Proposal for:

Engineering Services

Water Treatment Plant Rehabilitation Project

Brelje & Race CONSULTING ENGINEERS

Prepared for the

City of Fort Bragg

November 20, 2020

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Brelje & Race
CONSULTING ENGINEERS

November 20, 2020

Heath Daniels, Operations Supervisor
c/o June Lemos, CMC, City Clerk
City of Fort Bragg
416 North Franklin Street
Fort Bragg, CA 95437

Subject: Water Treatment Plant Rehabilitation Project – Proposal for Engineering Services; B&R Project No. 4760.00

Dear Mr. Daniels,

I enjoyed our meeting at the treatment facility and appreciated learning more about the engineering services that the City is seeking. Our visit provided a much better understanding of the project details and City expectations.

Presented here for your review is Brelje & Race Consulting Engineers' proposal presenting our capabilities and approach for providing the City with professional services for the project. Our approach has been well thought out and tailored to present the City with what we feel will provide flexibility and the best chance at obtaining outside funding for several of the largest elements of the City's project.

We also present a thoughtfully assembled team of highly qualified, experienced and committed professionals to help the City of Ft. Bragg achieve their goals. Our professional staff have extensive experience with the engineering planning and design for water treatment facilities, earth pond repairs, water tank rehabilitation, assisting with public funding, and coordinating complex, multi-disciplinary projects with highly successful results. Our team has worked together previously on numerous similar projects, and includes A TEEM Electrical Engineers and Structural Design Group. Combined, our team has exactly the right skill sets for this project.

Brelje & Race has been providing professional services to our clients for over 65 years, and we have earned a reputation of being innovative, thorough and for providing complete solutions to challenging projects. A key element of our approach is to identify and evaluate alternatives that may maximize a project's value. This is a cornerstone of our understanding and approach to all of our projects and is critical to their success. We are enthusiastic about this opportunity to partner with the City on this challenging project.

Please feel free to contact me at 707-636-3740 should you have any questions or would care to discuss further any items presented in the proposal. Thank you for the opportunity to present our proposal.

Very truly yours,

BRELJE & RACE

M. Sean Jeane, PE
Associate Principal

enc.

Contents

Printed on recycled paper

Firm Description

Firm Name: Brelje & Race Consulting Engineers
Address: 475 Aviation Blvd, Suite 120, Santa Rosa, CA 95403
Telephone: 707-576-1322
Business Entity: Corporation
Authorized to Execute Contract: M. Sean Jeane, P.E., 707-636-3740

The Brelje & Race offices are located near the Sonoma County Airport.

Brelje & Race Consulting Engineers is a multi-disciplined firm offering a broad range of civil engineering planning and design, construction management, environmental permitting and surveying services. With strong roots in the region since our 1954 start in Sonoma County and a diverse portfolio, our commitment to high-quality technical work and outstanding client service makes us one of the most sought after firms in the North Bay. We are proud to highlight the broad range of relevant services that Brelje & Race has provided for similar water treatment plant rehabilitation projects.

Brelje & Race has focused on and provides a full range of civil engineering services relating to potable water, recycled water, wastewater, and site development projects. We have provided these services for public and private clients, including treatment plants, water, wastewater, and recycled water conveyance systems, storage facilities and related infrastructure. We have a reputation for timely and professional service in the areas of project planning, permitting, design engineering, construction management/inspection, surveying, and environmental evaluation.

The firm employs over 30 professionals comprised of over 20 registered engineers, two registered land surveyors, an environmental planner, engineering technicians, CAD technicians, survey technicians, construction inspectors, and clerical personnel. The organization is notably stable – most of the key members of the firm have been with us for over 15 years.

Brelje & Race's proposal is arranged to reflect the submittal requirements delineated in the City's Request for Proposals (RFP). Our proposal is outlined as follows:

- Firm Description
- Relevant Experience
- Key Personnel Qualifications
- References
- Scope of Work
- Budget and Schedule Charges
- Work Schedule
- Consultant Agreement and Insurance Requirements
- Appendix A: Resumes

The following information is meant to be concise yet completely responsive to the RFP. Should there be any circumstance where additional information is desired, we are available to discuss it at any time.

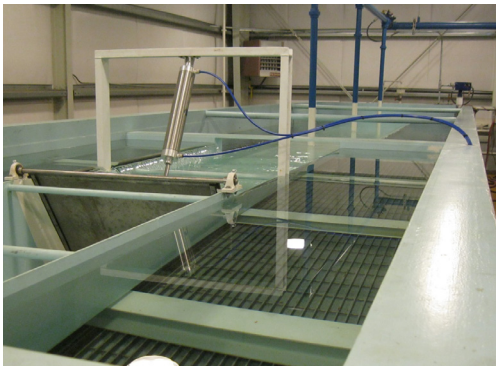
Relevant Project Experience

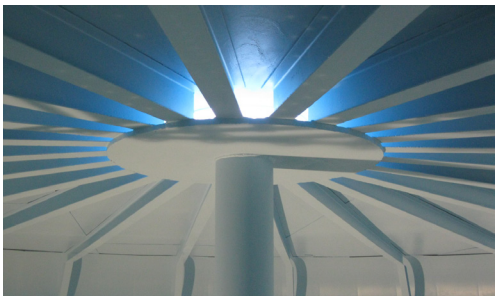
WATER TREATMENT

CITY OF CLOVERDALE

Water System Improvements Project, Phases 1 & 2

Brelje & Race provided Federal financing assistance, environmental planning and permitting services, engineering design, and construction observation and construction management services for this two phase water system improvement project. The project involved installing new water supply wells, upgrades to existing well stations, rehabilitation including repair and recoating of the clarifier section of a Westech Trident filter, equipping an existing Westech Trident filter body, recoating two existing welded steel tanks, installation of a new 500,000 gallon welded steel tank and roof replacement of an in-ground storage reservoir. In addition to our work on the expansion project, Brelje & Race provided all engineering services required to repair the clarifier section of one of the two original package filtration units. Subsequent projects included rehabilitation of a second clarifier and recoating the exposed metal surfaces of a filter section.





Brent Beazor served as Project Manager/Design Engineer while George Potter served as the resident engineer and construction manager.

Design Fee	$113,620
Construction Estimate	Phase I: $598,500; Phase II: $2.39 million
Actual Construction Cost	Phase I: $594,979; Phase II: $2.45 million
Construction Dates	April 2014 through November 2015

COUNTY OF SONOMA

Salmon Creek Zone of Benefit Water System Improvements

The rural coastal community of Salmon Creek faced a number of issues related to poor quality and inadequate supply of water. The County of Sonoma, owner and operator of the local water system, engaged Brelje & Race to provide engineering services for a comprehensive program of improvements under the Salmon Creek CSA Zone of Benefit project. Brelje & Race assisted in applying for project financing from the USDA Rural Development grant program and prepared the environmental documents necessary for project approvals and to qualify for federal grant funding.

With financing and environmental approvals in place, Brelje & Race prepared plans, specifications, and bid estimates, coordinated bidding, and managed construction for the following water system improvements:

- Expansion of the existing spring collection system to enhance supply
- Installation of a new concrete buried raw water storage tank
- Rehabilitation of the existing concrete buried water tank for storage of treated water including the addition of a synthetic liner
- Rehabilitation and expansion of the existing treatment building
- Construction of a surface water treatment facility using membrane technology
- Installation of a cloud-based SCADA system

As the water facilities were sited in a central location in the community, special care was taken in designing improvements to minimize noise and visual impacts on surrounding uses.

Design Fee	$260,000 (design, construction inspection, and environmental services)
Construction Estimate	Bid amount: $976,320
Actual Construction Cost	$933,100
Construction Dates	September 2008 through June 2014

CALLAYOMI COUNTY WATER DISTRICT

Water Treatment Plant and Office Replacement

The Callayomi County Water District in Lake County suffered the loss of their water treatment facilities and their office building due to the 2015 Valley Fire, which destroyed a significant portion of Middletown and the surrounding communities that the District serves. As a disaster recovery project, California Office of Emergency Services (Cal OES) and Federal Emergency Management Agency (FEMA) funding was available for reconstruction. The District retained Brelje & Race to assist them with navigating the Cal OES/FEMA application process and provide engineering and construction management through the rebuilding of the District's treatment and office facilities.

Brelje & Race provided a phased approach for reconstructing the District's water treatment facilities and office building. The services included preliminary analysis to determine the plant capacity and treatment operation capabilities previous to the fire, and the needs of the new facility in order to meet current drinking water and other codes while maintaining the facilities' original level of treatment. Design services extended to a replacement structure for the office building that satisfied the District's needs and met the FEMA funding requirements.

Sean Jeane served as Project Manager and Principal-in-Charge, with George Potter as Resident Engineer.

Design Fee	Design Fee: $385,000.
Construction Estimate	$1.475 million
Actual Construction Cost	$2.95 million
Construction Dates	Spring 2018 through September, 2020

CIRCLE OAKS COUNTY WATER DISTRICT

Water System Improvements

Brelje & Race provided a comprehensive set of services to upgrade water and sewer services for the rural residential community of Circle Oaks in Napa County. As part of the project, Brelje & Race designed and specified a suite of new water storage and treatment facilities to replace the District's aging and outmoded equipment. Brelje & Race proposed a number of modifications to the improvements program originally drafted by another consultant, allowing the project a path forward amid limited funding. Water system improvements included a 40% increase in water storage via two steel water storage tanks (176,000 and 200,000 gallons), a combination 104,000 gallon steel clearwell/chlorine contact tank, and a new Roberts Pacer II package filtration unit for water treatment redundancy. Brelje & Race also assisted the District with applying for USDA project funding and prepared required CEQA and NEPA documents for the project. Notably, the project was completed within the original budget established more than four years prior. Brent Beazor served as Design Engineer.

Design Fee	$407,100 design and contract admin
Construction Estimate	$2.417 million estimate. $2.197 million bid.
Actual Construction Cost	$2.3 million
Construction Dates	September 2011 to March 2013

BODEGA BAY PUBLIC UTILITIES DISTRICT

Salmon Creek Water Treatment Plant Backwash Tank and Sludge Drying Bed Structure

The District wished to construct a cover structure for its existing backwash tank and provide an open-sided cover for the sludge drying bed at the Salmon Creek Water Treatment Plant. Brelje & Race prepared an analysis for different materials options for the structure, from which the District selected a pavilion-style steel building. Brelje & Race prepared bid documents for civil site improvements, including grading, foundation excavation and utilities improvements and coordinated bids from vendors for fabrication and installation of the canopy building. George Potter served as design engineer.

Design Fee	$28,710
Construction Estimate	N/A
Actual Construction Cost	N/A
Construction Dates	December 2011

PONDS

TOWN OF WINDSOR

Pond 10, Pond 5, and Pond S-2 Leak Investigation, Pond 10 Leak Repair & Pond 5 Berm Repair

The Town of Windsor sought to repair the berms at three of their reclaimed water ponds; Pond 10, Pond 5, and Pond S-2. In the summer of 2019, Brelje & Race conducted investigations, prepared preliminary design drawings, and prepared a preliminary cost analysis for the repair of each berm. The preliminary cost analyses compared various repair methods for each pond that included embankment reconstruction, targeted bentonite liner pond repair, synthetic liner installation, slurry trench cutoff wall construction, and buttress fill construction.

Following the evaluation, the Town elected to repair the berm at reclaimed water Pond 10 in the fall of 2019, where a leak had formed below a decommissioned discharge pipe, on an emergency basis. Brelje & Race quickly prepared a set of emergency bid documents that allowed for the expedient removal of the pipeline, placement and compaction of new embankment fill to re-establish the embankment slopes, and re-establishment of the rock slope protection and berm to the existing surrounding conditions.

The analysis also concluded that the bentonite solution for the repair of the Pond 5 embankment would meet the Town's objectives at a savings of hundreds of thousands of dollars compared to the synthetic liner option. Brelje & Race prepared construction documents assisting the Town in the repair of the Pond 5 project which was recently completed this fall.

Brelje & Race also assisted the Town at Pond 10 and Pond 5 during bidding and construction administration, ensuring work was completed on schedule before the arrival of the rainy season. Ben Bryant served as Design Engineer with Dana Brock as Geotechnical Engineer, George Potter as the primary Construction Inspector and Anna McKenna as Engineering Technician.

Design Fee	$33,000 - Leak Investigation & Pond 10 Leak Repair; $75,000 - Pond 5 Berm Repair
Construction Estimate	N/A - Pond 10 Leak Repair; $748,000 - Pond 5 Berm Repair
Actual Construction Cost	$80,500 - Pond 10 Leak Repair; $672,445 - Pond 5 Berm Repair
Construction Dates	September to October, 2019 – Pond 10 Leak Repair; July 2020 to November 2020 – Pond 5 Berm Repair; Anticipated in 2021 – Pond S-2 Leak Repair

CITY OF SANTA ROSA

Embankment Slope Protection and Repairs – Ponds B, C & D and Delta Pond

As part of a two phase project completed under two construction contracts, Brelje & Race is providing engineering design, construction management and inspection services to the City of Santa Rosa for repairs to the pond embankments at the City's Laguna wastewater treatment plant and within the City's reclamation system. Work to stabilize the embankments became a priority for the City after the State Division of Dam Safety (DSOD) raised concerns about erosion, particularly along the northerly slopes of Ponds C and D and Delta Pond. The first phase work at Ponds B, C and D was focused on trimming and excavation of embankments to uniform angles, followed by laying geotextile fabric on the trimmed slopes to prevent future soil migration and then covering the geotextile with a layer of rock riprap. The first phase of the project was completed ahead of schedule and under budget, with change orders totaling less than 5% of the budget estimate.

The second phase of the project at Delta Pond proceeded in a similar fashion, but required reconstruction of the interior face of the 30 foot tall mile-long interior embankment prior to the application of slope protection measures. The second phase of the project required over 1,500 truck trips of riprap delivery and was originally slated for completion over two construction seasons. Close coordination with the contractor to establish a secondary access route will allow the project to be completed in a single season, a year ahead of schedule. Ben Bryant serves as Construction Manager for this project with Dana Brock and George Potter serving as resident engineers and construction inspectors.

Design Fee	Design and CM Fees: $443,600
Construction Estimate	Phase I: $1.45 million; Phase II: $3.3 million
Actual Construction Cost	Phase I: $1.13 million; Phase II in progress (on track to come in on budget)
Construction Dates	May 2019 to November, 2020

TOWN OF WINDSOR

Pond 2 Emergency Repair

Water from an adjoining surface ditch was seeping into emergency storage Pond 2 at the Town's water reclamation facilities and repairs were needed to the north dike before the pond could be returned to regular service. The Town engaged Brelje & Race to design repairs to the pond, prepare construction documents, assist with bidding and contractor selection and provide construction management. Improvements involved removal of existing materials, excavation of the embankment, keyway and embankment fill and compaction with the addition of a bentonite, and replacement of rock slope protection. George Potter served as Resident Engineer and Dana Brock provided Geotechnical Engineering and inspection services.

Design Fee	Design: $64,690
Construction Estimate	N/A
Actual Construction Cost	$81,801
Construction Dates	May to July 2014

MAYACAMA GOLF CLUB

Mayacama Wastewater Treatment Plant

Brelje & Race designed the wastewater collection, treatment, and storage system for the Mayacama Golf Club. The Mayacama Golf Club was built in 2000 as a luxury retreat. The Club includes an 18-hole golf course, 31 single-family residences, 50 short-stay accommodation units and a clubhouse with dining facilities, on 654 acres between Santa Rosa and Windsor.

Brelje & Race's services included preliminary design, preparation of construction plans and specifications, and permitting and construction services for a zero discharge private wastewater system to process an average dry weather flow of 22,500 gpd. A low pressure sewer system utilizing grinder pump stations and force mains was identified as the most cost-effective approach to collection system design for the dispersed community in hilly terrain. The force main system virtually eliminates inflow and infiltration into the collection system. The wastewater treatment plant was designed to meet Title 22 Advanced Waste Treatment (tertiary) standards. Process units include an aerated pond, a settling pond, a microfiltration system and a sodium hypochlorite disinfection system. Tertiary effluent is stored in a 4.1 million gallon reclaimed water storage pond. The storage pond is unique to Sonoma County as it is equipped with both a synthetic liner and a floating cover. These design features alleviated geotechnical concerns and allowed for construction of a smaller reservoir, because it does not have to accommodate rainwater. The recycled water is utilized to irrigate approximately 11.4 acres of the golf course. Because of the pressure sewer and covered reservoir, annual wastewater flows are consistent, avoiding the common problem of significant weather year variations in recycled water supply.

Design Fee	N/A
Construction Estimate	$925,000
Actual Construction Cost	N/A
Construction Dates	2001-2002

TANKS

CITY OF SANTA ROSA

R1A and R1B Tank Improvements

Brelje & Race provided planning, engineering design, and construction management services for the construction of a new Tank R1B, plus improvements to the existing Tank R1A, increasing water supply in Santa Rosa's growing Fountaingrove area. The new Tank R1B was constructed of welded steel with a 500,000 gallon capacity. Related site improvements included grading and earthwork to prepare the tank site, tank foundation and new piping, plus controls and appurtenances for the new tank. Improvements to the existing 500,000 gallon welded steel Tank R1A included the addition of a new internal tank mixing system, piping modifications, and coating repairs. In addition, Brelje & Race prepared specifications for the proper removal, transport, and disposal of the hazardous lead paint existing on site. Sean Jeane served as Design Engineer for the project.

Design Fee	Design fees: $124,475. CM/Inspection $160,261
Construction Estimate	$1.2 million
Actual Construction Cost	$1.3 million
Construction Dates	October 2003 through May 2005

CITY OF PETALUMA

Paula Lane Tank Rehabilitation

The City's one million gallon welded steel water tank on Paula Lane was over 50 years old and due for rehabilitation. Brelje & Race prepared a tank condition assessment report, identifying required and recommended repairs in order of urgency. From the City's approved direction based upon the report, Brelje & Race prepared design, specifications and estimates for improvements to the tank. Improvements included new coatings and proper removal of hazardous lead paint, piping and valve alterations, and foundation and shell wall repairs. Brelje & Race also assisted during construction, responding to RFIs and contractor submittals.

Sean Jeane served as Project Manager and George Potter served as Project Engineer.

Design Fee	$173,455
Construction Estimate	$2.464 million
Actual Construction Cost	N/A
Construction Dates	July 2016 to November 2017

CITY OF ROHNERT PARK

Anderson53/Tank 8

Brelje & Race provided design services for site plan alterations and construction management for the installation of a 900,000 gallon welded steel water storage tank, underground water pipeline, half-mile access road, and other site improvements. Initial site redesign allowed for future construction of a second water tank on site. Subsequent redesigns responded to site constraints that emerged during construction, realigning the access road and other improvements around protected resources. Brelje & Race provided construction management, keeping the project on track while navigating complex requirements around protected cultural resources and bridge construction over jurisdictional wetlands.

Sean Jeane was Principal-in-Charge and Construction Manager, Ben Bryant provided design engineering services for this project, and George Potter served as Resident Engineer. Dana Brock served as Geotechnical Engineer and inspector and A TEEM Electrical Engineers designed electrical improvements for the project.

Design Fee	$1.12 million (note: figure includes services on multiple redesigns, environmental planning, construction management, and approx. $250,000 in subconsultants)
Construction Estimate	$4.39 million (estimate by others)
Actual Construction Cost	$6.39 million
Construction Dates	2018 to 2020

TOWN OF WINDSOR

Water Reclamation Plant AWT Clarifier 1 and 2 Rehabilitation

Brelje & Race provided engineering design services for the rehabilitation of two steel clarifiers in two phases. The improvements included mechanical repairs, repairs of steel pitting, recoating of the overhead walkways and complete interior recoating. Brelje & Race also provided construction management for the projects. Dave Coleman was the project & construction manager. George Potter collaborated on the design and served as the construction manager and certified coatings inspector.

Design Fee	$49,800
Construction Estimate	Clarifier 1 $463,200
Actual Construction Cost	Clarifier 1 $322,626
Construction Dates	Construction Dates: September 2018 to December 2018 and June 2020 to September 2020

ADDITIONAL TANK EXPERIENCE

Besides the projects described in detail on the preceding pages, Brelje & Race has served a number of additional municipalities and special districts in the construction, replacement, and rehabilitation of water storage tanks. The following table lists new or replacement tank projects that Brelje & Race has completed within the past 15 to 20 years. Many of these projects also included our environmental planning, construction management, and land surveying services.

Client	No. of Tanks	Range in Storage Volumes (Gallons)	Welded	Bolted
Anderson Springs Water District	2	175,000 each		°
Bodega Bay Public Utility District	1	500,000	°	
Bodega Water Company	1	1,300,000	°	
Bohemian Grove	1	250,000		
Branger Mutual Water Company	2	30,000 and 125,000	°	
Camp Meeker Recreation and Park District	3	100,000 to 130,000	°	
Circle Oaks County Water District	3	100,000 to 200,000		°
City of Cloverdale	1	775,000	°	
City of Petaluma	1	1,000,000	°	
City of Rohnert Park	3	370,000 to 1,300,000	°	
City of Santa Rosa	7	500,000 to 2,500,000	°	
City of Sonoma	1	3,000,000	°	
Cobb Area Water District	2	200,000		°
Diamond A Mutual Water District	3	100,000 each		°
Forestville Water District	2	100,000 to 200,000		°
Hopland Public Utility District	2	300,000 and 500,000	°	
Inverness Public Utility District	4	53,000 to 100,000		°
Magic Mountain Property Owners Assn.	1	140,000		°
Mt Hanna Water District	1	100,000		°
Roberts Road Properties, LLC	1	100,000		°
Russian River County Water District	8	50,000 to 200,000		°
Sunrise Shore Mutual Water Company	2	45,000 each		°
Sweetwater Springs Water District	8	60,000 to 300,000	°	°
The Sea Ranch Water Company	3	19,000 to 500,000	°	°
Town of Windsor	14	10,500 to 2,000,000	°	
Valley of the Moon	2	400,000 each	°	
Yulupa Mutual Water Company	1	100,000		°

Tank 8, Rohnert Park

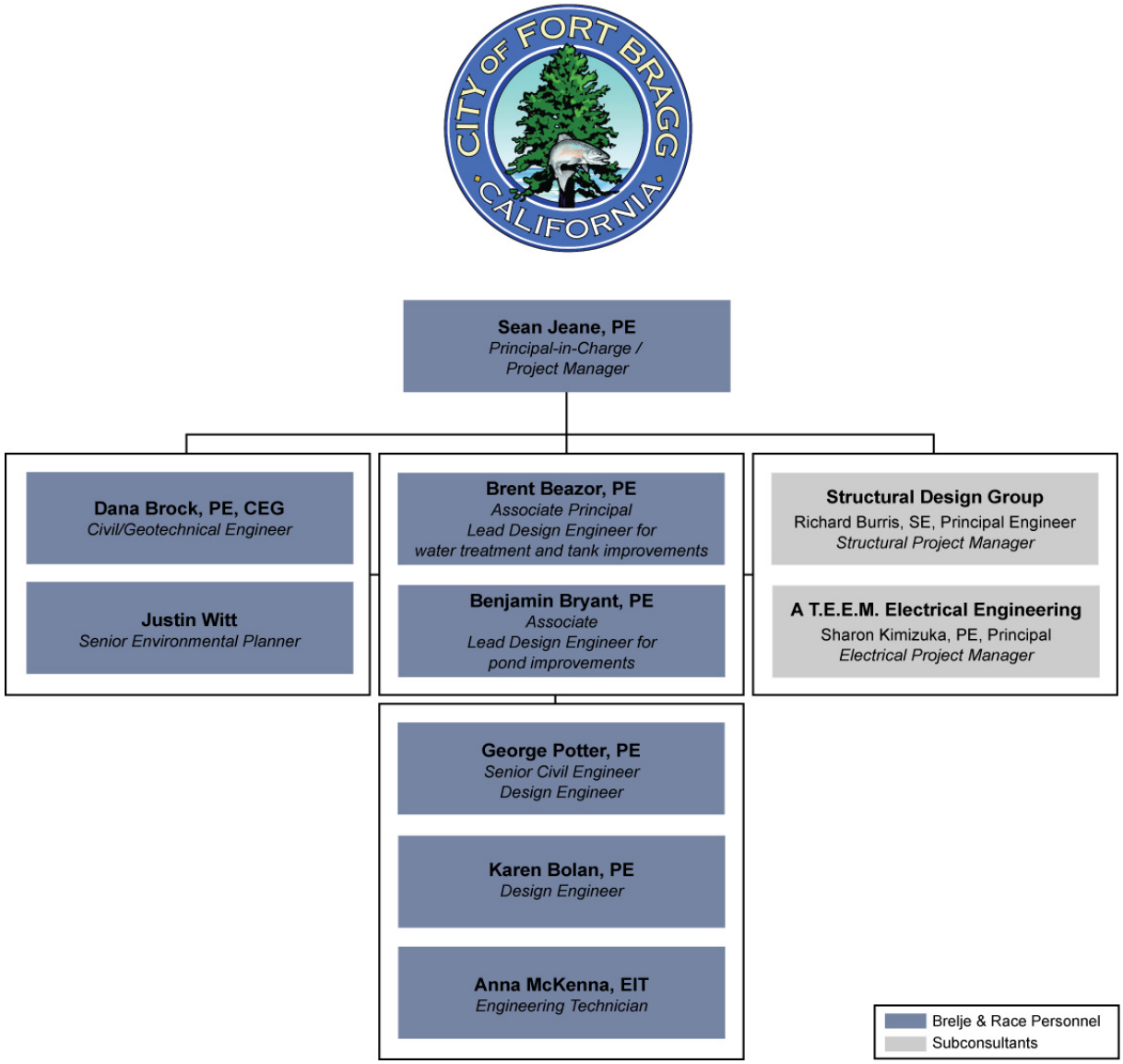
Proctor Heights tanks, Santa Rosa

Key Personnel Qualifications

PROJECT TEAM

Our team is structured as follows:

Team Organization Chart



PROJECT TEAM QUALIFICATIONS AND RESPONSIBILITIES

Successful completion of a project requires both technical competence and managerial skills. It also requires a thorough work plan and an understanding of the client's needs. For the Fort Bragg Water Treatment Plant rehabilitation project the team performing the evaluation and design services should be experienced in the design and construction of water treatment facilities as well as the related improvements for piping, tanks, ponds, and plant buildings. Brelje & Race has assembled a team with a proven history of successful collaboration on delivering water treatment improvement projects to local agencies in Northern California.

Our proposed Project Manager/Principal-in-Charge, **Sean Jeane**, has been with Brelje & Race for over 25 years. During his tenure, he has been the design engineer or project manager for several water treatment facility upgrades and rehabilitations for agencies throughout the North Coast. Most recently, Sean led design engineering and construction

management of Callayomi County Water District's replacement water treatment plant and headquarters building in Middletown, CA.

Under Sean's supervision, two lead Design Engineers will direct the day-to-day progress of the project. **Brent Beazor** will draw upon his extensive experience to lead the treatment plant and tank improvements. Brent has over 27 years of experience as Design Engineer for numerous water treatment, storage, and distribution projects. Brent served as Design Engineer for Cloverdale's Water Systems Improvement Project, which included tank, reservoir, and treatment improvements. With considerable expertise in pond and embankment repair projects, **Ben Bryant** will lead the pond improvements. Ben recently served as Design Engineer on the berm repair project at Windsor's Pond 10, where he led design and construction management services.

Assisting Sean and the two Lead Design Engineers, Brelje & Race offers a qualified team of office engineers and clerical support staff with a broad range of expertise. Their collective experience includes design engineering and construction management for water treatment facility improvements, tank rehabilitations, and pond/embankment repairs for public and private clients. The skills, qualifications, and responsibilities for this team of highly qualified and experienced professionals is summarized in Table 1 below. Specific credentials of our individual team members are detailed in their resumes located in **Appendix A**.

Supplementing our in-house expertise are a team of subconsultants, each highly-qualified in their respective areas of expertise. Brelje & Race has worked successfully with each of these subconsultants on numerous projects in recent years.

Richard Burris of Structural Design Group brings over 30 years of experience in structural engineering for projects throughout Northern California. Brelje & Race has collaborated with SDG on several projects over the last decade, including water treatment upgrade projects.

Sharon Kimizuka of A T.E.E.M. Electrical Engineers has been our electrical engineering and control system consultant on a number of water treatment, storage, and distribution projects in recent years, including SCADA systems. Sharon and her staff work seamlessly with Brelje & Race's staff, assisting us to produce a complete design.

Table 1: Summary of Key Personnel

Team Member	Qualifications and Experience
Sean Jeane, P.E. Associate Principal Project Manager/Principal-in-Charge B.S., Civil Engineering, California State University, Chico, 1988 Professional Civil Engineer CA No. C52402	• Over 30 years of engineering experience. • Experienced project manager in planning, design, construction management and peer review for private and public agency projects including water storage tank, pipeline, treatment and pump stations; water wells, sewer and water remediation/rehabilitation; wastewater treatment plant facilities; roadway improvements; parks planning and pathways; drainage systems and erosion control; and earth retaining structures. • Extensive project and construction management experience. • Experienced with a variety of public agencies in the areas of peer review and value engineering, master planning, site and facilities improvements, water and wastewater facilities design and road design.
Brent Beazor, P.E. Associate Principal / Inspector B.S., Civil Engineering, University of California, Davis, 1996 A.S., Engineering, Santa Rosa Junior College, 1994 Professional Civil Engineer CA No. 60683	• Over 27 years of experience in the design and construction of water supply, treatment, distribution and storage improvements • Experience as design and resident engineer, and has provided construction management and inspection services for numerous public entities • Design Engineer for City of Cloverdale Water System Improvement Project

(table continues on next page)

Team Member	Qualifications and Experience
George Potter, P.E. Senior Civil Engineer M.S., Civil Engineering, Brigham Young University, Utah, 1989 B.S., Civil Engineering, Brigham Young University, Utah, 1988 Professional Civil Engineer CA No. C0052700	• More than 30 years of experience as a design engineer • Provided construction management for water system projects of both new construction and rehabilitation/recoating, including many recoating projects with multiple tanks per project • Specialized expertise in tank coatings design and construction inspection, lead removal and hazardous waste. Certifications include SSPC, HAZWOPER, and Confined Space • Design experience includes wastewater treatment infrastructure and water system storage tanks, distribution and pump stations
Benjamin Bryant, P.E. Associate B.S., Civil Engineering, California State University, Chico, 2009 Professional Civil Engineer CA No. 79218	• Associate with over 11 years of experience in the civil engineering field • Resident engineering, construction inspection, and project start up assistance for both public works projects and private developments • Design experience in a broad range of projects, including water storage and distribution, wastewater collection and treatment, roadways, hydraulic and hydrologic modeling, and land development • Experienced with embankment dam and reservoir facility repair including the DSOD (Division of Safety of Dams) approval process
Karen Bolan Civil Engineer B.S., Environmental Resources Engineering, cum laude, Humboldt State University, 2009 Professional Civil Engineer CA No. 80662	• Over 11 years of experience with public water systems, primarily focused on review, analysis and evaluation of water system design, permitting, operation, calculations, data and programs • Well-versed in the engineering, institutional, economic, planning and environmental aspects of water resource management • Knowledge of funding instruments to assist small utility districts, including dissemination of information, project tracking, and adherence to standard procedures and practices
Anna McKenna Engineering Technician M.S., Civil Engineering and Environmental Engineering, University of Colorado, Boulder, 2016 B.S., Civil Engineering and Environmental Engineering, University of California, Davis, 2013 Engineer-in-Training, CA No. 152723	• Over 7 years of experience as a water and wastewater treatment design engineer and process modeler. • Experience includes process evaluation, process modeling, process and instrumentation diagram development, hydraulic profile design, equipment specifications, pump design, blower design, construction administration, cost estimation, permitting, funding coordination and design reports.
Dana Brock, P.E., C.E.G. Senior Civil Engineer B.S., Civil Engineering, B.S., Geology, University of California, Davis 1978 Professional Civil Engineer, CA No. 34379 Professional Geologist, CA No. 3967	• Over 35 years of experience in civil and geotechnical engineering field. • Extensive experience in engineering design, geotechnical investigations, and engineering during construction for public works, geothermal, and private development projects. • Project experience includes roadways, retaining structures, embankment dams and reservoirs, geotechnical evaluations, excavations, pipeline installations, pump stations, water collection, storage and distribution facilities, wastewater facilities, foundations, and soil and materials testing
Justin Witt Senior Environmental Planner M.A., Geography – Natural Resources Management and Environmental Planning, San Francisco State University, 2003 B.A., Cultural Anthropology, San Francisco State University, 1997	• Senior planner with more than 20 years of experience in the preparation of all California Environmental Quality Act (CEQA) documents • Experience in the preparation of Environmental Reports for compliance with the National Environmental Policy Act (NEPA) as required for USDA-funded projects • Specialist in the field of Climate Adaptation Planning

SUBCONSULTANTS

Structural Design Group

Structural Engineering

Structural Design Group (SDG) is a local structural design firm with whom we have had an ongoing working relationship. Minor structural design is generally handled in-house, however, occasionally the structural elements go beyond our expertise. The registered structural engineers at SDG will be utilized for all such structural design requirements.

Structural Design Group was founded in June 2000 to provide excellence in structural engineering and professional services. All of our clients receive personal, responsive attention from the firm's principals. In addition, the principals are intimately involved in all aspects of every project.

SDG's technical staff currently consists of ten engineers and CAD drafters. Five of the firm's engineers are licensed in California as Professional Engineers (PE). The three principal engineers hold the more stringent registration of Structural Engineer (SE).

Their desire as a firm is to produce clear, well documented construction drawings with a realistic approach to design and detailing. Their work is geared toward design solutions that are developed with constructability and budget considerations in mind.

Richard Burris, Principal of the firm, SDG will provide design services and analysis for all structural components of the project. Richard has partnered with Brelje & Race for several projects for the City of Santa Rosa and Town of Windsor, as well as several private clients.

A T.E.E.M.

Electrical Engineering

Established in 1988, A T.E.E.M. Electrical Engineering specializes in planning, design, and implementation of water and wastewater electrical power distribution, instrumentation, and Supervisory Control and Data Acquisition (SCADA) systems. The A T.E.E.M. has offices located in Sacramento, CA, Reno, NV, and Kona, HI servicing the western United States.

In their 30 years, A T.E.E.M. has worked on over 1600 projects. including design and construction services for sewer lift stations, tank sites, booster pump stations, water wells, filters for wells, water treatment plants, wastewater treatment plants, SCADA systems (designs, implementations and troubleshooting), and pressure reducing stations. A T.E.E.M. is listed with California Department of General Services (DGS) as a Micro-Business and has been certified by Supplier Clearinghouse as a WMBE.

A T.E.E.M.'s staff experience includes hands on familiarity of process, equipment and control systems for the water and wastewater industry. Their unique experience proves invaluable in understanding industry standards for motor control, communications, PLC programming methods, and graphic screen setup. A T.E.E.M.'s engineers are experienced in PLC programming, radio telemetry design and SCADA systems.

Farwest Corrosion Control Company

Cathodic Protection

Since 1956, Farwest Corrosion Control Company has provided cathodic protection engineering and technical services. Their trusted corrosion professionals are called upon to find solutions to corrosion related issues ranging from complex technical structures to simple recommendations. Farwest's services include cathodic protection design, system troubleshooting and testing, surveys and more. They are dedicated to maintaining system functionality and regulatory compliance.

Farwest maintains a staff of over 25 engineering and technical personnel and their team includes NACE Certified Cathodic Protection Specialists, Corrosion Specialists, Corrosion Technologists, Corrosion Technicians, Cathodic Protection Technicians, Cathodic Protection Testers, Coating Inspectors, and Marine Technicians.

All levels of Farwest's technical service personnel are experienced, NACE Certified and trained for safe work practices. Senior engineering oversight is conducted for all field service operations and documentation review.

References

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Scope of Work

PROJECT UNDERSTANDING

From the project description items listed within the Water Treatment Plant Rehabilitation RFP, questions asked while preparing our proposal, review of drawings provided by the City, and after visiting the site for a first-hand review of the water treatment and storage facilities, Brelje & Race has gained a thorough understanding of the scope and complexity of the various project components targeted for rehabilitation by the City. The basic elements of the project include:

- Treatment Plant - Rehabilitate the two older WesTech treatment units, replace corroded or damaged building elements plus other interior modifications, replace the adjoining mechanical equipment building (while maintaining service) and remove the old, unused concrete clarifier along with other minor site paving improvements;
- Storage Ponds - Repair the leaking raw water storage and backwash recovery ponds;
- Tank & Piping - Recoat and update to modern standards the City's storage tank #2, plus add several piping improvements for better redundancy and connectivity to the distribution system.

Our understanding of each of these project elements is discussed in further detail following, and forms the basis of the project approach we have developed in the following sections.

Treatment Facilities, Building and Site Improvements

The existing building and treatment units were originally installed in the 1980s and over time both have degraded due to use and exposure to the elements. There have been numerous improvements to the Trident technology developed by WesTech over the years, therefore along with the repairs the treatment units will also be retrofitted with modern components. The building itself has experienced subsidence in one corner and corrosion of the metal roof sheets. Repair and modifications include replacement of the west half of the treatment building roof, investigating causes of the floor cracking and subsidence issue and implementing corrective measures. The laboratory and equipment, currently in the control room with electronic equipment, will be moved to a newly constructed, dedicated space in the building central to the water quality instruments. Other building improvements will include replacement of the ventilation system and the chemical feed pumps. The Trident unit modifications will bring those units to WesTech's current standard by:

- Repairing areas of metal loss due to corrosion, recoating the interior and exterior of the treatment units and replacing the control system (within existing cabinet).
- Replacing the media, lower grates, upper grates and screens, and air and water distribution piping in the clarifier.
- Adding splash guards around the top of the clarifier.
- Replacing the media, filter underdrain system and backwash level control switches in the filter.
- Adding the air scour system to backwash and filter tank stiffeners to the filter
- Removing the existing surface wash system from the filter.
- Upsizing the filter to waste valves and piping
- Installing a pair of larger blowers to replace the one existing blower (for the addition of the air scour, assisting backwashing and providing redundancy)
- Replacing the static mixer with a powered mixer, and;
- Replacing the two filter effluent flow meters with a single, combined flow effluent meter.

Also, due to these modifications, it will be necessary for the City to amend their Water Supply Permit with the State Water Recourses Control Board, Division of Drinking Water (DDW).

Adjacent to the treatment building is a 1950's vintage wood and steel truss building that houses the filter supply pumps, effluent booster pumps, raw and finished water cisterns, domestic water pump (serving the site only), air compressors and power and controls for the building and equipment. This building will be replaced with a metal building similar to the treatment building. The new building will incorporate space to house the new blowers and include a moving hoist/gantry for easily removing pumps from their pedestals. During construction, the pumps and compressors in this building will need to remain in service.

The electrical switchgear feeding power to the buildings is immediately adjacent and on the outside of the wood building, is in poor condition and will be replaced. Old, unused exposed piping around the building will also be removed. The existing raw water filter supply piping is experiencing differential settlement just outside of the building; this will be investigated and repaired. The finished water booster pumps' discharge piping is experiencing weld failure and will be replaced, as necessary.

Other site improvements will include the demolition and removal of the old and unused concrete clarifier near the pump building. The vacated area and surrounding areas will be filled as necessary, compacted and paved to make useable space.

Raw Water Storage and Backwash Recovery Ponds Rehabilitation

The existing earthen raw water ponds and the backwash recovery ponds have been exfiltrating to neighboring properties. The planned improvements include adding liners to eliminate the leakage. It is our understanding that the City has not identified the best approach or method for lining the ponds, and since there are several alternatives that could be employed, the selected consultant will need to compare suitable alternatives and make recommendations based on factors such as effectiveness, cost, durability, longevity, maintenance requirements, complexity and other factors which may influence the selection. After presenting the options and recommendation for the City's consideration, design and development of construction documents would proceed.

Water Tank #2 and Water Distribution Piping Improvements

Water Tank #2, a 1.3 MG capacity welded steel tank, is of older construction and requires numerous upgrades and improvements. Improvements would include repainting both the interior and exterior, safety measures to bring it up to current AWWA and OSHA standards, and relocating the inlet, drain and overflow piping to exterior, side penetrations on the tank. A flow meter will be installed on the new tank fill line at the tank exterior. The outlet would also be relocated to the exterior and upsized to 16 inch diameter. A new 16-inch pipe will be extended from the existing flanged stub-out near the two north-side tanks to a new connection on the 20-inch outlet of the southern tank. A new flow meter will be installed in a vault near the tie-in point. And lastly, another new 16-inch pipe will be extended from an available stub to the existing, smaller diameter distribution system piping further down Cedar Street.

PROJECT APPROACH

Based on our understanding of the various project elements and objectives, Brelje & Race has developed the following suggested phased approach for preparing constructions documents and for securing outside funding:

1. A **Preliminary Design** phase would commence the work with a thorough review of available documentation and would culminate in a review meeting where selected project elements would be organized together to form two, or possibly three, stand-alone project, along with a refined scope of improvements for each.
2. The **Preliminary Engineer's Report** phase would leverage information developed during the initial phase of the work for use in preparing a preliminary engineering report (PER) which will describe the need for the project, include an alternatives analysis for various aspects of the project, and roughly 30% preliminary design(s) targeted towards obtaining project funding. (Will depend on source(s) targeted for funding.)

3. The **Preparation of Bid Documents** phase is proposed to prepare two to three separate sets of bid ready documents in a concurrent fashion for the three discrete major project elements:
   - Treatment Plant Modifications
   - Pond Repair
   - Water Tank 2 Upgrade

   This phase of the work would conclude with the final preparation of construction documents ready for soliciting bids.
4. The **Project Funding & Permit Assistance** phase would commence following the preparation of 90% progress construction documents and is envisioned to include preparation of technical package documentation for the City's use in preparing the necessary applications for construction funding and other funding agency requirements.

1. Preliminary Design

Background Document Review

The Preliminary Design phase will begin by completing the review of available project background information (begun during proposal preparation). This review will identify project issues, constraints and may identify various project alternatives for consideration and discussion during the kick-off meeting.

Kick-off Meeting & Field Visit

An initial site visit will be performed with our engineering geologist, structural subconsultant, and electrical subconsultant to review site conditions and constraints, review survey control and scope, and review the location of project elements. Concurrent with our visit, we would plan to conduct the Kick-off meeting with City staff. The kick-off meeting will provide a forum to discuss and finalize project goals and objectives.

Coatings Evaluation & Testing

The existing coatings on Tank 2, the building to be removed, the steel on the existing clarifier to be demolished and the existing filter bodies are recommended to be tested primarily for lead and other heavy metals. The coatings on the exterior of Tank 2 are also recommended to be tested for adhesion to determine if an opportunity to overcoat is possible.

Surveying & Base Drawing Preparation

This phase will include field topographical surveys and development of a project base map that will underlay the project improvement plans. Work performed during the field surveys will include establishing vertical and horizontal control, and collecting visible surface feature data for exposed utilities, building corners, ground features, and surface evidence of buried utilities such as USA mark-outs. Development of the base map will also include placement of right of way boundaries, parcel addresses and approximate parcel boundaries from public domain sources. Existing underground utility plans for the facilities will supplement topography collected for base mapping.

Horizontal Datum for all mapping and project control will be California State Plane, Zone 2, U.S. Survey feet and the Vertical Datum for the project will NAVD 88 as determined by using the published ellipsoid heights for each monument and applying the GEOID 12B model.

Geotechnical Investigation

The geologist will review selected published geologic data and previous work in the vicinity of the treatment plant. During the initial site visit, the engineering geologist will perform a surface reconnaissance of site to observe the site topography, surface soils, treatment building foundation failure, and other visible surface features.

The geologist will explore subsurface conditions during subsequent site visit(s) where holes will be drilled up to a maximum depth of 15 feet. The specific test hole locations will be based on the results of the reconnaissance and base mapping information. The geologist will locate and log the test holes, and obtain samples for visual classification and laboratory testing. Selected samples will be laboratory tested, as appropriate, to determine characteristics pertinent to design and construction.

Geotechnical investigations will be limited to those necessary for the pond repair, building foundation failure repair work and the foundation for the replacement building. Various methods for repairing the building foundation failure will be considered and researched. At present, an effective and economical method is likely to consist of cribbing the building corner followed by an excavation and foundation replacement. However, an extensive exploration to investigate the building foundation corner failure and the costs associated with the design and repair of the building foundation using other specialty construction methods such as helical anchors, underpinning, or injection grouting will also be considered.

Development of Alternatives

Following our review of background documentation and site investigations, alternatives for meeting the goal of various major project elements will be developed including comparative cost analyses. Alternatives envisioned at this early stage of the project, which are likely to change slightly after our review of background documents and discussions with City staff, are anticipated to include the following:

- Depending on the results of the site and geotechnical investigations, alternatives for the pond repairs may include a bentonite, synthetic, or concrete liner. Brelje and Race recently completed a similar preliminary cost analysis for the Town of Windsor comparing a targeted bentonite liner pond repair against a synthetic liner saving the Town hundreds of thousands of dollars.
- Alternative coating plans will be presented for either removal and recoating or over-coating of the exterior of Tank 2 based on the coatings evaluation & testing results.
- Alternatives for correcting the building foundation failure repair work will be presented if more than one practical and cost effective option exists following geotechnical and structural investigations. Any methods investigated but ruled out will be identified and explained.
- Sequencing plans and alternatives for constructing a new pump and blower building while keeping the equipment operational will be developed. Brelje and Race has performed design for numerous projects where water and wastewater treatment facilities, distribution, collection, and pond systems needed to remain operational during construction.

A workshop meeting with the City will be held to review, discuss and select alternatives for further development and inclusion in the Preliminary Engineer's Report phase of the project.

Refine Scope of Work and Workshop Meeting

The details of the project scope identified in our project understanding section above will be refined following our review of background documentation, site investigations, base drawing preparation and the development of alternatives. Construction constraints based on environmental, geotechnical, structural, electrical, and operational considerations as well as treatment goals and City operational preferences will be considered when refining the project scope.

Technical Memorandum

A technical memorandum will be prepared summarizing results and decisions made during the Preliminary Design phase of the project. The technical memorandum will also outline a plan and schedule for the next phases of the project.

2. Preliminary Engineer's Report

A draft preliminary engineer's report (PER) presenting the 'need' associated with each of the three project components, comparative cost analyses, recommended scope of improvements, preliminary cost estimates, and preliminary design plans or exhibits showing the location and general scope of the proposed improvements will be prepared. A review meeting will be conducted with City staff to refine the contents of the PER before finalizing.

The PER will be an absolutely necessary component for satisfying the requirements of nearly all outside funding agencies or sources The PER is also a useful means of describing and defining in detail the engineering reasoning and analyses leading to the project design elements.

The work to develop the exhibits and plans, along with the narrative of the PER, will be equivalent to a 30% level engineering design. Those documents, along with the base drawings prepared earlier will form a solid basis of design for moving on to the Bid Documents phase.

3. Preparation of Bid Documents

The City indicated a desire for separate bid documents for the water tank and piping improvements, as they felt that portion of the work would be a good target for outside funding opportunities. The pond rehabilitation and treatment plant improvements could proceed to construction independent of procuring outside funding. Our approach to the project proposes to include the preparation of a separate set of standalone bid documents for the pond repair work. Our reasoning is that a separate project for only the pond repair work would allow an experienced earthwork or lining contractor to perform the work as the prime contractor. The pond repair work will be an expensive project, even on its own, and a subcontractor performing that work would allow very large mark-ups by the prime contractor. Furthermore, the three project components would have different design and construction schedules, and by separating each component, pathways to receiving outside funding opportunities may be expanded.

Preparing a separate sets of bid documents provides opportunity to bid each project independently as funding is procured or the design of the separate components is completed without affecting the others yet maintains the flexibility of combining projects should that be more beneficial.

Preparation of Bid Documents will follow a standard sequence of preparing and submitting progress documents packages at the 60%, 90%, and 100% stages for review and comment by the City. Submittals will each include a set of project plans, technical specifications, and engineer's estimate of probable construction cost. Design memorandums will also accompany the 60% and 90% progress packages to inform the City of the basis underlying key design decisions and to present questions where feedback from the City on specific issues is desired. The 90% construction document packages will be suitable for submittal to funding agencies. The 100% final construction documents package will be suitable for soliciting bids.

Throughout design development, including preliminary design, each submittal package will be fully vetted by the principal-in-charge for quality assurance purposes prior to submission. Each project manager under the principal-in-charge, responsible for the various project components (ponds, tanks, treatment) will also be reviewing and overseeing the work of our engineering and drafting staff. Our in-house peer review process helps ensure design development is performed thoroughly, reducing plan errors and omissions that otherwise occur with less oversight.

4. Project Funding Application & DDW Permit Assistance

Assistance with Project Funding

Our experience has shown that conveying the need for a project that places it in a certain funding category greatly increases the chances of procuring funding for that project. We believe that the ultimate goal of receiving construction funding for all portions of the project should not jeopardize the ability for one or

more of the discrete project components to procure funding.

It is understood that financing options under consideration for the project include the State Water Resource Control Board's (SWRCB) Clean Water State Revolving Fund (CWSRF) Program, specifically a Small Community Drinking Water Grant (SCG) and the United States Department of Agriculture (USDA) Water and Waste Disposal Loan and Grant Program administered by Rural Utility Service (RUS). Brelje & Race has extensive experience assisting clients with projects financed under the State and RUS programs and in some instances by a combination of both. In nearly all of these projects our involvement spanned assisting with the funding applications through project closure. We have an ongoing working relationships with staff in both the Division of Financial Assistance and RUS District office. Through this experience we have learned how to format the planning, environmental and bid documents in a manner that will satisfy the requirements of multiple agencies.

Technical Support for Permit Review by DDW

Changes in the treatment system require an updated Water Supply Permit. The first step in the process is to request an application checklist from DDW. The checklist identifies the required submittals that will be required for the project. The following application submittals should be anticipated:

- Permit application form
- Design drawings
- Chemical Treatment Data Sheet
- Chlorination Data Sheet
- Water System Schematic/Flow Chart
- NSF 61/60Certifications
- Filter Data Sheet
- Record Drawings
- Operations plan modifications (It is expected that the existing operations plan will be modified)
- Environmental Documentation (Note that CEQA/NEPA compliance is not an included service, however, can be added with modification to any agreement between the City and Brelje & Race; Refer to the Exclusions section for further details.)

SCOPE OF SERVICES

A detailed listing of the proposed phased work plan with individual task descriptions follows:

Phase 1: Preliminary Design

1.01 Background Document Review

Review existing records and data including as-built improvement plans, utility documents, base maps, and operations information provided by the City.

1.02 Kick-off and Site Review Meeting

Prepare kick-off meeting agenda and initiate project by visiting the site and conducting a brief kick-off meeting with City staff to present and discuss project issues, review project goals and objectives, discuss opportunities to implement alternate project approaches, review schedules, and review site specific conditions.

1.03 Electrical & Structural Site Review

Conduct a field visit with our electrical and structural subconsultants to perform electrical and controls equipment investigation and structural evaluation and identify improvements and modifications necessary for

accomplishing the proposed work. Operational details and constraints will be noted for later discussions.

1.04 Coatings Evaluation & Testing

Test coatings on water Tank 2, the building to be removed, the existing clarifier painted steel components, and the existing filter bodies for lead and other heavy metals. Perform adhesion and thickness testing on the exterior coatings of Tank 2.

1.05 Surveying and Base Drawing Preparation

Perform field surveys of the project areas necessary to prepare project plans. Prepare topographic base map. Base mapping to be supplemented by review and addition of underground facilities not noted in the field. Review of base maps will be requested of City operations staff.

1.06 Geotechnical Investigation

Perform geotechnical site visit and exploration. Perform exploratory borings and lab work as necessary in support of the pond repair, new building foundation and existing building foundation failure repair work. Prepare technical memorandum summarizing geotechnical findings and recommendations.

1.07 Development of Alternatives

Develop the following preliminary alternatives with preliminary cost estimates:

- Pond Repair: soil amendment, synthetic, or concrete liner.
- Coating of Tank Exterior: remove and recoat or overcoat.
- Repair of Treatment Building Corner: remove the existing failed support and replace or perform injection grouting or other methods to stabilize.
- Building Replacement: Prepare up to two alternative layouts.

1.08 Scope Refinement and Workshop Meeting

Meet with City to discuss and select alternatives for further development and to discuss and refine the project scope.

1.09 Technical Memorandum

Prepare a technical memorandum with exhibits that summarizes the results and decisions made during the preliminary design phase.

1.10 Preliminary Design Review Meeting

Meet to discuss and review the technical memorandum and the refined scope and schedule for the next phases of the project.

Phase 2: Preliminary Engineer's Report

1.01 Preliminary Engineer's Report

Prepare and submit a Draft Preliminary Engineer's Report. Draft PER will include preliminary design plan exhibits showing location and general scope, and need for the proposed improvements.

1.02 Report Review Meeting

Meet to discuss and review the Preliminary Engineer's Report.

1.03 Report Finalization

Revise Draft Preliminary Engineering Report addressing comments received at review meeting.

Phase 3: Plans, Specifications & Estimate

Phase 3 has been divided into the three separate Sub-phases to account for bid document preparation (PS&E) for the discrete projects envisioned:

- Task 3A - Treatment Plant Modifications
- Task 3B - Pond Repair
- Task 3C - Tank Rehabilitation and Distribution Piping

Each submittal will include two (2) full-size hard copies and three (3) half-size hard copies plus an electronic print-ready copy of the documents in PDF format. Full-size plans will be prepared on 22" x 34" sheets.

Phase 3A: PS&E - Treatment Plant Modifications

3A.01 Prepare 60% Submittal

60% level drawings for the treatment plant modifications are anticipated to include site layout, grading plan, demolition plan, filter plan, new building plan with foundation details and elevations, piping plans and other notes and details. Some electrical and structural drawings may also be complete or partially complete at this stage. Placeholder sheets will be set up for any incomplete but anticipated remaining drawings and details. 60% technical specifications will consist of a thorough outline of technical specification sections to be included in the project. The specifications will be based on the Engineers Joint Document Committee (EJCDC) documents, as recommended by USDA, unless the City directs otherwise and furnishes the desired general conditions. City Standard specifications and details will be incorporated into the specifications where applicable.

A preliminary estimate of the construction costs will be prepared based on the anticipated bid schedule of work items. The bid schedule may not be fully complete at this stage, however, most items of work should be fairly reasonably understood and can be estimated.

Upon completion of the PS&E to roughly the 60% complete level, the documents will be provided to City staff with a technical memorandum for review and comment. The TM will present key design decisions and any questions for City staff response. After staff review, a meeting will be scheduled and conducted to review comments generated.

3A.02 Prepare 90% Submittal

Comments from the 60% review will be incorporated. Preparation of project plans and details will continue to approximately the 90% completion level (near complete). All previous placeholder sheets and details will be completed with only very minor items potentially left incomplete. For the treatment plant modifications work, the 90% level drawings will include all details and sections required to accurately depict the work associated with the piping, filters, electrical, control, demolition, site paving and restoration, buildings, foundations and structural improvements.

After incorporating comments generated, the technical specifications, and front-end boilerplate specifications will be completed to the 90% level (essentially complete). The bid schedule will also be prepared along with full descriptions of bid items (usually found in Div.1).

Utilizing the completed plans and schedule of bid items, the estimate of probable construction costs will be fully updated and complete excepting any changes that may occur after the 90% submittal.

The completed 90% PS&E documents will be provided to City staff for final review and comment. After staff review, another meeting will be scheduled and conducted to review any remaining comments generated.

3A.03 Prepare 100% Submittal

Any final comments generated by City reviews will be incorporated to complete the construction documents. Should changes be sufficient to alter the estimated construction costs, then the estimate will also be updated.

PS&E will be sealed and signed by the Principal-in-Charge, and routed to City for any other required signatures. Hard and electronic copies of the Bid-Ready documents will be provided to the City.

Phase 3B: PS&E - Pond Repair

3B.01 60% Submittal

The work included in design of 60% level PS&E for the pond repair work will be the same as those presented under the for task 3A.01 above, including review meetings. However, for the pond repair work, the 60% level drawings are anticipated to include site plan, grading plan, typical cross sections and details.

3B.02 90% Submittal

The work included in design of 90% level PS&E for the pond repair work will be the same as those presented for task 3A.02 above, including review meetings. However, for the pond repair work, the 90% level drawings will include all details and sections required to accurately depict the pond work including surfacing, liner (if applicable), and drainage details.

3B.03 100% Submittal

Remaining comments generated by City reviews will be incorporated to complete the construction documents. The estimate will also be updated as necessary. PS&E will be sealed and signed by the Principal-in-Charge, and routed to City for required signatures. Hard and electronic copies of the Bid-Ready documents will be provided to the City.

Phase 3C: PS&E - Tank Rehabilitation and Distribution Piping

3C.01 Prepare 60% Submittal

The work included in design of 60% level PS&E for the tank rehabilitation and distribution piping improvements will be the same as those presented in the previous 60% PS & E tasks. However, for the tank rehabilitation and piping work, the 60% level drawings are anticipated to include site plan, tank appurtenances plan, tank and off-site piping plans, piping profiles, and tank appurtenances and piping details.

3C.02 90% Submittal

The work included in design of 90% level PS&E for the tank and piping work will be the same as those presented in the previous 90% PS & E tasks. However, for the tank rehabilitation and piping work, the 90% level drawings will include all details and sections required to detail tank appurtenances, cathodic protection, electoral work, cross sectional details, and water piping, vault and trenching details.

3C.03 100% Submittal

Remaining comments generated by City reviews will be incorporated to complete the construction documents. The estimate will also be updated as necessary. PS&E will be sealed and signed by the Principal-in-Charge, and routed to City for required signatures. Hard and electronic copies of the Bid-Ready documents will be provided to the City.

Phase 4: Funding Application and DDW Permitting

4.01 Tailor PER to Funding Agency Requirements

Modify preliminary engineering report text to match the funding agencies standard report format requirements. It is anticipated that the report would be submitted to USDA and DFA. Submit design drawings and technical specifications to the funding agency for review.

Submit environmental documentation (prepared by others or under a separate scope of services).

4.02 Modify Operations Plan

Modify existing Water System Schematic/Flow Chart. Modify the existing operations plan as required by DDW due to the changes made to the treatment system. (Removal of the surface wash and addition of the air scour to the backwash cycle and modification of the filter underdrain; changes to metering and other components.)

4.03 Water Supply Permit Assistance & Data Sheets

Request water supply permit application checklist and prepare application for execution by the City. Submit Design Drawings to DDW. Prepare and submit Chemical Treatment Data Sheet including NSF-60 certifications. Prepare and submit Chlorination Data Sheet including NSF-61 certifications. Submit updated operations plan to DDW. Compile NSF 61/60 Certifications for all components in contact with water, raw, treated or recycled. Prepare and submit Filter Data Sheet.

4.04 Record Drawings

Prepare and submit Record Drawings for City's archives.

Excluded Services

Based on our understanding of the City's desired project scope we have excluded the following services from this Scope of Work. Brelje & Race can provide these services upon request and with modifications to this agreement:

1. CEQA Services

   CEQA services are specifically excluded from our proposal as directed by the City. Based on our review of the proposed project elements and familiarity with similar projects, many project elements could likely proceed by filing a Notice of Exemption (NOE) under the California Environmental Quality Act (CEQA). However, due to the desire to obtain construction funding through outside sources, a Financial Assistance Application Environmental Package would be required for the Water Board to satisfy potential National Environmental Policy Act (NEPA) requirements for any funds with a federal nexus. Additionally, a NEPA Environmental Report would be required for USDA funding. At present, it is assumed that identified impacts would generally be limited to construction-related impacts that could be mitigated to a level of less than significant.

   Either funding agency would require a Cultural Resources Report and Biological Resources Assessment as part of their environmental clearance. It is possible that the presence of either resource would subsequently require preparation of an Initial Study for CEQA compliance despite the project being otherwise exempt.

   We would propose to utilize Tom Origer & Associates to conduct the necessary field work, prepare a cultural resources report, initiate consultation with appropriate Native American tribal contacts and facilitate Tribal CEQA review in compliance with AB-52. A cultural resources report is a necessary component to any funding application.

   WRA, Inc. would conduct a Biological Resources Assessment (BRA) and prepare a BRA report, which would provide the biological information necessary for regulatory agency permitting and funding. WRA botanists and wildlife biologists would conduct a site review to observe conditions along the project alignment and gather data about the habitats present, both sensitive and non-sensitive, and plant and wildlife species, both common and special-status. In addition, information in published sources (e.g., existing reports, California Natural Diversity Data Base) would be reviewed to provide background information and to augment information collected during the site review.

2. Engineering services during bidding and construction are excluded.
3. Services related to boundary and right-of-way determination are excluded.
4. Permit and regulatory fees are excluded. It is assumed the City will pay all such fees directly to the responsible agencies.

Budget and Schedule of Charges

Following see a table with a detailed estimate of fees and a copy of Brelje & Race's Services Rate Schedule. As we anticipate this could be a multi-year project we have provided a range that projects our rates for each service category through October, 2023.

Fort Bragg Water Treatment Plant Rehabilitation Project

City of Fort Bragg

TASK, WORK HOUR and COST TABULATION

November 20, 2020

PHASE	TASK	DESCRIPTION	WORKHOURS												
			Senior Principal	Associate Principal	Associate	Senior Engineer	Engineer	CAD Technician	Senior Surveyor	Survey Crew	Technical Writer	Subconsultant SDG ($)	Subconsultant Clearhart ($)	Subconsultant A T.E.E.M. ($)	Subconsultant Farwest ($)	
1	1.01	Background Document Review		16	8	8	32							$2,000		$14,520
Preliminary	1.02	Kick off Meeting & Field Visit	8	12	8	8								$2,000		$9,760
Design	1.03	Electrical Site Review		8										$10,000		$11,760
	1.04	Coatings Evaluation & Testing		2		20										$4,440
	1.05	Surveying & Base Drawing Preparation		8	4			110	8	40						$30,610
	1.06	Geotechnical Investigation & Report		2	4	60							$6,000			$19,260
	1.07	Development of Alternatives	4	16	16	20		24				$4,500		$1,500		$21,220
	1.08	Scope Refinement & Workshop Meeting	8	12	8											$6,160
	1.09	Alternatives Technical Memorandum	8	12	12	4	24					$1,000		$1,500		$14,600
	1.10	Preliminary Design Review Meeting	8	12	8											$6,160
		Subtotal	**36**	**100**	**68**	**120**	**56**	**134**	**8**	**40**	**0**	**$5,500**	**$6,000**	**$17,000**	**$0**	**$138,490**
2	2.01	Selected Alternatives Development	8	20	32	32	12									$21,400
Preliminary Engineer's	2.02	Preliminary Engineers Report	16	12	12	12	60	24			24					$28,300
Report	2.03	Report Review Meeting	8	12	8											$6,160
		Subtotal	**32**	**44**	**52**	**44**	**72**	**24**	**0**	**0**	**24**	**$0**	**$0**	**$0**	**$0**	**$55,860**
3A	3A.01	60% Submittal	8	56	12		80	88			4	$8,500		$15,000		$67,780
Design Treatment	3A.02	90% Submittal	12	72	16	12	96	72			24	$10,000		$19,000		$83,820
Modifcations	3A.03	100% Final Submittal	4	12	4	2	24	20			8	$2,500		$3,500		$18,940
		Subtotal	**24**	**140**	**32**	**14**	**200**	**180**	**0**	**0**	**36**	**$21,000**	**$0**	**$37,500**	**$0**	**$170,540**
3B	3B.01	60% Submittal	8		24	8	64	72			2					$30,590
Design	3B.02	90% Submittal	12		32	8	80	48			16					$34,180
Pond Repair	3B.03	100% Final Submittal	4		8	4	24	16			8					$10,940
		Subtotal	**24**	**0**	**64**	**20**	**168**	**136**	**0**	**0**	**26**	**$0**	**$0**	**$0**	**$0**	**$75,710**
3C	3C.01	60% Submittal	4	12		30	24	36			4			$4,000		$23,580
Design	3C.02	90% Submittal	12	16		30	24	48			24			$5,000	$6,500	$37,880
Tank & Piping	3C.03	100% Final Submittal	2	8		8	4	8			8			$1,500	$1,000	$9,130
		Subtotal	**18**	**36**	**0**	**68**	**52**	**92**	**0**	**0**	**36**	**$0**	**$0**	**$10,500**	**$7,500**	**$70,590**
4	4.01	Tailor PER to Funding Agency Requirements	6	32	24		24				24					$20,450
Funding Application	4.02	Modify Operations Plan	2	8			24				8					$7,470
&	4.03	Water Supply Permit Assistance & Data Sheets	2	8			30				10					$8,780
DDW Permitting	4.04	Record Drawings	2	8	4			30			4					$7,860
Assistance		**Subtotal**	**12**	**56**	**28**	**0**	**78**	**30**	**0**	**0**	**46**	**$0**	**$0**	**$0**	**$0**	**$44,560**
		Total Hours	146	376	244	266	626	596	8	40	168	$26,500	$6,000	$65,000	$7,500	
		Hourly Rate	$235	$220	$205	$200	$180	$145	$185	$265	$115	N/A	N/A	N/A	N/A	
		Subtotal Cost	$34,310	$82,720	$50,020	$53,200	$112,680	$86,420	$1,480	$10,600	$19,320	$26,500	$6,000	$65,000	$7,500	

SUBTOTAL		$555,750
CONTINGENCY	5%	$27,788
REPRO & PLOT		$3,000
SUBCONSULTANT MARK-UP	10%	$10,500
TOTAL		**$597,000**

Note: Cost of required insurance is included in the above hourly rates.
Fees for services are billed hourly (T&M) and will not exceed budgeted total withour prior written approval of the Client.

Brelje & Race
CONSULTING ENGINEERS

SERVICES RATE SCHEDULE
EFFECTIVE MARCH 1, 2020 – OCTOBER 31, 2023

PROFESSIONAL SERVICES

Senior Principal	$225.00 - $240.00/hour
Associate Principal	210.00 - 225.00/hour
Senior Project Advisor	200.00 - 215.00/hour
Associate	195.00 - 210.00/hour
Senior Engineer	190.00 - 200.00/hour
Engineer	170.00 - 180.00/hour
Engineering Technician	145.00 - 160.00/hour
Senior Planner	175.00 - 185.00/hour
Planner	145.00 - 155.00/hour
Senior Surveyor	175.00 - 190.00/hour
Surveyor	160.00 - 170.00/hour
Survey Technician	140.00 - 150.00/hour
CAD Technician Supervisor	150.00 - 165.00/hour
CAD Technician	140.00 - 150.00/hour
Resident Engineer	160.00 - 175.00/hour
Construction Technician 2	145.00 - 155.00/hour
Construction Technician 1	125.00 - 135.00/hour
Technical Writer	110.00 - 120.00/hour

EXPERT WITNESS & MEDIATION SERVICES $500.00/hour

FIELD SURVEYING

One-man Party (Including Survey Equipment & Vehicle)	$195.00 - 200.00/hour
Two-man Party (Including Survey Equipment & Vehicle)	$252.00 - 265.00/hour
Three-man Party (Including Survey Equipment & Vehicle)	$320.00 - 335.00/hour

CLERICAL SERVICES $85.00 - 90.00/hour

OUTSIDE CONSULTANTS Cost + 10% Handling Charge

OUTSIDE PLOTTING AND REPRODUCTION Cost + 10% Handling Charge

IN-HOUSE PLOTTING

Vellum or Bond	$8.00/sheet
Mylar	20.00/sheet

Note

Brelje & Race does not charge separately for many of the expenses that are traditionally recouped from the Client as "reimbursable". The hourly rates listed above are inclusive of all expenses for vehicle mileage, surveying materials, incidental copying services and computer hardware, software and other information technology costs.

Project Schedule

The schedule is based on numerous assumptions, but is based on project award in Mid-December. Actual project tasks will begin in earnest around the new year. The planning and preliminary design services will begin to be scheduled and initiated quickly following award. The technical memorandum presenting design alternatives, which will also represent approximately 30 percent design level for all project components will be conducted concurrently. Depending upon the funding sources obtained, and any environmental and permitting requirements, actual construction dates will be difficult to determine, however, the schedule presented assumes no funding agency delays, and only covers the tasks presented in the scope of services. (Note that should CEQA/NEPA be required, six months or more may need to be added to project schedules).

It is assumed that City reviews will require two to three weeks to complete and to also conduct a review meeting within that time frame. The three main project elements would be conducted simultaneously, however, depending on other factors, completion of their designs are likely to be staggered.

Despite the uncertainty for timing for obtaining final permits, it is expected that construction would be possible for any City funded projects for the 2022 construction season.

Detailed schedule is presented following.

City of Fort Bragg
Water Treatment Plant Rehabilitation Project
Proposed Schedule

Task & Description		Dec					Jan-21				Feb				Mar					Apr				May				June				July				Aug				Sept				Oct				Nov			
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Phase 1 Preliminary Design	1.01 Background Document Review																																																		
	1.02 Kick off Meeting & Field Visit																																																	
	1.03 Electrical Site Review																																																	
	1.04 Coatings Evaluation & Testing																																																	
	1.05 Surveying & Base Drawing Preparation																																																	
	1.06 Geotechnical Investigation & Report																																																	
	1.07 Development of Alternatives																																																	
	1.08 Scope Refinement & Workshop Meeting																																																	
	1.09 Alternatives Technical Memorandum																																																	
	1.10 Preliminary Design Review Meeting																																																	

Task & Description		Dec					Jan-21				Feb				Mar					Apr				May				June				July				Aug				Sept				Oct				Nov			
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Phase 2 Preliminary Engineers Rpt.	2.01 Selected Alternatives Development																																																		
	2.02 Preliminary Engineers Report																																																	
	2.03 Report Review Meeting			Mtg																																														

Task & Description		Dec					Jan-21				Feb				Mar					Apr				May				June				July				Aug				Sept				Oct				Nov			
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Phase 3A Treatment Plant PS&E	3A.01 60% Submittal																																																		
	3A.02 90% Submittal																																																		
	3A.03 100% Final Submittal			Mtg																																														

Task & Description		Dec					Jan-21				Feb				Mar					Apr				May				June				July				Aug				Sept				Oct				Nov			
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Phase 3B Pond Repair PS&E	3A.01 60% Submittal																																																		
	3A.02 90% Submittal																																																		
	3A.03 100% Final Submittal			Mtg																																														

Task & Description		Dec					Jan-21				Feb				Mar					Apr				May				June				July				Aug				Sept				Oct				Nov			
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Phase 3C Tank and Piping PS&E	3A.01 60% Submittal																																																		
	3A.02 90% Submittal																																																		
	3A.03 100% Final Submittal			Mtg																																														

Task & Description		Dec					Jan-21				Feb				Mar					Apr				May				June				July				Aug				Sept				Oct				Nov			
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Phase 4 Funding Application & DDW Permitting	4.01 Tailor PER to Funding Agency Requirements																																																		
	4.02 Modify Operations Plan																																																		
	4.03 Water Supply Permit Assistance & Data Sheets	After Construction																																																
	4.04 Record Drawings	After Construction																																																

Insurance and Consultant Agreement

Brelje & Race proposes no exceptions to the City's Standard Professional Services Agreement, including the insurance requirements set forth in Section 5.0. Brelje & Race will provide all required proof of insurance to the City upon the issuance of a contract.

Appendix A - Resumes

BRELJE & RACE CONSULTING ENGINEERS

M. Sean Jeane, P.E.

Brent Beazor, P.E.

Benjamin Bryant, P.E.

George Potter, P.E.

Karen Bolan, P.E.

Anna McKenna, E.I.T.

Dana Brock, P.E., C.E.G.

Justin Witt

STRUCTURAL DESIGN GROUP

Richard Burris, SE

A. T. E. E. M., INC.

Sharon Kimizuka, P.E.

FARWEST CORROSION CONTROL COMPANY

Statement of Qualifications

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M. SEAN JEANE, P.E.

Education
B.S., Civil Engineering, California State University, Chico, 1988

Registration
Professional Civil Engineer, CA No. C52402

Professional Affiliations
American Council of Engineering Companies, North Coast Chapter, Past President

American Society of Civil Engineers

American Water Works Association

California Society of Healthcare Engineers

Leadership Santa Rosa Class XXIV

Training/Certifications
Kentucky Pipe Networks, University of Kentucky,

Haestad Methods Cybernet/ WaterCAD

MWH Soft H2ONet Water Model Workshop

Sean Jeane, an Associate Principal with more than 30 years of civil engineering experience focused in utilities planning, design, peer review, contract administration, and construction management. His project portfolio includes water system planning; water storage tank, pipeline, and pumping station design; water well design and rehabilitation; wastewater treatment facilities and sewer rehabilitation; roadway improvement and ADA improvement design; parks planning and pathway design; drainage systems and erosion control for both private and public agencies. Additional services include management of grading and drainage review for Sonoma County PRMD and on- call construction management and peer review/value engineering assistance to the City of Rohnert Park and District Engineer for the Callayomi County Water District.

Water Utility Planning and Design

Sutter Medical Center Santa Rosa

- Water Supply Wells, Treatment, Storage and Pumping Facilities
- Underground Fire Storage Tanks

City of Rohnert Park

- Hydraulic Model Study Update
- Rohnert Park Expressway 16-inch Transmission Main
- Tank Exterior Recoating – Tanks 1, 3, 4, and 5
- Water System Hydraulic Model Study
- Water System Capital Improvement Program
- Water Mains Improvements (Various)
- Commercial Meter Replacement, Phase III
- South East Water Storage Tank

City of Santa Rosa

- S3 Pump Station Pump and Emergency Generator Additions
- Storage Reservoir Seismic Upgrades, Phases I and II
- Proctor Heights Water Storage Tanks and Pump Station

Callayomi County Water District

- Water Treatment Plant and Office Replacement

CYO Catholic Charities – Youth Camp, Occidental

- Water System Pipelines and Treatment Plant Improvements

Camp Meeker Recreation and Park District, Occidental, CA

- Water Supply Well, Treatment Plant, Transmission and Storage

Bodega Bay Public Utility District

- High Pressure Zone 8-inch Intertie Pipeline
- Bodega Dunes Well Station No. 3A

The Bishop's Ranch

- Water System Improvement Feasibility Study

Town of Windsor

- Water System Master Plan and Hydraulic Model

Valley of the Moon Water District

- Bolli Water Storage Tanks
- Hydraulic Model and Master Water Plan
- Water Mains Replacement Projects (Various)

Hopland Public Utilities District

- Hydraulic Model and Water Master Plan
- East and West Water Storage Tanks

Redwood Valley County Water District

- Water System Hydraulic Model and Planning Report
- Irrigation System Hydraulic Model and Planning Report

Wastewater and Recycled Water Utility Design

City of Santa Rosa

- Place to Play Pump Station (Recycled Water)

Sutter Medical Center Santa Rosa

- Sewer Lift Station with Underground Emergency Storage Tank

Santa Rosa Memorial Hospital

- Sewerage Grinder Pump Station Installation

Bodega Bay Public Utility District

- Tertiary Treatment Plant Upgrades
- Flocculation Tank Addition
- Headworks Screen Addition
- AquaDisk® Filter Addition

Sonoma County Water Agency

- Airport-Larkfield-Wikiup Sanitation Zone – Wastewater Treatment Plant Tertiary Upgrades
- Forestville County Sanitation District – Wastewater Treatment Plant Tertiary Filter Additions and Improvements

ADA Compliance/Pedestrian/Bicycle Pathways Design/Site Development

Sonoma County Agricultural Preservation and Open Space District

- North Sonoma Mountain Trail Staging Area (ADA Trailhead, Parking, and Entrance Road) and Equestrian Bridge

City of Rohnert Park

- Water Storage Tank 8 and Transmission Mains Access Road with Spur Trail
- Crane Creek Trail

- Copeland Creek Bike Path

City of Santa Rosa

- Proctor Heights ADA Walking Path

County of Sonoma

- Graton and Occidental ADA Improvements, Phases I through III

Kaiser Permanente Vallejo Medical Center

- ADA Improvements
- Central Utility Plant Decommissioning
- Hot Water Piping Replacement

Kaiser Regional Laboratory, Richmond

- Equipment Pad Addition
- Parking and ADA Improvements

Jerold Phelps Community Hospital, Garberville

- CT Scanner Building Pad, Parking Lot and ADA Improvements
- MRI Truck Parking Improvements

Alexander Valley Healthcare

- Alexander Valley Wellness Center Site Development

St. Joseph Health Medical Office Building, Santa Rosa

- ADA Improvements

Plan Check / Peer Review

County of Sonoma Permit and Resource Management Department

- Grading and Drainage Plan Checking Project Manager

City of Rohnert Park

- Water Storage Tank 8 and Transmission Mains
- Eastside Trunk Sewer Phases II and III
- University District Programmatic Assistance
- Sewer and Water Rehabilitation (Various Projects)

Construction Management

County of Sonoma

- Graton ADA Improvements, Phases I, II and III

Rohnert Park

- Water Storage Tank 8 and Transmission Mains
- SSU Sewer Rehabilitation
- Pump Station Wet Well Lining
- Claussen Overcrossing and Highway 101 Sewer Lining
- Interceptor Outfall Gravity Section Rehabilitation

- 2016 Sewer Linings
- Adrian Sewer and Water Rehabilitation, Phases I and II
- Alta-Almond Sewer and Water Rehabilitation
- Graton Rancheria Sewer Lift Station and Force Main Installation
- Tanks 1, 3, 4 and 5 Exterior Recoating
- Tank 2 Interior Recoating
- Copeland Creek Bike Path Reconstruction

Santa Rosa

- Oakmont 12-inch Water Main Replacement
- S3 Pump Station Pumps and Emergency Generator Additions
- Storage Reservoir Seismic Upgrades – Phase I and Phase II
- Proctor Heights ADA Walking Path

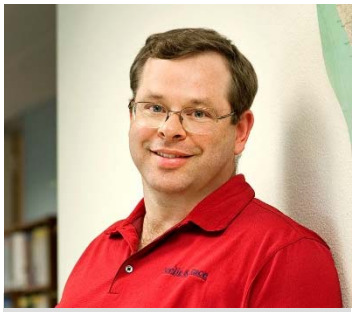
Valley of the Moon Water District

- Bolli Water Storage Tanks A and B
- Bolli Water Transmission Main
- Water Main Replacement Projects (various)

Bodega Bay Public Utility District

- Wastewater Treatment Plant Tertiary Upgrades
- Dunes Well No. 3A
- High Pressure Zones 8-inch Intertie Pipeline
- WWTP Flocculation Tank
- East Shore Road Water Main Extension

BRENT BEAZOR, P.E.



Education
B.S., Civil Engineering, University of California, Davis, 1996

Registrations
Professional Civil Engineer, CA No. 60683

Professional Affiliations
American Council of Engineering Companies

American Society of Civil Engineers

American Water Works Association

Wine Country Water Works Association

Certifications
Construction Specifications Institute – Construction Documents Technologist

Brent Beazor is an Associate Principal with the firm and has over 27 years of experience as a civil engineer responsible for project management and design of new water distribution systems, and renovations and replacements of existing systems; preparation of engineering and feasibility reports; and preparation of annexation, boundary, and water distribution system maps. Brent is also an experienced resident engineer, having provided construction management and inspection services on numerous utility projects.

Water

City of Cloverdale

- Water System Improvement Project, Phase II, Phase I

Sonoma County Public Works CSA #41 Salmon Creek Water District, Salmon Creek, CA

- Water System Improvements

Circle Oaks County Water District, Napa, CA

- Water System Improvements

Cobb Area County Water District

- Forestry Tank Replacement
- Cobb Area County Water System Consolidation Study
- Hill 9/10 and Branding Iron Water Systems Improvements

Sunrise Shore Mutual Water Company

- Test Well, Treatment and Storage Facilities

Magic Mountain Property Owners Association

- Distribution System Improvement Project

Sonoma County Public Works CSA #41 Freestone Water District, Freestone, CA

- Water Treatment Upgrade

Loch Lomond Mutual Water Company

- Water Distribution System Improvements

Inverness Public Utility District

- Tenny and Stockstill Water Storage Tank Replacement

Roberts Road Properties, LLC.

- 2200 Roberts Road Bolted Steel Tank and Site Improvements

The Ranch Sonoma

- Water System Project

Bolinas Community Public Utilities District, Bolinas, CA

- Water System Improvements

Valley of the Moon Water District

- Boyes Hot Springs Area Water Main Replacements, 2013

County of Lake Special Districts

- Bonanza Springs, Starview, and Mt. Hannah Water Tank Replacement Project Preliminary Engineering Report
- Mt. Hannah Water Tank Replacement

Sweetwater Springs Water District, Guerneville and Monte Rio, CA

- Phase IV-B, Project 3-Distribution System Improvements
- Phase IV-B, Project 2-Distribution System Improvements
- Phase IV-B, Project 1-Distribution System and Storage System Improvements
- Phase IV-A, Project 2-Water Main Replacements
- Phase IV-A, Project 1-Water Main Replacements
- Phase III Water Distribution and Storage Improvement Project
- Hwy 116 Water Main Replacements

Town of Windsor

- Creek Crossing Water Main Repair

Russian River County Water District. Forestville, CA

- Assessment District 2007-01 Improvements
- SCADA Improvements

Wastewater and Recycled Water

City of Santa Rosa, CA

- Los Alamos Trunk Sewer Replacement (in progress)
- Oakmont Treatment Plant Sewer Trunk Relocation (in progress)

Occidental County Water District/Sonoma County Water Agency, Occidental, CA

- Storage Pond Conceptual Design

Construction Observation/Management

City of Cloverdale

- Water System Improvements, Phase II, Phase I

CSA #41 Salmon Creek Zone of Benefit

- Water Distribution System Improvements

Circle Oaks County Water District, Napa, CA

- Water System Improvements
- Sewer System Improvements

Loch Lomond Mutual Water Company,

- Water System Improvements

Sweetwater Springs Water District, Guerneville and Monte Rio, CA

- Phase IV-B, Project 3-Distribution System Improvements
- Phase IV-B, Project 2-Distribution System Improvements
- Phase IV-B, Project 1-Distribution System and Storage System Improvements
- Phase IV-A, Project 2-Water Main Replacements
- Phase IV-A, Project 1-Water Main Replacements
- Phase III Water Distribution and Storage Improvement Project
- Hwy 116 Water Main Replacements

Russian River County Water District. Forestville, CA

- Assessment District 2007-01 Improvements

BENJAMIN BRYANT, P.E.

Education
B.S., Civil Engineering, California State University, Chico, 2009

Registration
Professional Civil Engineer, CA No. 79218

Certifications
LEED, AP

Professional Affiliations
American Council of Engineering Companies

California Water Environment Association

U.S. Green Building Council

Wine Country Water Works Association

Water Environment Federation

Benjamin (Ben) Bryant, an Associate, has a broad range of experience in the fields of wastewater, water, and geotechnical engineering. His portfolio of municipal wastewater infrastructure projects includes feasibility studies, regulatory compliance, design, rehabilitation, engineering support during construction, peer review and project start-up and commissioning.

Ben has led many utility and embankment reservoir projects, comprised of scheduling, field exploration, geotechnical coordination, construction document development, bidding assistance, regulatory agency coordination and approval, hydraulic modeling, deep excavations, earthwork calculations, cost estimating, resident engineering, and construction management/inspection. He is accomplished at hydraulic modeling for evaluation of pressure and gravity flow pipe, and open channel flow systems.

Water

City of Santa Rosa

- Brown Farm Water Pump Station 3 Modifications
- Station 13 Booster Pump Upgrades and Reservoir 12A Site Security
- Summerfield Rd. and Sonoma Ave. Zone 6 and 9 Water Pumper Connections

Timber Cove County Water District

- Amanita Circle Water Main Replacement
- Ruoff Emergency Water Supply Well Source Water Permitting
- Raw Water Pumping System Modifications

Forestville Water District

- Water System Asset Management Plan
- Young Ranch Storage Tank and Pressure Zone Control Modifications

Town of Windsor

- Storage Tank Recoating and Access Improvements

Yulupa Mutual Water District

- Source Water Well Permitting
- Iron and Manganese Removal System Design

City of Rohnert Park

- Anderson 53 Tank (Tank 8) and Transmission Main
- Anderson 53 Tank (Tank 8) and Transmission Main

Wastewater and Recycled Water

City of Santa Rosa

- Geysers-Delta Connection Improvement Project
- Los Alamos Trunk Sewer Replacement Preliminary Design
- Geysers Pipeline Stabilization, Pine Flat Road
- West College Pond 1 Divider Levee Project
- Brown Farm Pond Drain Pipeline to Llano Trunk Sewer
- Spring Lake Lift Station Improvements and Geotechnical Corrections

- Meadow Lane Effluent Pond 'D' Repair, Geotech Exploration, DSOD (Division of Safety of Dams) Approval Process
- Meadow Lane Effluent Pond 'B' Repair, DSOD Approval Process
- Meadow Lane Effluent Pond 'C' Repair, Geotech Exploration, and DSOD Approval Process
- Meadow Lane Dam Breach Model and Inundation Study
- Laguna Plant Sludge Pump Station
- Brown Farm Pump Station

Lake County Special Districts

- Anderson Springs Sewer Improvements

Town of Windsor

- Effluent Storage Pond 5 Dike Emergency Repair
- Effluent Storage Pond 5 Outlet Piping
- Aeration Basin Air Piping Improvements
- Wastewater Treatment Plant Mapping

County of Sonoma

- Leachate Pipeline Cotati Trunk Sewer Connection
- Central Landfill Leachate Pump
- Leachate Storage Tank Analysis for Closed Landfills

Forestville Water District

- Sewer Service Charge Methodology Modification, Study and Implementation
- Recycled Water Availability Evaluation
- Wastewater Treatment Plant Chlorination System
- Sewer System Planning Map and Modeling
- Sewer Inflow/Infiltration Compliance Project

Sutter Medical Center of Santa Rosa

- Wastewater Treatment Plant Decommissioning Plan

City of St. Helena

- Biosolids Evaluation and Sampling

Site Development

County of Sonoma

- Graton ADA Improvements – Phase 2
- Occidental ADA Improvements – Phase 3

Kaiser Permanente

- Kaiser Richmond Infrastructure Upgrades

Construction Management / Observation / Engineering Support during Construction

County of Sonoma

- Leachate Pipeline Cotati Trunk Sewer Connection

City of Santa Rosa

- Spring Lake Lift Station Improvements and Geotechnical Corrections
- White Oak Drive Water Main Replacement
- Geysers Pipeline Stabilization – Pine Flat Road
- West College Pond 1 Divider Levee Project
- Summerfield Rd. and Sonoma Ave. Zone 6 and 9 Water Pumper Connections
- Meadow Lane Pond 'D' Repair – DSOD Coordination, Submittal Reviews
- Meadow Lane Effluent Pond 'B' Repair, DSOD Approval Process
- Meadow Lane Effluent Pond 'C' Repair, Geotech Exploration, and DSOD

Lake County Special Districts

- Anderson Springs Sewer Improvements

Town of Windsor

- Biosolids Removal Project Observation

Kendall Jackson Winery

- Wine Center Wastewater Facilities
- Blending Tank Expansion Projects (Phase 1 and 2)

GEORGE W. POTTER III, P.E.

Education
M.S., Civil Engineering, Brigham Young University, Utah, 1989

B.S., Civil Engineering, Brigham Young University, Utah, 1988

Registration
Professional Civil Engineer, CA No. C0052700
TX No. 124507

Professional Endeavors
Brelje & Race
1989 to Present

Professional Affiliations
American Society of Civil Engineers

American Water Works Association

Society for Protective Coatings

Certifications
Protective Coatings Inspector (PCI) Society for Protective Coatings (SSPC), 1/2012

Lead Paint Removal (SSPC-C3 Certification), 2/2011, 4-day onsite course by SSPC

24-Hour HAZWOPER (Hazardous Waste Operations and Emergency Response), under 29 CFR 1910.120(e), 2/2011, Compliance Solutions

8-Hour HAZWOPER Refresher, 3/2020, Compliance Solutions

Confined Space Entry, under 29 CFR 1910.146, 3/2020, Compliance Solutions

Contractor Liability for Public Entities, 5/2010, Risk Management Solutions

Respirator Use, under 29 CFR 1910.134, 4/2011, Compliance Solutions

Asphalt Inspector Series, 9.5 hours, 5/2020, Asphalt Institute

George Potter is a Senior Engineer with more than 30 years of civil engineering experience, primarily involved with the planning, design and construction management of water, wastewater, storm drainage, and roadway projects. He has also assumed the role of resident engineer for numerous infrastructure, utility piping, and water tank construction and recoating projects. George's design experience includes the preparation of technical reports, construction plans, and specifications for sewer mains, wastewater lift stations, water main replacements, water storage tanks, and water pumping stations. As the Program Administrator in charge of Brelje & Race's Injury and Illness Prevention Program, George manages employee work site hazard assessment education and development of Site Specific Health and Safety Plans for their construction site activities.

Water / Wastewater

Town of Windsor

- Water Reclamation System
- Lakewood Water Storage Tank Rehabilitation
- Advanced Waste Treatment Facilities Upgrade

City of Rohnert Park

- Water Storage Tanks 1, 3, 4, and 5 Coatings Evaluation Report
- Water Storage Tank 8 and Transmission Mains

City of Petaluma

- Wastewater Biosolids Removal Facility

Mayacama Golf Club

- Wastewater Treatment Plant

City of Santa Rosa

- Jack London Elementary School
- A Place to Play Recycled Water Irrigation Pump Station

Bodega Water Company

- Water System Improvements

Inverness Public Utility District

- Water Tank Evaluations
- Stockstill Tank Replacement

CYO Catholic Charities – Youth Camp, Occidental

- Water Storage Tank Replacement
- Water System Replacement

Loch Lomond Mutual Water Company

- Tank Rehabilitation

Yulupa Mutual Water Company

- Storage Tank Design

Russian River County Water District

- Four Water Tank Evaluations

Cobb Area Water District

- Tank Evaluations and Rehabilitations

Kelly Mutual Water Company, Sebastopol

- Water Main and Storage Tank Replacement

Forestville Water District

- Hwy 16 Tank Evaluation and Rehabilitation

Construction Management and Inspection

City of Cloverdale

- Water System Improvement Project Phase 2
- Clarifier and Filter Rehabilitations, Three Phases
- Ritter and South Crest Tank Design
- Hot Springs Tank Rehabilitation

Callayomi County Water District

- Water Treatment Plant and System Upgrades

Bohemian Grove

- Wastewater Collection and Treatment System Replacement

City of Santa Rosa

- Spring Lake Pump Station Upgrades
- Oakmont Water Main Replacements
- Laguna Treatment Plant Trunk Sewer Interconnect
- A Place to Play Recycled Water Irrigation Pump Station
- Seismic Upgrades & Improvements, Tanks R2-A, R4B and R-14
- Geysers Recharge Pump Station Expansion
- Meadow Lane and Rohnert Park Pump Station Retrofits

City of Rohnert Park

- Water Storage Tank 8 and Transmission Mains
- Sewer Wet Well Lining
- Water Storage Tank No. 2 Interior Recoating
- Water Storage Tanks 1, 3, 4, and 5 Coatings
- Graton Rancheria Casino Sewer Force Main

City of Cotati

- St. Joseph Sewer Line Replacement
- William and Olof Sewer Replacements

City of Petaluma

- Paula Lane Tank Evaluation and Rehabilitation

Town of Windsor

- Clarifier Rehabilitation, Phases 1 and 2
- UV Channels Refurbishment
- Flocculation Tanks and Clarifier Recoating
- Welded Steel Water Storage Tank Rehabilitation – Lakewood Tanks I and II and Shiloh Tanks A, B and 4

- Storage Tank Warranty Recoating, Mayacama Golf Course
- Welded Steel Water Storage Tank Rehabilitation – Lakewood Tank II and Shiloh Tanks A, B and 4

North Marin Water District

- Water Treatment Plant Clear Wells Evaluation and Coating

County of Sonoma

- Graton ADA Improvements, Phase I

Bodega Bay Public Utility District

- North and South Bodega Harbour Pressure Zones 8-inch Intertie Pipeline

Branger Mutual Water Company, Santa Rosa

- Water Storage Tank Replacements

Inverness Public Utility District

- Conner Tank Rehabilitation

KAREN BOLAN, P.E.

Education
B.S., Environmental Resources Engineering, Humboldt State University, 2009

Registration
Professional Civil Engineer, CA No. 80662

Professional Endeavors
Brelje & Race
April 2018 – Present

Santa Rosa Junior College
2017 – 2018

California State Water Resources Control Board
2010 – 2017

State of California Department of Public Health
2009 – 2010

Professional Affiliations
American Society of Civil Engineers

American Water Works Association

Toastmasters International

Karen Bolan has over 9 years of engineering experience with emphasis in public water systems. Her primary focus is analysis and evaluation of water system designs, operations and programs. Familiar with the engineering, institutional, economic, planning and environmental aspects of water resource management, Karen is a valuable resource for the firm in regards to working with local and regional agencies. Additionally, this role allows her to provide creative and innovative design solutions to water supply challenges.

Water

Cobb Area Water District
- Summit Area Improvements
- Consolidation Project Phase II

Redwood Valley County Water District
- Redwood Valley Water Infrastructure Retrofit Project

Lower Lake County Water Works District
- Lower Lake, Konocti, and Highlands Emergency Intertie

Palomino Lakes Mutual Water Company
- Tank Site 2 Improvement Plans
- Operations Plan

Clear Creek Mutual Water Company
- Water System Evaluation

Russian River County Water District
- Hazard Assessment

Redwood Empire Vineyard Management
- Public Water System Permit Application

Bevill Vineyards
- Public Water System Permit Application

Mauritson Labor House
- Public Water System Permit Application

Dutcher Crossing Winery
- Public Water System Permit Application

Korbel Brothers Winery
- Change in Treatment Public Water System Permit Application

Salmon Creek Middle School
- Change in Treatment Public Water System Permit Application

Downtown Graton Water Company
- Change in Treatment Public Water System Permit Application

Geyserville Academy
- Change in Treatment Public Water System Permit Application

Magic Mountain Mutual Water Company
- Change in Treatment Public Water System Permit Application

Sonoma County Mutual Water Company

- Change in Treatment Public Water System Permit Application

Mt. Gilead Bible Camp and Conference Center

- Change in Treatment Public Water System Permit Application

Prior to Brelje & Race

Santa Rosa Junior College Petaluma, CA

- Industry Liaison for Water/Wastewater Certificate Program – Assess program needs. Develop internship opportunities for students. Improve program marketing and outreach capacity. Redesign program website. Facilitate equipment donations. Draft funding requests for program expansion and improvement.

State Water Resources Control Board Santa Rosa, CA

- Associate Sanitary Engineer – Inspect and investigate public water systems. Review, analyze, and evaluate water system design, operation, procedures, data, and programs. Evaluate and recommend for approval water source, treatment, storage, and distribution plans and designs. Prepare and review permit and construction reports, designs, and plans. Review engineering calculations, designs, and reports. Investigate water quality problems. Consult with and advise engineers, attorneys, and water system operators.

California Department of Public Health Santa Rosa, CA

- Regional Funding Coordinator – Act as a liaison between water systems, district offices, and headquarters to assist the process of funding water system improvements and disseminate information about funding programs. Develop tools used to track funding projects, deadlines, procedures, and practices to assist districts and water systems with the funding process. Review funding project applications. Work with district staff to write permits and technical reports, and attend inspections. Attend trainings and funding policy development meetings.

ANNA MCKENNA, M.S., E.I.T

Education
M.S., Civil Engineering and Environmental Engineering, University of Colorado, Boulder, 2016

B.S., Civil Engineering and Environmental Engineering, University of California, Davis, 2013

Registration
Engineer in Training
CA No. 152723

Professional Endeavors
Brelje & Race
January 2020 to Present

JVA, Inc.
2016-2019

Central Contra Costa Sanitary District
2013-2014

Professional Affiliations
Chi Epsilon (National Civil Engineering Honor Society)

Certifications
Colorado Professionals in Onsite Wastewater – Soil and Site Evaluation

Anna McKenna has five years of experience as a water and wastewater treatment design engineer and process modeler. She has been trained in solids processing and handling design - including aerobic digester design, aeration system design, anaerobic digester design, dewatering design, and solids pumping design - lift station design, headworks design, chemical and biological treatment design, pilot testing, BioWin wastewater process modeling, onsite wastewater treatment system design, and nutrient studies. Her experience includes process evaluation, process modeling, process and instrumentation diagram development, hydraulic profile design, equipment specifications, pump design, blower design, cost estimation, permitting, funding coordination, design reports, and construction administration.

PROJECT EXPERIENCE

Wastewater and Recycled Water

Town of Windsor

- AWT Clarifier No. 1 Rehabilitation Project
  - » Final Plans and Specifications
- Pond 5 Berm Repair Project
  - » Final Plans and Specifications

City of Santa Rosa

- Backup Generator Replacement Project
  - » Preliminary Design
- High Flow Pump Model Project
  - » Hydraulic Modelling
- Geysers-Delta Connection Improvement Project
  - » Hydraulic Modelling

Forestville Water District

- Groundwater Monitoring Work Plan

Town of Lyons*

- Eastern Corridor Lift Station and Forcemain Project
  - » Basis of Design Report
  - » Process Design and Report
  - » Final Plans and Specifications
- Wastewater Treatment Plant Improvements Project
  - » Basis of Design Report
    - o BioWin Process Modeling
    - o Blower Upgrades

City of Idaho Springs*

- Wastewater Treatment Plant Expansion Project
  - » Feasibility Study
  - » Basis of Design Report
  - » Process Design and Report
    - o Headworks
    - o Influent Pumps
    - o Blowers
    - o Biological Nutrient Removal – Activated Granular Sludge

        - Aerobic Digestion
        - Dewatering System
        - Solids Transfer Pumps
        - Cake Pumps
    - Final Plans and Specifications

Town of Lochbuie*

- Wastewater Treatment Plant Expansion Project
    - Process Design and Report
        - Dewatering System for Aerobically Digested Sludge
        - Influent Wetwell and Lift Station
    - Final Plans and Specifications
- Water Treatment Plant Expansion Project
    - Capital Improvements Plan
    - Basis of Design Report
    - Process Design and Report
        - Reverse Osmosis
        - Chemical Addition
        - Piping Upgrades
    - Final Plans and Specifications

Town of Nederland*

- Solids Processing and Handling Improvements Project
    - Process Design and Report
        - Aerobic Digestion
        - Dewatering System with Screw Press
        - Solids Transfer Pumps
        - Cake Pumps
        - Emergency Overflow Pond
    - Final Plans and Specifications

Construction Management

Town of Windsor

- AWT Clarifier No. 1 Rehabilitation Project
- Pond 5 Berm Repair Project

Town of Lochbuie*

- Water Treatment Plant Expansion
- Booster Pump Station
- Wastewater Treatment Plant Expansion
    - Influent Wetwell and Lift Station
    - Dewatering System

Town of Nederland*

- Solids Process and Handling Facility
    - Aerobic Digestion
    - Dewatering System
    - Cake Pumps
    - Emergency Overflow Pond

*Projects completed prior to joining Brelje & Race.

DANA J. BROCK, P.E., C.E.G.

Education
B.S., Civil Engineering,
B.S., Geology, University of California, Davis 1978

Registrations
Professional Civil Engineer, CA No. 34379

Professional Geologist, CA No. 3967

Certifications
Certified Engineering Geologist, CA No. 1241

OSHA HAZWOPER

U.S. Army Corps of Engineers, Construction Quality Management

Professional Endeavors
Brelje & Race
2020 to present

Terrain, Inc.
President, Principal Engineer
2006 to 2020

Underground Construction Managers (UCM)
Principal Engineer
2000 to 2005

Veizades & Associates
Project Manager
1996 to 2000

Directed Technologies
VP Operations
1994-1996

Dames & Moore
Associate Engineer
1989 to 1994

Herzog & Associates
Senior Engineer
1986 to 1989

Unocal Geothermal
Production Engineer
1978 to 1986

Dana Brock is a Senior Civil Engineer and a Certified Engineering Geologist with more than 35 years of experience in the civil and geotechnical engineering field. For the past 30 years, he has been a Project Manager responsible for directing engineering design projects, geotechnical investigations, and provided engineering during construction for public works projects, geothermal facilities, and private development infrastructure. His construction experience spans a broad range of engineering projects in the U.S. and in ten other countries, including embankment dams and reservoirs, geotechnical evaluations, excavations, pipeline installations, pump stations, water collection, storage and distribution facilities, wastewater facilities, roadways, retaining structures, foundations and soil and materials testing. Dana's areas of expertise also include vertical and horizontal drilling techniques, microtunneling, structural settlement and underground piping remediation, facilities siting and cost estimates, regulatory interaction, geologic hazard investigations, subsidence evaluations, litigation technical support, and failure analysis.

PROJECT EXPERIENCE

Civil Engineering Design / Construction

City of Santa Rosa

- Ponds C, D, Delta embankment stabilization
- Flood wall for Llano Treatment Facility
- Spring Lake pump station
- West College Wet Weather Facility Pond #1 Interior Dike Addition
- Meadow Lane Effluent Pond 'D' Repair Options and Constructability
- Geysers Pipeline Stabilization – soldier pile walls, horizontal drains, subdrains, slope indicators and vibrating wire piezometers
- Santa Rosa Geothermal Recharge Project, Pipeline River Crossings Microtunneling Methods and Constructability Analysis
- Water Supply Test Well Logging and QC

City of Rohnert Park

- Tank 8 geotechnical inspection during construction

Town of Windsor

- Effluent Storage Pond 2 Leakage Evaluation and Dike Repair
- Effluent Storage Pond 5 Leakage Evaluation and Dike Repair
- Effluent Storage Pond 5 Outlet Piping
- Effluent Storage Ponds 8, 9, 10 Leakage Evaluation and Repair

Occidental County Sanitation District

- Geotechnical and geologic oversight of lined pond site evaluation

Various Local Private Clients

- Geotechnical evaluation, design support and CM for a synthetic lined pond
- Evaluation, design and CM of several water storage reservoirs
- Evaluation and remedial measures for several reservoirs

- Shallow and deep foundations for buildings, tanks and equipment
- Landslide identification and remediation
- Retaining structures
- Other private property infrastructure (wells, piping, roads, pads, ponds)

City of Petaluma

- Zone IV Water System, Pump Station, and Reservoir Improvements

Sonoma County Water Agency

- Russian River Water System Long, Large Diameter Collector Well Laterals
- Russian River Water Wells, Drilling and Microtunneling Alternative Study
- Sonoma Valley Aquifer Storage and Recovery Investigation
- Emergency Water Supply Wells Water Quality Investigation

City of Burlingame

- Mills Canyon Trunk Sewer Replacement Project
- City-wide Sewer Replacement Program (pipe bursting and trenching)
- Sewer Evaluation Litigation Support, Structural Foundation Failure Claim
- 66" Microtunneled Sewer Outfall Beneath HWY 101 to San Francisco Bay

City and County of San Francisco

- Muni 3rd Street Rail Project, Mission Creek and Islais Creek 36" diameter HDD (Horizontal Directional Drilling) Crossings

Lawrence Berkeley National Laboratory

- Soldier pile walls, existing wall toe reinforcement, grading, temporary excavations, demolition of existing concrete retaining walls and slabs

Coso Operators

- 8 Mile Water Supply Pipeline, Rose Valley to Coso Injection Wells
- Power Plant Condenser Foundation Repairs Using Compaction Grouting
- Navy I Geothermal Facility, Cooling Tower Reservoir Repair

CalEnergy

- Construction management of a 16 acre Class II landfill

Calpine

- Santa Rosa Geothermal Recharge Pipeline and Tank siting in Geysers
- Waste Impoundment Embankment Materials Investigation
- Several Pipelines; Units 9 & 10 Access Road in Geysers

Unocal Geothermal

- The Geysers, Many Well Sites, Class II Disposal Sumps, Pipeline Routing
- The Geysers, Unit 12 and Thermal 4 Landslides, Horizontal Deep Drains,
- Slope Survey Network, Stabilization Measures
- The Geysers, Evaluation of Unstable Fills, Slopes, and Landside Sites
- Designated Waste Management Unit

JUSTIN WITT

Education
M.A., Geography – Natural Resources Management and Environmental Planning, San Francisco State University, 2003

B.A., Cultural Anthropology, San Francisco State University, 1997

Professional Affiliations
Association of Environmental Professionals

North Bay Climate Adaptation Initiative

As a Senior Environmental Planner, Justin has more than 20 years of experience and is responsible for project administration and preparation of environmental review documents and environmental permits for public agencies and private clients. He is skilled in preparation of all California Environmental Quality Act (CEQA) documents including: Environmental Impact Reports (EIR); Initial Study checklists; and the CEQA-required public review processes, noticing requirements, and conducting public meetings. Justin has prepared National Environmental Policy Act (NEPA) documents for numerous USDA funding and State Water Board applications. He is proficient in preparing and processing environmental permits related to the U.S. Army Corps of Engineers, Regional Water Quality Control Board, the California Department of Fish and Wildlife and US Fish and Wildlife Service.

CEQA / NEPA

Lake County Sanitation District

- Anderson Springs Wastewater Collection System Initial Study/MND/USDA NEPA/Environmental Report

County of Mendocino

- Redwood Valley Water Infrastructure Retrofit Initial Study/MND/NEPA documentation

Circle Oaks County Water District

- Water and Wastewater System Upgrade Project. Initial Study/MND/USDA NEPA documentation

City of Cloverdale

- Cloverdale Water System Improvements Initial Study/MND/USDA NEPA

Forestville Water District

- 2018 Forestville Sewer System Improvements Project Initial Study/MND

Sonoma County Water Agency/Camp Meeker Recreation and Park District

- Wastewater Reclamation Project EIR/ER

Sonoma County Water Agency/Occidental Community Services District

- Wastewater Storage and Reclamation Project EIR/NEPA

Sweetwater Springs County Water District

- Water Treatment and Distribution Improvement Project Subsequent Initial Study/MND/USDA NEPA documentation
- Water Treatment and Distribution Improvement Project Initial Study/MND/USDA NEPA documentation

City of Calistoga

- Water Treatment and Distribution Project Initial Study/MND/USDA NEPA

Cobb Area Water District

- Hill 9 & 10 and Branding Iron Water District Consolidation Initial Study/MND/NEPA
- Summit Area Improvements Initial Study/MND/NEPA
- Rainbow Drive Pipeline and Bridge Replacement Initial Study/MND
- CAWD Consolidation Phase 1 Improvements Project Initial Study/MND /NEPA
- CAWD Consolidation Phase 2 Improvements Project Initial Study/MND /NEPA

Town of Windsor/Caltrans

- Arata Lane Interchange Phase I, IIA and IIB Project Initial Study/MND/ Addendum/EA

CEQA

Anderson Valley Community Services District

- Boonville Wastewater Collection, Treatment and Disposal and Water System EIR

Town of Windsor

- Pond 1 Expansion Project Initial Study/MND
- Russian River Water Supply Facility Improvements—Well 11 Initial Study/MND
- Russian River Water Supply Facility Improvements—Well 10 and Emergency Generator Initial Study/MND

City of Santa Rosa

- South Fulton Road Trunk Sewer Repair Initial Study/MND
- Sebastopol Road Widening, Southwest Santa Rosa Initial Study
- Railroad Square Drainage Improvements Initial Study/MND
- Los Alamos Trunk Sewer Replacement Initial Study/MND
- Oakmont Treatment Plant Sewer Relocation Initial Study/MND
- S9 Pump Station Initial Study/MND
- T&L Micro General Plan and Zoning Amendment Initial Study/MND

City of Rohnert Park

- Water Main Improvement Project Initial Study/MND

Charles M. Schulz–Sonoma County Airport

- Hydrology and Water Quality Section of EIR

Camp Meeker Recreation and Park District

- Wastewater Reclamation Project Subsequent EIR

Russian River County Water District

- Water Rights Petition Project Initial Study/MND
- Hacienda Annexation Initial Study/MND

Occidental Community Services District

- Water Service Zone Expansion Initial Study/MND

Sweetwater Springs County Water District

- Water Rights Petition for Extension of Time Initial Study/MND
- Water Distribution and Storage Projects Initial Study/MND

Bodega Bay Public Utility District

- North and South Bodega Harbour High Pressure Zones 8-inch Intertie Initial Study/MND
- Bay Flat Road Well Initial Study/MND
- Roppolo Well Station No. 3 Initial Study/MND

Valley Ford Water Association

- Municipal Water Well and Water Treatment Improvements Initial Study/MND

Special District Public Works Projects

- Kelly Mutual Water Company Water System Improvements Initial Study
- Valley of the Moon Water District, Bolli Tank Project Initial Study

Timber Cove County Water District

- Upper Koftinow Loop Water Main
- Water Treatment Plant Upgrade

City of Sonoma

- New Norrbom Road Water Tank Initial Study/MND

City of Healdsburg

- 255 Dry Creek and Grove Business Center Initial Study/MND

Sonoma County Regional Parks

- Guerneville River Park Project Initial Study/MND
- Ragle Ranch Regional Park Off-leash Dog Area Initial Study/MND

Sonoma County Office of Education

- Dutton Avenue Community School Initial Study/MND
- Windsor Community School Initial Study/MND
- Valley of the Moon Children's Home Community School Initial Study/MND
- Petaluma Community School Initial Study/MND

Sonoma County Junior College District

- Shone Farm 8MG Recycled Water Reservoir Project Initial Study
- B. Robert Burdo Culinary Arts Center Initial Study
- Lawrence A. Bertolini Student Services Center Initial Study
- Frank P. Doyle Library Initial Study
- Petaluma Campus Phase II Supplemental EIR
- Warren G. Dutton Jr. Agriculture Pavilion Initial Study

Planning Documents

- Northeast Rohnert Park Specific Plan – Rohnert Park, CA

PRINCIPAL RESUME´

RICHARD D. BURRIS, Principal Engineer

Rich Burris has over 32 years of experience in the design of municipal projects and commercial, educational, and institutional buildings. Rich is an active member of the Structural Engineer's Association of Northern California (SEAONC).

EDUCATION	Bachelor of Science Civil Engineering California Polytechnic State University San Luis Obispo, CA
REGISTRATION	California Structural #S3778 California Civil #C45118 LEED AP BD+C

Rich has acted as Principal Engineer for the following local municipal projects:

County of Sonoma Architecture Division-Facility Assessment
Roof framing analysis of IDC and CMP buildings. Seismic strengthening of Boiler building.

City of Santa Rosa-Oakmont Treatment Plant Abutment Support
Strengthening design of utility bridge foundation

City of Santa Rosa-Laguna Treatment Plant Vault Rehabilitation
Repair design for three deteriorated concrete vaults.

City of Santa Rosa-Brown Farm Pump Station
Design of pump anchorage and of raised concrete platform to support relocated pumps.

City of Santa Rosa-Meadowlane Pump Station
Design of pump anchorage for new pumps.

City of Santa Rosa- Montgomery Street Bridge Water Main Relocation
Design of support for large diameter pipe suspended from concrete bridge.

City of Santa Rosa-Corp. Yard Rock Bin Cover
Design of new steel framed enclosure for existing rock bin.

A T.E.E.M. ELECTRICAL ENGINEERING Inc.
INDUSTRIAL & COMMERCIAL DESIGN

3841 NORTH FREEWAY BOULEVARD, SUITE 145
SACRAMENTO, CA 95834
TEL: (916) 457-8144
FAX: (916) 457-7876

Sharon M. Kimizuka, P.E.

Education
B.S., Electrical Engineering,
University of California, Irvine,
1991

Registration
1998/Electrical Engineer / California
E15698

Experience
A T.E.E.M. Electrical Engineering, Inc. 1994-Present
Holmes & Narver, 1991-1994
Jet Propulsion Laboratory, 1990

Affiliations
California Water Environment Association
Society of Women Engineers
National Fire Protection Association
Institute of Electrical and Electronic Engineers
International Society of Automation

A T.E.E.M.'s Principal in Charge and President, Sharon M. Kimizuka, P.E., is a State of California registered Professional Engineer. Ms. Kimizuka has 26 years of specialized experience in wastewater, water and drainage system engineering projects.

EXPERIENCE

City of San Jose - Electrical Engineer in charge on the City of San Jose Nordale Pump Station Replacement project. Project includes replacing existing electrical controls and utility service. Electrical panels were designed for temporary submergence of station.

UC Davis - Electrical Engineer in charge on the UC Davis Primary Sanitary Sewer and Storm Drain Lift Station Improvements project. Project includes replacing existing electrical controls for five sanitary sewer lift stations and eleven storm drain pump stations. Three different standard pump control panels were designed to replace the existing motor controls. The RTU panels were provided by the University to connect to the pumps, instruments and new panels. ATEEM worked closely with the University to identify the best communication method to each site.

City of Woodland - Electrical Engineer in charge on the City of Woodland ASR Well 29 & 30 project. Project includes replacing existing water wells, chemical systems, control buildings, re-feeding existing park lighting, new generator at one site and security camera system. ATEEM provided programming of the PLC, OI and SCADA system under a separate contract.

City of Woodland - Electrical Engineer in charge on the City of Woodland ASR Well 28 project. Project includes replacing existing water well, chemical systems, control buildings, and security camera system. The RTU was designed to match the new City standard. ATEEM provided programming of the PLC, OI and SCADA system under a separate contract.

City of Woodland – Electrical Engineer in charge of the design for an above ground tank and booster pump station. The station provided power to an existing well and motor controls, generator, RTU, booster pumps and chemical feed system were installed in a new building. The RTU was designed to match the City standard.

City of Sacramento - Electrical Engineer in charge on the Shasta Park Water System project. Project includes new water well, pressure filters, chemical system, control building, storage tank and booster pump station. Programming of the PLC, OI and SCADA system will be by the City. Coordinated with two Civil Engineering companies, the City and another Civil/Electrical Engineering company on project.

Calaveras County Water District, Valley Springs CA - Electrical Engineer in charge of the Jenny Lind WTP SCADA and Expansion Project. Electrical and instrumentation for adding sand filter, and pump station modifications. Provided complete as-built one line diagrams of existing and new Motor Control Centers (MCCs); construction services and PLC/SCADA programming for the project. Replaced existing Filter PLC processor with no downtime.

City of Hayward – Electrical project engineer for the design of the Centex Lift Station Project. Project included retrofitting entire lift station and providing new automatic transfer switch, MCC, instrumentation, and pump controls. Construction services were also provided including PLC programming and SCADA.

Calaveras County Water District, Arnold, CA,– Electrical project engineer for installing the SCADA system to remotely monitor and control pump stations and water storage tanks from a water treatment plant. District was able to recoup this investment with the reduction of staff overtime while providing more information, flexibility and control over their water system.

Placer County, Department of Facility Services, CA – Electrical Principal in Charge of design services for the Saddleback Lift Station. Design included retrofitting entire lift station and providing new automatic transfer switch, standby generator, MCC, RTU and pump controls. Construction services were also provided.

El Dorado Irrigation District, CA - Electrical Principal in Charge of design and construction engineering services for the El Dorado Hills WWTP Phase IIIA Expansion Design Project. The project included PLC & SCADA improvements, UV electrical & administration buildings, three standby generators, three main switchboards, new Headworks, equalization pump station and tank, BNR system, denitrification monitoring analyzers, modified RAS pump station, modified secondary effluent pump station, reservoir effluent pump station, second algae DAF system, second digester system second filter feed pump station, modified chemical feed systems, two tertiary filters, four UV channels, plant water pump station modifications, gas flare system, boiler and biofilter fans.

Groveland Community Services District, CA - Developed lift station standards for the District in 2005, including standardizing motor controls, control panel layout and SLC controls. This became the basis for retrofitting 12 lift stations within the next year..

Calaveras County Water District, CA - Electrical Engineer in charge of developing Lift Station Control Panel that standardized the PLCs, motor control wiring, backup controls, etc. for two- and three-pump systems, using full speed, soft starter or VFD control.

FARWEST CORROSION CONTROL COMPANY

Statement of Qualifications

Farwest CORROSION CONTROL COMPANY

2223 Commerce Place, Hayward, CA 94545

PROJECT APPROACH:

Farwest Corrosion Control Company (Farwest) has a long standing reputation of quality products, superior customer service and an industry leading technical staff dating back to 1956. Farwest has a proven track record of providing cathodic protection and corrosion control related materials and services for industries such as oil, gas, water, wastewater, telephone, power, marine, and various other related industries. Included among our nation-wide 190 plus employees are a staff of experienced managers, corrosion engineers, cathodic protection technicians and capable installation crews.

We are experts in the corrosion control field and can undertake complete turnkey installations including the acquisition of construction permits, supply of needed materials, necessary construction equipment, system commissioning, testing and troubleshooting.

At Farwest our approach to every project starts with identifying the best course of action through proper project planning and management. We then assign the right teams for the job to deliver the absolute best quality results. Our goal is the provide the highest level of customer service and stay committed to our clients.

Farwest's approach to successfully executing the project goals is based on achieving the scope of work through primarily self-performance of critical tasks and mitigating inherent risks to all stakeholders, while providing value-added expertise. Specifically, Farwest understands the importance of the project requirements, and the need to complete work in a timely manner. It is Farwest's goal to deliver an outstanding performance that satisfies the operational needs of the City of Morgan Hill while limiting the impact on the general public and all stakeholders.

EXPERIENCE AND QUALIFICATIONS:

Farwest Corrosion Control Company provides the following corrosion engineering services and has done so since 1957. The project types include water and waste water facilities, storage facilities, municipal and government facilities, oil and gas production, all submerged pipelines, refining operations, nuclear and conventional power plants, offshore structures, marine facilities.

DESIGN & ANALYSIS SERVICES

- Cathodic Protection Drawings & Specifications
- Economic Feasibility & Budget Estimates
- Failure Analysis
- Alternate Energy Designs (Thermoelectric, Solar & Wind)
- Computer & Instrument Grounding Designs
- Research & Development

FIELD SERVICES

- Current Requirement Testing
- Line Current Testing - Natural & Applied
- Stray Current & Interference Testing
- Pipe & Cable Locating
- Electrical Short Locating
- Electrical Continuity, Isolation & Resistance Testing
- Potential Profiles
- Coating Holiday Testing
- Periodic & Annual Surveys
- Rectifier Monitoring
- Soil & Water Analysis
- Underground Metallic Pipeline Current Mapping
- Underwater Surveys
- Rectifier Troubleshooting
- Cathodic Protection System Troubleshooting
- Long Term Data Acquisition
- Cathodic Protection System Maintenance

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Civil and Environmental Engineers
Surveyors • Construction Managers • Land Planners

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Brelje & Race CONSULTING ENGINEERS

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