401,995	\$4,919,621	\$4,517,293	\$4,400,747	\$4,356,039	\$4,884,526	\$5,468,899	\$6,066,949	\$6,679,003
59		Modified Target	\$14,352,988	\$14,352,988	\$14,856,104	\$15,446,359	\$16,063,594	\$16,684,590	\$17,327,824	\$17,997,571	\$18,694,999	\$19,421,321	\$20,177,812
60		Total Target Reserves	\$20,049,306	\$20,049,306	\$20,258,099	\$20,365,980	\$20,580,888	\$21,085,337	\$21,683,863	\$22,882,097	\$24,163,898	\$25,488,270	\$26,856,815
61		Fund Balance Compared to Target		184%	178%	178%	186%	174%	162%	145%	130%	117%	104%
62		Estimated Interest Earnings	\$693,807	\$692,691	\$708,392	\$741,035	\$743,380	\$711,065	\$669,795	\$613,390	\$572,906	\$538,816	\$481,914
63		Net Change in Reserves		(\$396,287)	(\$846,551)	\$274,636	\$1,953,959	(\$1,623,629)	(\$1,484,763)	(\$1,840,470)	(\$1,797,550)	(\$1,744,218)	(\$1,897,260)
64		Days Cash	791.23	725.72	686.49	695.52	646.44	602.03	553.74	508.46	466.20	419.58	339.49

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
1	South Coast Water District																					
2	Financial Planning Tool - Sewer																					
3	Table 5 - Capital Improvement Program																					
4																						
5											2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
6	Allocation Factor	Include	Funding Source	SRF/Bond #	% Water	% Sewer	Start Year	Duration	Total	Project Description	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	
6	yes	Yes	PAYGo		100.0%	0.0%	2021	3	\$1,973,000	Doheny Desalination (Studies/Planning)	\$973,000	\$500,000	\$500,000									
7	Yes	Yes	Issued Bond		100.0%	0.0%	2021	1	\$690,000	Tank Recoating at 0.6 MG Reservoir 1A; 0.6 MG Reservoir 2C	\$690,000											
8	Yes	Yes	Issued Bond		100.0%	0.0%	2021	1	\$400,000	AC Watermain Replacement at Via California	\$400,000											
9	Yes	Yes	PAYGo		100.0%	0.0%	2021	4	\$340,000	Equipment Replacement	\$160,000		\$120,000	\$60,000	\$0							
10	Yes	Yes	PAYGo		100.0%	0.0%	2021	1	\$190,000	Reservoir 2B and 3B Replacement Project	\$190,000											
11	Yes	Yes	Issued Bond		100.0%	0.0%	2023	3	\$2,400,000	Reservoir 2B and 3B Replacement Project		\$400,000	\$1,000,000	\$1,000,000								
12	Yes	Yes	PAYGo		100.0%	0.0%	2021	5	\$914,500	Vehicle Replacement	\$150,000	\$212,000	\$165,000	\$210,000	\$177,500							
13	Yes	Yes	Issued Bond		100.0%	0.0%	2021	2	\$400,000	Water Operations - Victoria Warehouse Building	\$150,000	\$250,000										
14	Yes	Yes	PAYGo		100.0%	0.0%	2021	1	\$120,000	Integrated Water Resources Plan	\$120,000											
15	Yes	Yes	Issued Bond		100.0%	0.0%	2021	3	\$1,975,000	Rehabilitate Reservoirs 5A1 and 5B	\$75,000	\$900,000	\$1,000,000									
16	Yes	Yes	PAYGo		100.0%	0.0%	2021	1	\$75,000	GRF Tenant Improvements	\$75,000											
17	Yes	Yes	Issued Bond		100.0%	0.0%	2021	2	\$650,000	PS9 Upgrades	\$50,000	\$600,000										
18	Yes	Yes	PAYGo		100.0%	0.0%	2021	2	\$100,000	Urban Water Management Plan (UWMP)	\$50,000					\$50,000						
19	Yes	Yes	Issued Bond		100.0%	0.0%	2021	2	\$225,000	Waterline Replacement at Camel Point	\$25,000	\$200,000										
20	Yes	Yes	PAYGo		100.0%	0.0%	2021	2	\$325,000	PS1 Fire Hardening	\$25,000	\$300,000										
21	Yes	Yes	PAYGo		100.0%	0.0%	2021	1	\$25,000	Water Asset Improvements	\$25,000											
22	Yes	Yes	PAYGo		100.0%	0.0%	2022	2	\$900,000	Coast Hwy Water Transmission Line Replacement Study		\$400,000	\$500,000									
23	Yes	Yes	Bond	Bond #2	100.0%	0.0%	2024	2	\$9,000,000	Coast Hwy Water Transmission Line Replacement Study				\$4,500,000	\$4,500,000							
24	Yes	Yes	PAYGo		100.0%	0.0%	2022	3	\$1,500,000	Annual City Resurfacing Projects - Water Svc Replacements		\$500,000		\$500,000		\$500,000						
25	Yes	Yes	PAYGo		100.0%	0.0%	2024	1	\$100,000	PS4 Pump Replacements				\$100,000								
26	Yes	Yes	Issued Bond		100.0%	0.0%	2022	1	\$600,000	GRF Emergency Generator		\$600,000										
27	Yes	Yes	Issued Bond		100.0%	0.0%	2022	2	\$100,000	Discontinuity Survey		\$25,000	\$75,000									
28	Yes	Yes	Issued Bond		100.0%	0.0%	2022	2	\$1,000,000	Stonehill 24-inch Cathodic Protection Upgrades		\$500,000	\$500,000									
29	Yes	Yes	Issued Bond		100.0%	0.0%	2022	2	\$1,138,000	Fire Flow Pipeline Upgrades-Laguna Cliffs Marriott Ph 1-2		\$145,000	\$993,000									
30	Yes	Yes	Issued Bond		100.0%	0.0%	2022	2	\$875,000	Sea Cliff Water Main Improvements		\$75,000	\$800,000									
31	Yes	Yes	Issued Bond		100.0%	0.0%	2022	2	\$675,000	Via Sacramento Water Main Improvements		\$75,000	\$600,000									
32	Yes	Yes	PAYGo		100.0%	0.0%	2025	1	\$150,000	Replace Pumps at PS1					\$150,000							
33	Yes	Yes	Issued Bond		100.0%	0.0%	2022	2	\$1,100,000	2017 Master Plan Projects - Potable Water - Priority 1&2 (including Mission Hospital fire flow		\$200,000	\$900,000									
34	Yes	Yes	Bond	Bond #2	100.0%	0.0%	2024	2	\$4,000,000	2017 Master Plan Projects - Potable Water - Priority 1&2 (including Mission Hospital fire flow improvement project)				\$1,300,000	\$2,700,000							
35	Yes	Yes	PAYGo		100.0%	0.0%	2024	1	\$225,000	Reina Water Main Rehabilitation				\$225,000								
36	Yes	Yes	PAYGo		100.0%	0.0%	2022	5	\$500,000	Annual meter box relocation, high priority		\$100,000	\$100,000	\$100,000	\$100,000	\$100,000						
37	Recycled Water	Yes	Bond	Bond #3	0.0%	100.0%	2024	2	\$650,000	New 2.0 MG Recycled Water Reservoir				\$150,000	\$500,000							
38	Yes	Yes	PAYGo		100.0%	0.0%	2023	1	\$100,000	Dana Hills Tennis Facility - Differential Settlement Improvements						\$100,000						
39	Yes	Yes	PAYGo		100.0%	0.0%		0	\$0	Fall Protection Upgrades to 11 Reservoirs												
40	Yes	Yes	PAYGo		100.0%	0.0%		0	\$0	GRF Plant Expansion - Well No. 2												
41	Yes	Yes	PAYGo		100.0%	0.0%	2022	0	\$0	San Juan Basin Optimization Project												
42	no	Yes	SRF	SRF #2 Desal	100.0%	0.0%	2022	4	\$34,300,000	Doheny Desalination (Projected Expenditures)			\$6,223,000	\$12,495,000	\$12,495,000	\$3,087,000						
43	no	Yes	WIFIA	WIFIA #1	100.0%	0.0%	2022	4	\$35,700,000	Doheny Desalination (Projected Expenditures)			\$6,477,000	\$13,005,000	\$13,005,000	\$3,213,000						
44	Yes	Yes	PAYGo		100.0%	0.0%		0	\$0	Sea Island Drive 920 Zone Meter Installation												
45	Yes	Yes	PAYGo		100.0%	0.0%	2022	3	\$250,000	Dana Hills Tennis Center Facility Improvements		\$50,000			\$100,000	\$100,000						
46	Yes	Yes	PAYGo		100.0%	0.0%	2022	1	\$75,000	Valve Replacement Study		\$75,000										
47	Yes	Yes	Issued Bond		100.0%	0.0%	2023	4	\$1,600,000	Valve Replacement Project			\$400,000	\$400,000	\$400,000	\$400,000						
48	Yes	Yes	Bond	Bond #2	100.0%	0.0%	2024	2	\$575,000	Ascension Road Watermain Upsize				\$75,000	\$500,000							
49	Yes	Yes	Bond	Bond #2	100.0%	0.0%	2024	2	\$250,000	9th Avenue Watermain Upgrades				\$50,000	\$200,000							
50	Yes	Yes	Bond	Bond #3	100.0%	0.0%	2026	1	\$150,000	PCH North of Eastline Road Watermain Upgrades						\$150,000						
51	Yes	Yes	Bond	Bond #3	100.0%	0.0%	2026	1	\$150,000	PCH just north of Vista del Sol Watermain Upgrades						\$150,000						
52	Yes	Yes	Bond	Bond #3	100.0%	0.0%	2026	1	\$50,000	Mesa Vista Drive Watermain Upsize						\$50,000						
53	Yes	Yes	PAYGo		100.0%	0.0%	2026	1	\$50,000	SCWD Site Piping						\$50,000						
54	Yes	Yes	Bond	Bond #3	100.0%	0.0%	2025	2	\$900,000	Vista San Clemente Watermain Upgrades					\$100,000	\$800,000						
55	Yes	Yes	Bond	Bond #3	100.0%	0.0%	2025	2	\$550,000	Mesa Vista Drive Watermain Upgrades					\$50,000	\$500,000						
56	Sewer Conveyance	Yes	SRF	SRF #1 Tunnel	0.0%	100.0%	2021	4	\$40,340,764	Tunnel Project	\$12,412,543	\$12,412,543	\$12,412,543	\$3,103,136								
57	Sewer Conveyance	Yes	Issued Bond		0.0%	100.0%	2021	2	\$11,100,000	LS2 Station Rehabilitation/Replacement	\$1,100,000	\$10,000,000										
58	Sewer Conveyance	Yes	Issued Bond		0.0%	100.0%	2023	1	\$9,000,000	LS2 Station Rehabilitation/Replacement			\$9,000,000									
59	Sewer Conveyance	Yes	Issued Bond		0.0%	100.0%	2021	1	\$300,000	LS6 Improvements & Force Main Replacement	\$300,000											
60	Sewer Conveyance	Yes	PAYGo		0.0%	100.0%	2021	4	\$1,000,000	Annual Gravity Sewer Lining		\$250,000	\$250,000	\$250,000								
61	Sewer Conveyance	Yes	Issued Bond		0.0%	100.0%	2021	2	\$775,000	LS11 Replacement	\$150,000	\$625,000										
62	Sewer Conveyance	Yes	PAYGo		0.0%	100.0%	2021	2	\$200,000	LS10 Dry Well Structural Rehabilitation	\$150,000	\$50,000										
63	Sewer Conveyance	Yes	PAYGo		0.0%	100.0%	2021	1	\$100,000	Lift Station Assessment	\$100,000											
64	Sewer Conveyance	Yes	PAYGo		0.0%	100.0%	2021	1	\$100,000	LS12 Site Improvements	\$100,000											
65	Customer Accounts	Yes	PAYGo		0.0%	100.0%	2021	1	\$100,000	Los Monteros Pavement Repairs	\$100,000											
66	Sewer Conveyance	Yes	Bond	Bond #3	0.0%	100.0%	2025	2	\$3,770,000	Golden Lantern/Stonehill RW Bottleneck					\$2,620,000	\$1,150,000						
67	Sewer Conveyance	Yes	PAYGo		0.0%	100.0%	2021	2	\$80,000	Golden Lantern/Stonehill RW Bottleneck	\$20,000	\$60,000										
68	Sewer Conveyance	Yes	PAYGo		0.0%	100.0%	2021	1	\$75,000	Calle Fortuna Manhole Installation	\$75,000											
69	Sewer Conveyance	Yes	PAYGo		0.0%	100.0%	2021	2	\$150,000	Sewer System Model Updates	\$50,000	\$100,000										

South Coast Water District
 Financial Planning Tool - Sewer
 Table 5B. SRF Cash Flow

SRF CASH FLOW	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Other SRF Project Costs	(\$12,412,543)	(\$12,412,543)	(\$12,412,543)	(\$3,103,136)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other SRF Disbursements	\$5,171,893	\$12,412,543	\$12,412,543	\$8,533,623	\$1,810,163	\$0	\$0	\$0	\$0	\$0	\$0
Line of Credit	\$7,240,650	\$7,240,650	\$7,240,650	\$1,810,163							
Repayment of LOC	\$0	(\$7,240,650)	(\$7,240,650)	(\$7,240,650)	(\$1,810,163)	\$0	\$0	\$0	\$0	\$0	\$0
Interest on LOC	\$90,508	\$90,508	\$90,508	\$22,627	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cash Needs from Capital Reserve	\$90,508	\$90,508	\$90,508	\$22,628	(\$1)	\$0	\$0	\$0	\$0	\$0	\$0
Total Cash Needs from Capital Reserve	\$90,508	\$90,508	\$90,508	\$22,628	(\$1)	\$0	\$0	\$0	\$0	\$0	\$0

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	South Coast Water District												
2	Financial Planning Tool - Sewer												
3	Table 6 - Debt Service & Coverage												
6													
7													
8													
9	SRF - 2005 #45	% Water											
10	Principal	50%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	Interest	% Sewer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12	Total Payments	50%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
13													
14	Revenue Bonds Series 2019A	% Water											
15	Principal	29%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,000	\$10,000
16	Interest	% Sewer	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,250
17	Total Payments	71%	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,030,750	\$1,040,750	\$1,040,250
18													
19	2019 Refunding of 2010 BABS	% Water											
20	Principal	50%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,325,000	\$1,395,000
21	Interest	% Sewer	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$704,375
22	Total Payments	50%	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$770,625	\$2,095,625	\$2,099,375
23													
24	Series 2016A	% Water											
25	Principal	50%	\$920,000	\$955,000	\$995,000	\$1,030,000	\$1,085,000	\$1,135,000	\$1,195,000	\$1,245,000	\$1,295,000	\$0	\$0
26	Interest	% Sewer	\$426,700	\$389,900	\$351,700	\$311,900	\$260,400	\$206,150	\$149,400	\$101,600	\$51,800	\$0	\$0
27	Total Payments	50%	\$1,346,700	\$1,344,900	\$1,346,700	\$1,341,900	\$1,345,400	\$1,341,150	\$1,344,400	\$1,346,600	\$1,346,800	\$0	\$0
28													
29	Series 2020A	% Water											
30	Principal	53%	\$925,000	\$545,000	\$565,000	\$590,000	\$610,000	\$640,000	\$670,000	\$700,000	\$735,000	\$785,000	\$820,000
31	Interest	% Sewer	\$292,574	\$1,026,906	\$1,005,106	\$982,506	\$958,906	\$934,506	\$902,506	\$869,006	\$834,006	\$797,256	\$758,006
32	Total Payments	47%	\$1,217,574	\$1,571,906	\$1,570,106	\$1,572,506	\$1,568,906	\$1,574,506	\$1,572,506	\$1,569,006	\$1,569,006	\$1,582,256	\$1,578,006
33													
34	Future Bonds & WIFIA												
35	P&I		\$0	\$272,659	\$272,659	\$400,724	\$400,724	\$400,724	\$1,030,228	\$1,030,228	\$1,030,228	\$1,468,031	\$1,468,031
36	Total Payments		\$0	\$272,659	\$272,659	\$400,724	\$400,724	\$400,724	\$1,030,228	\$1,030,228	\$1,030,228	\$1,468,031	\$1,468,031
37													
38	Future SRF Loans												
39	P&I		\$0	\$0	\$0	\$0	\$4,068,780	\$4,068,780	\$4,068,780	\$4,068,780	\$4,068,780	\$4,068,780	\$4,068,780
40	Total Payments		\$0	\$0	\$0	\$0	\$4,068,780	\$4,068,780	\$4,068,780	\$4,068,780	\$4,068,780	\$4,068,780	\$4,068,780
41													
42	Total Sewer Debt Service		\$2,362,755	\$2,801,050	\$2,801,104	\$2,927,896	\$6,996,734	\$6,997,241	\$7,627,431	\$7,626,886	\$7,626,986	\$8,067,216	\$8,066,738
43													
44	Interest from LOC		\$90,508	\$90,508	\$90,508	\$22,627	\$0	\$0	\$0	\$0	\$0	\$0	\$0
45	D/S for D/S Coverage		\$2,453,263	\$2,891,558	\$2,891,612	\$2,950,523	\$6,996,734	\$6,997,241	\$7,627,431	\$7,626,886	\$7,626,986	\$8,067,216	\$8,066,738
46													
47													
48	Debt Coverage Calculation - Sewer												
49	Funds Available for Debt Service												
50	Rate revenue - Service Charge		\$16,992,406	\$18,100,532	\$19,280,922	\$20,056,169	\$20,661,986	\$21,286,102	\$21,929,070	\$22,591,459	\$23,273,857	\$24,209,652	\$25,425,219
51	Non-Operating Income		\$4,374,988	\$4,497,488	\$4,623,417	\$4,752,873	\$4,885,953	\$5,022,760	\$5,163,397	\$5,307,973	\$5,456,596	\$5,609,380	\$5,766,443
52	Interest income		\$693,807	\$692,691	\$708,392	\$741,035	\$743,380	\$711,065	\$669,795	\$613,390	\$572,906	\$538,816	\$481,914
53	Total Funds Available		\$22,061,202	\$23,290,710	\$24,612,731	\$25,550,077	\$26,291,320	\$27,019,927	\$27,762,263	\$28,512,822	\$29,303,359	\$30,357,849	\$31,673,576
54													
55	Expenses												
56	O&M		\$14,352,988	\$14,856,104	\$15,446,359	\$16,063,594	\$16,684,590	\$17,327,824	\$17,997,571	\$18,694,999	\$19,421,321	\$20,177,812	\$20,965,802
57	Total Expenses		\$14,352,988	\$14,856,104	\$15,446,359	\$16,063,594	\$16,684,590	\$17,327,824	\$17,997,571	\$18,694,999	\$19,421,321	\$20,177,812	\$20,965,802
58													
59	Net Revenue		\$7,708,213	\$8,434,607	\$9,166,373	\$9,486,483	\$9,606,730	\$9,692,103	\$9,764,691	\$9,817,823	\$9,882,038	\$10,180,037	\$10,707,774
60													
61	Debt Service		\$2,453,263	\$2,801,050	\$2,801,104	\$2,927,896	\$6,996,734	\$6,997,241	\$7,627,431	\$7,626,886	\$7,626,986	\$8,067,216	\$8,066,738
62	Debt Coverage Ratio (1.10 Min)		3.14	3.01	3.27	3.24	1.37	1.39	1.28	1.29	1.30	1.26	1.35



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