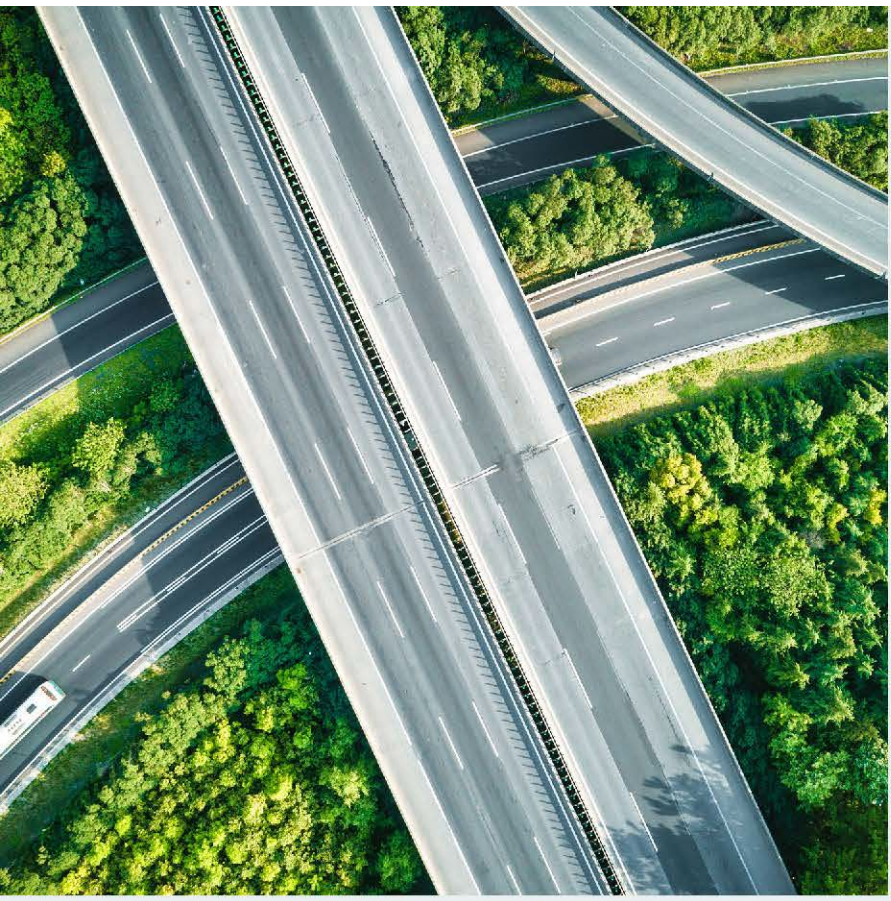

April 29, 2025

2025 Urban Water Management Plan

PROPOSAL

Submitted to

CITY OF FOLSOM ENVIRONMENTAL AND WATER RESOURCES

Submitted by

verdantas

80 Blue Ravine Road, Suite 280
Folsom, CA 95630

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A. Transmittal Letter

City of Folsom

Attention: Marcus Yasutake
Environmental and Water Resources Director
50 Natoma Street
Folsom, CA 95630

Subject: 2025 Urban Water Management Plan

Verdantas Inc. (Verdantas) is pleased to provide the City of Folsom with our proposal to prepare the 2025 Urban Water Management Plan (UWMP). Verdantas (formerly PBI) has been supporting City of Folsom (City) projects since legacy PBI's inception in 2005 and has extensive experience working with the City. We understand that the 2025 UWMP will update the prior 2020 UWMP to meet the new criteria identified by the Department of Water Resources. We are excited about the opportunity to continue working with the City on this project. We are confident that Verdantas will make an exceptional partner for the City of Folsom for the following reasons.

- ***Experienced, highly qualified professionals specialized in the water industry are committed to your project****. Karl Brustad, P.E., will provide overall quality control for the project. Karl has a background that is specialized in water projects and he has a long history of supporting water planning studies for numerous clients, including water master plans and UWMP's. We are proposing Ashley Smith as the project manager for this project. Ashley managed the development of prior UWMPs and has managed several recent planning studies for various clients: Fair Oaks Water District - 2020 and 2015 UWMP, City of Folsom – 2016 Water Master Plan, Calaveras Public Utility District – Water Master Plan, Calaveras County Water District – Copper Cove Water Master Plan, and Kirkwood Meadows Public Utilities District – Water Master Plan. Ashley's extensive experience supporting water planning studies makes her a perfect fit for your project.*
- ***Our resources and local presence.*** *Our office is located within the City of Folsom. Our team will capitalize on local expertise and efficiencies we have gained from prior work experience. Having worked with the City successfully over the years on numerous projects, we know geographics will not affect the execution of this project and we will be as responsive as we have been in the past to assure that the project and City receive the attention they are owed.*

FIRM CONTACT INFORMATION	
Verdantas – Folsom Office 80 Blue Ravine Road | Suite 280 Folsom, CA 95630	Primary Contact: Ashley Smith, PE (530) 200-6309 | asmith@verdantas.com

A proven approach gets the job done right. Successful approaches breed successful projects, and we bring proven techniques to every stage of project development. From project management techniques that optimize project performance to good relationships with regulators, we keep the project on-track at every stage, saving our clients time and money in the short term, and delivering lasting value in the long-term. We look forward to the opportunity to work with you on this upcoming project. If you have any questions or require additional information, please do not hesitate to contact Karl Brustad at (916) 804-6671.

Respectfully submitted,

Karl Brustad, PE, MBA
Assistant Vice President | Verdantas Inc.

B. Introduction

Verdantas Inc. (Verdantas) is a nation-wide company specialized in engineering, planning, and science services to support their clients' sustainability, resiliency, and strategic infrastructure objectives. Verdantas has grown exponentially in the last four years, strategically acquiring firms including Peterson Brustad LLP (PBI). PBI was originally founded in September 2005 to provide engineering consulting services for the water industry.

We are diversified within the water resources realm and provide planning and design services for distribution systems, drinking water treatment, water storage and pump station systems, well rehabilitation and new well development, wastewater collection systems, storm water management, integrated water resources management, water system master planning, and flood management support.

PBI ENGINEERING CONSULTING™ A Verdantas Company is now verdantas

PBI is now part of a larger family of companies, Verdantas, comprised of over 1,700 professionals.

For the last 20 years, PBI has been a fixture of the water industry in Northern California, focusing on providing water resource services for public sector clients. As a part of the Verdantas family of companies, legacy PBI clients can now benefit not only from the efficient and quality design services they have come to expect from PBI, but also a wide variety of specialized resources in-house by Verdantas, as needed.

The local expertise, reputation, and well-established relationships of legacy PBI staff, paired with the strengths of a team of diverse professionals nationwide make us an ideal collaborator in the water industry.

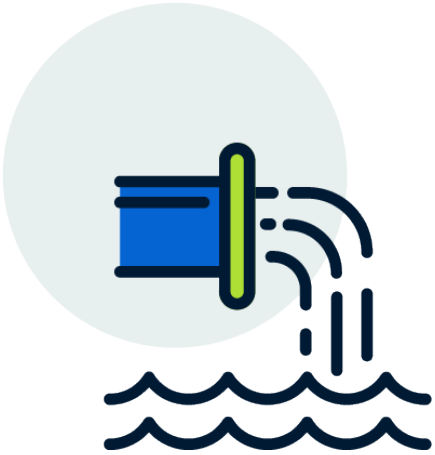
Karl Brustad, a founding principal of PBI and now an Assistant Vice President for Verdantas Inc., has more than 30 years of experience in the water industry, and is actively involved in project delivery. He ensures that his clients receive expert attention, high quality products, and outstanding client service. Our team has decades of experience delivering industry leading civil engineering design and consulting services that help our water clients move projects forward in support of our local communities.

a. History of Repeat Business

The true measure of a firm's quality of service comes in the form of repeat business. More than 80% of legacy PBI's annual services over the last ten years were from repeat clients, who now receive the same level of specialized care and the additional benefits of the larger Verdantas team. In the last twenty years, our team has amassed multiple projects with many of our clients shown in the table above. These clients have come to trust us with their water infrastructure and water resource projects.

# of projects completed	Repeat Clients
75+	California American Water (Cal Am)
35+	Placer County Water Agency (PCWA)
30+	Sutter Butte Flood Control Agency (SBFCA)
30+	San Joaquin Area Flood Control Agency (SJAFCA)
30+	Calaveras County Water District (CCWD)
25+	**City of Folsom**
20+	Sacramento Suburban Water District (SSWD)
20+	San Joaquin County (SJC)
10	City of Stockton

b. Understanding



We understand that the City of Folsom is interested in beginning to develop the City's 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). Services for the 2025 UWMP generally include data review and analysis, updating the City's unit demand factors, development of demand projections, analysis and quantification of demand management measures, population and demographic analysis, system supplies, water supply reliability, water shortage contingency planning, climate change, other factors as identified by the Urban Water Management Planning Act, and preparation of the draft and final report.

We have proposed a team of professionals that are familiar with developing similar studies, including UWMP documents and are up to date on the latest requirements from DWR. 2025 UWMPs and WSCPs are due by July 1, 2026. DWR is currently developing guidance for this cycle of UWMPs which is anticipated to be released this summer. **Based on our recent correspondence with DWR, 2025 guideline updates are anticipated to be minor in nature as no statutory changes are proposed.** Our team is tracking updates from DWR and new guidance documents as they become available.

c. City of Folsom Growth and Development

The City of Folsom is located in Sacramento County, approximately 25 miles east of the City of Sacramento. The City is approximately 30 square miles in area. As of January 2024, the City's population is approximately 80,600 (excluding the Folsom Prison residents). The City expects continued growth with on-going development south of Highway 50 as well as housing densification projects north of Highway 50. **Our team has served as the City's extension of staff for hydraulic modeling since 2014; therefore, our intimate understanding of on-going development and growth within the City is unmatched.** Overall, the build-out population is expected to reach approximately 111,000 residents.

With an ultimate 30% increase in population, we understand that the continued monitoring and tracking of growth and demand is critical for the City's planning efforts. As part of the UWMP and WSCP development, our team will develop a tool that allows the City to input data (housing growth, business growth, population changes, unit demand factor changes, and related items) to update the water demands, population figures, and development type for the Urban Water Management Plan on an annual basis.

C. Scope of Work

We understand that the City is seeking a qualified candidate to develop a clear, comprehensive, and actionable UWMP and WSCP that integrates with the City's long-term planning efforts.

a. Overview and Summary

We understand that the City of Folsom is interested in beginning to develop the City's 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). We understand that the selected firm will need to stay updated on the 2025 UWMP Guidebook produced by DWR, and any other new requirements during this project so that they are all addressed in the final UWMP and WSCP. We have proposed a team of professionals that are familiar with developing similar studies, including UWMP documents and are up to date on the latest requirements from DWR.

i. Understanding of City Objectives

We fully understand the requirements of the scope of work proposed by the City. We will rely on our prior experience and build upon the prior Urban Water Management Plans completed by the City to complete the scope of work identified herein. We understand that the City has the following objectives:

- Comply with DWR's latest guidance documents for UWMP and WSCP submittal requirements
- Develop an updated UWMP and WSCP that incorporates the City's water portfolio from the City's Water Vision efforts

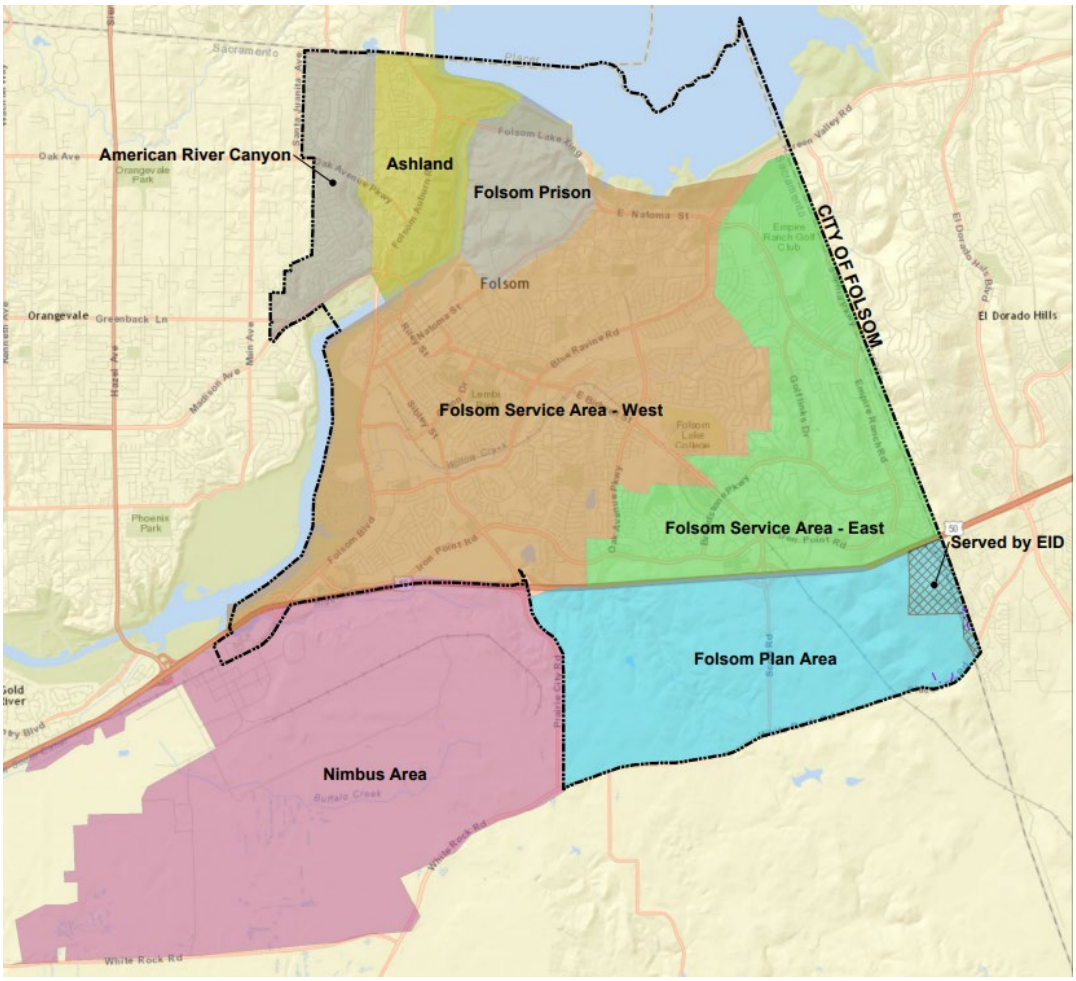
The 2025 UWMPs and WSCPs are due for submission to DWR no later than July 1, 2026. **Our teams prior experience with UWMP development and familiarity with City demands and hydraulic model allow us to streamline the project deliverables and allow adequate time to ensure that the 2025 UWMP and WSCP provides for public review and City Council adoption in a timely manner to meet the submission deadline.**

ii. Understanding of Project Challenges

The City currently relies on Folsom Reservoir for 100 percent of its drinking water supply. Groundwater is not readily available because the City sits mostly on granite rock. While the Folsom reservoir and the City's historic water rights have provided a high degree of water reliability, warmer winters, more intense droughts, and evolving environmental regulations, amongst other factors, are driving the City to evaluate its water supplies and supply infrastructure. Therefore, we understand that the City of Folsom has unique water management challenges which include but are not limited to:

1. *Folsom Plan Area (FPA) Growth – the buildout population of the City is expected to increase by nearly 30%.*
2. *City Water Vision and Portfolio – the City has hosted several public workshops in 2024 to help diversify the supply portfolio*

3. *Whole Sale Water from SJWD - Ashland is currently served by SJWD with infrastructure maintained by the City*
4. *Non-potable Supply – Verdantas recently authored the non-potable water master plan and the City's plans to utilize Aerojet's groundwater extraction treatment wells for non-potable irrigation in the FPA*



iii. Quality Control Plan

BLUEBEAM® STUDIO

We will utilize our established and recently updated quality control plan to ensure all deliverables are reviewed by senior staff with relevant experience to ensure the City receives quality deliverables. Karl Brustad will review all deliverables in advance of submitting to the City. We exclusively utilize Blue Beam Studio software to perform quality control reviews. This software will document all comments from senior staff including response from staff on how the comments were addressed. This allows for seamless backcheck by our reviewers to ensure the highest quality deliverables are submitted.

b. Project Approach and Detailed Scope of Work

Our approach to planning studies is to confirm the planning/design criteria and client expectations up front during the kick-off meeting to gain concurrence with all team members prior to initiating any effort to ensure the utmost efficiency in the performance of the study. This not only avoids possible rework but will help keep the project on schedule and on budget.

The following sections highlight the detailed scope of work.

Task 1. Information and data collection – This task includes the review of existing information and request for supplemental information from the City.

Task 2. 2020 UWMP and WSCP review – This task includes the review of both the 2020 UWMP and WSCP which are both available on the City's website and DWR website.

Task 3. Unit demand analysis

Task 3.1 This task includes reviewing existing unit demand factors from the 2020 UWMP.

Task 3.2 This task includes updating unit demand factors based on the evaluation of water use trends by customer account for the previous ten years. The level of effort for this task is coupled with the development of land-use categories to further refine unit demands by user type.

Task 3.3 This task includes categorizing consumption data by customer class.

Task 3.4 This task includes conducting an indoor and outdoor water use analysis to support unit demand factors.

Task 3.5 This task includes reviewing and analyzing water use data for the Folsom Plan Area to develop unit demand factors for future unit demand calculations in the FPA.

Task 3.6 This task includes comparing the future unit demand factors developed in Task 3.5 to unit demand factors that incorporate the urban water use efficiency standards and recommending the appropriate unit demand factors to use for all land-use categories.

Task 3.7 This task includes reviewing unit demand factor land-use categories and developing recommendations for modifying the land-use categories. It is assumed that the City's land use categories should be expanded into sub-categories (such as low, medium, and high-density residential) to maintain consistency with recent and ongoing developments.

Task 3.8 This task includes identifying industrial water users that could potentially classify as using "process water" as defined in Water Code Section 10608.12 and using water meter data to develop an estimate of the volume of water used by each industrial water user under this category that would qualify as "process water".

Task 4. System description

Task 4.1: This task includes a service area description covering: general description, service area boundary and water service zones, service area climate, service area population, demographics, socioeconomics, and land uses within the service area.

Task 4.2: This task includes the per capita calculation for Single Family Residential and Multi Family Residential within the City water service area and within the retail area of San Juan Water District (American River Canyon north and south). It includes providing population calculations based on the following and recommending which model (including a narrative of the selected model) the City should use in this plan and in annual water service area population accounting: Census data tracks, Department of Water Resources Population tool, other state agency population projections, or some combination of above.

Task 4.3: This task includes providing the service area population by City water service zones based on the per capita tool utilized in Task 4.2 for 2025 and in 5-year increments to 2050 with the breakdown by land-use category.

Task 4.4: This task includes calculating the City's build-out population by City water service zone based on the current 2035 General Plan (amended August 27, 2024) with the breakdown by land-use category.

Task 5. Water use characterization- Similar to the existing UWMP, water use characterization will be based on current meter data for the City. The following tasks provide detailed sections that will impact water use characteristics.

Task 5.1: This task includes documenting existing potable and non-potable demands.

Task 5.2: This task includes providing data on past (five years), current (2025), and future potable and non-potable demands to 2050 by land-use category.

Task 5.3: This task includes calculating potable and non-potable build-out demands based on the updated 2035 General Plan by land-use category.

Task 5.4: This task includes providing data and necessary analysis related to distribution system losses pursuant to Water Code Section 10608.34.

Task 5.5: This task includes documenting low-income (as defined in Section 50079.5 of the Health and Safety Code) household water use demands to 2050.

Task 5.6: This task includes documenting demands by water service zone for the Ashland service zone, incorporating data from San Juan Water District's 2025 UWMP, or using existing data from their 2020 UWMP if the 2025 data is not available.

Task 5.7: This task includes developing and providing a description of how the City incorporates climate change into the water use projections.

Task 6. Water supply characterization

Task 6.1: This task includes providing a description of the City's water sources and explaining how these supplies are managed in relation to each other.

Task 6.2: This task includes documenting the City's water rights and contracts, including the total volume of water.

Task 6.3: This task includes describing groundwater basins within the City. The City is a member of the Sacramento Groundwater Authority and the Sacramento Central Groundwater Authority but has not pumped any groundwater in the last 20 years.

Task 6.4: This task includes exploring recycled water and desalinated water opportunities, providing information pursuant to Water Code Section 10633.

Task 6.5: This task includes describing the wastewater collection and treatment for the City pursuant to Water Code Section 10633 understanding that the City does not perform wastewater treatment.

Task 6.6: This task includes detailing any existing, planned, or potential future water exchange or transfer opportunities pursuant to Water Code Section 10631.

Task 6.7: This task includes reviewing the City's Water Vision project to learn more about potential water supply portfolios discussed with the public and Stakeholder group, and how these projects are included in the 2025 UWMP - Planning a Resilient & Reliable Water Future | Folsom, CA.

Task 6.8: This task includes including energy-related information pursuant to Water Code Section 10631.

Task 7. Water Service Reliability and Drought Risk Assessment

Task 7.1: This task includes assessing the reliability of potable and non-potable water supplies compared to demands for normal, single dry-year, and multiple dry-year scenarios (drought lasting at least 5 consecutive years) to 2050. It involves reviewing historical inflow data into Folsom Reservoir to determine and recommend the appropriate dry-year scenarios (single and multiple) and developing a drought risk assessment pursuant to Water Code Section 10635, including all narrative descriptions required for the assessment.

Task 7.2: This task includes describing any constraints on the City's water supplies and providing a description of the management strategies that have been, or will be, employed to address these constraints.

Task 8. Water Shortage Contingency Plan

Task 8.1: This task includes developing a WSCP pursuant to Water Code Section 10632, reviewing the City's current WSCP, recommending any changes or updates needed, and completing the work necessary to update the WSCP.

Task 8.2: This task includes developing a seismic risk assessment and mitigation plan pursuant to Water Code Section 10632.5.

Task 8.3: This task includes updating the City's Water Conservation Ordinance (Folsom Municipal Code Section 13.26) to align with the Water Shortage Contingency Plan, including a draft and final version (track changes file and clean file).

Task 9. Demand Management Measures (DMM)

Task 9.1: This task includes providing a narrative description of the Demand Management Measures (DMMs) implemented over the last five years. At a minimum, this should include: water waste prevention ordinance, metering, conservation pricing, public education and outreach, programs to

assess and manage distribution system real loss, water conservation program coordination and staffing support, and other DMMs.

Task 9.2: This task includes describing the DMMs the City will implement to achieve its water use target pursuant to Water Code Section 10608.20.

Task 10. Draft report – include the 10 chapters as outlined in the UWMP Guidebook - This task includes sending hard copies to regional agencies for comments, submitting five hard copies to the City, and providing an electronic PDF copy.

Task 11. Final report – include the 10 chapters as outlined in the UWMP Guidebook - This task includes submitting two hard copies to the City, providing an electronic Word copy, and submitting an electronic PDF copy. It also includes the final submittal to DWR and filling out all required DWR tables. Additionally, it includes completing the UWMP checklist as outlined in the UWMP Guidebook.

Task 12. Supporting documentation to provide to the City - This task includes providing supporting documentation to the City. This includes GIS, Word, and Excel files used, as well as documentation detailing any assumptions and showing calculation derivations. The methodologies for unit demand analysis, service area population, and residential and non-residential growth are also included.

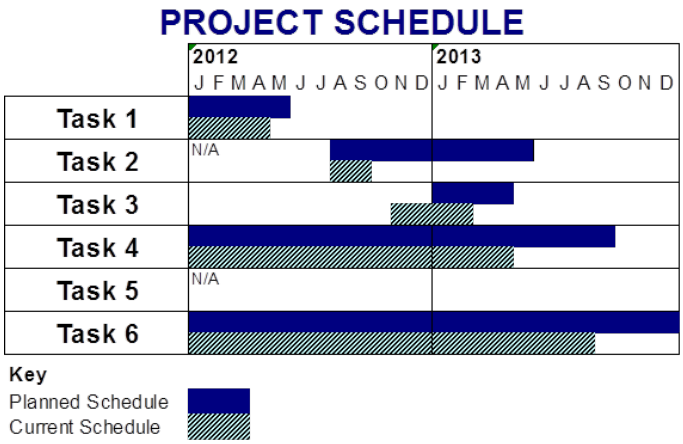
Task 13. Project Management and Meetings - This task includes managing the project and conducting meetings. It involves a project kick-off meeting, monthly review meetings (assumed to include 10 virtual meetings), two public workshops (in-person for two hours each), two presentations to the Utility Commission (in-person for two hours each), two presentations to City Council (in-person for two hours each), coordination with other agencies (including Sacramento County, USBR, San Juan Water District, Golden State Water Company, Placer County Water Agency, RWA, Sacramento County Water Agency, SCGA, EID, El Dorado Water Agency, City of Roseville, Fair Oaks Water District, Orangevale Water District, Citrus Heights Water District, Sacramento Suburban Water District, Sacramento Water Forum, ad the Environmental Council of Sacramento at minimum), and a public hearing for the adoption of the 2025 UWMP and WSCP (in-person for two hours).

i. Labor Table

Task No.	Task Description	Principal in Charge & QA/QC	Project Manager 3	Senior Engineer 1	Staff Engineer 2	Administrative 4	PBI Labor
	2025 Rates	$ 290.00	$ 260.00	$ 220.00	$ 170.00	$ 120.00	
Task 1 - Information and Data Collection							
1.1	Review of Existing Information and Data Collection	0	2	4	12		18
	Subtotal Task 1	**0**	**2**	**4**	**12**	**0**	**18**
Task 2 - 2020 UWMP and WSCP Review							
2.1	Prior UWMP and WSCP Review	0	4	8	16		28
	Subtotal Task 2	**0**	**4**	**8**	**16**	**0**	**28**
Task 3 - Unit Demand Analysis							
3.1	Review Existing Unit Demands		1	2	4		7
3.2	Update Demand Factors		1	2	4		7
3.3	Consumption by customer class		1	2	4		7
3.4	Indoor and Outdoor Water Use		1	2	4		7
3.5	Folsom Plan Area Water Use		1	2	4		7
3.6	Water Use Efficiency Standards		1	2	4		7
3.7	Review Land Use Categories		1	2	4		7
3.8	Identify Industrial Users		1	2	4		7
	Subtotal Task 3	**0**	**8**	**16**	**32**	**0**	**56**
Task 4 - System Description							
4.1	Service Area Description	0	0	1	2		3
4.2	Per capita Calculation	0	1	2	4		7
4.3	Population Projection through 2050	0	1	2	4		7
4.4	Buildout Population Projection	0	1	2	4		7
	Subtotal Task 4	**0**	**3**	**7**	**14**	**0**	**24**
Task 5 - Water Use Characterization							
5.1	Existing Potable and Non-Potable Demands		1	2	4		7
5.2	Past and Future Demand Projections		1	2	4		7
5.3	Buildout Demands		1	2	4		7
5.4	Distribution System Losses		1	2	4		7
5.5	Low income houshold demands		1	2	4		7
5.6	Demands by service zone		1	2	4		7
5.7	Climate Change considerations		1	2	4		7
	Subtotal Task 5	**0**	**7**	**14**	**28**	**0**	**49**
Task 6 - Water Supply Characterization							
6.1	Summary of existing water services		1	2	4		7
6.2	Summary of existing water rights		1	2	4		7
6.3	SGA Participation		1	2	4		7
6.4	Recycled Water and Desalinated Water Opportunities		1	2	4		7
6.5	Description of wastewater collection		1	2	4		7
6.6	Water Exchanges and Water Transfer Opportunities		1	2	4		7
6.7	Future Water Projects	1	1	2	6		10
6.8	Energy Use		1	2	4		7
	Subtotal Task 6	**1**	**8**	**16**	**34**	**0**	**59**
Task 7 - Water Service Reliability and Drought Risk Assessment							
7.1	Assess Potable and Non-Potable Reliability	1	2	4	4		11
7.2	Describe Potential Supply Constraints	1	4	6			11
	Subtotal Task 7	**2**	**6**	**10**	**4**	**0**	**22**
Task 8 - Water Shortage Contingency Plan							
8.1	Develop WSCP	1	2	4	8		15
8.2	Develop Seismic Risk Assessment	1	2	4	8		15
8.3	Update City's Water Conservation Ordinance		2	2	4		8
	Subtotal Task 8	**2**	**6**	**10**	**20**	**0**	**38**
Task 9 - Demand Management Measures (DMM)							
9.1	Narrative Description of DMMs Implemented		2	4	4		10
9.2	Describe DMMs to be implemented		2	4	4		10
	Subtotal Task 9	**0**	**4**	**8**	**8**	**0**	**20**
Task 10 - Draft Report							
10.1	Development of Draft Report	4	6	12	24		46
10.2	Submittal of Draft Report		1	2	2	8	13
	Subtotal Task 10	**4**	**7**	**14**	**26**	**8**	**59**
Task 11 - Final Report							
11.1	Development of Final Report	2	2	4	16		24
11.2	Submittal of Final Report and Checklist		1	2	2	8	13
	Subtotal Task 11	**2**	**3**	**6**	**18**	**8**	**37**
Task 12 - Supporting Documentation							
12.1	Development and submittal of suppoting documenation			2	4		6
	Subtotal Task 12	**0**	**0**	**2**	**4**	**0**	**6**
Task 13 - Project Management and Meetings							
13.1	Project Meetings (Up to 3)		3	3			6
13.2	Public Workshops (Up to 2)		4	2			6
13.3	Utility Commission Presentations (Up to 2)		4	2			6
13.4	City Council Presentations (Up to 2)		4	2			6
13.5	Agency Coordination		1	4		4	9
13.6	Public Hearing		2	2			4
13.7	General Project Management		12	2		12	26
	Subtotal Task 13	**0**	**30**	**17**	**0**	**16**	**63**
	COLUMN TOTALS	**11**	**88**	**132**	**216**	**32**	**479**

c. Project Schedule

We believe that good project management is essential to the success of a project. Our expertise and abilities as project managers have allowed Verdantas to provide specialized project management services for several of our clients' projects and programs.



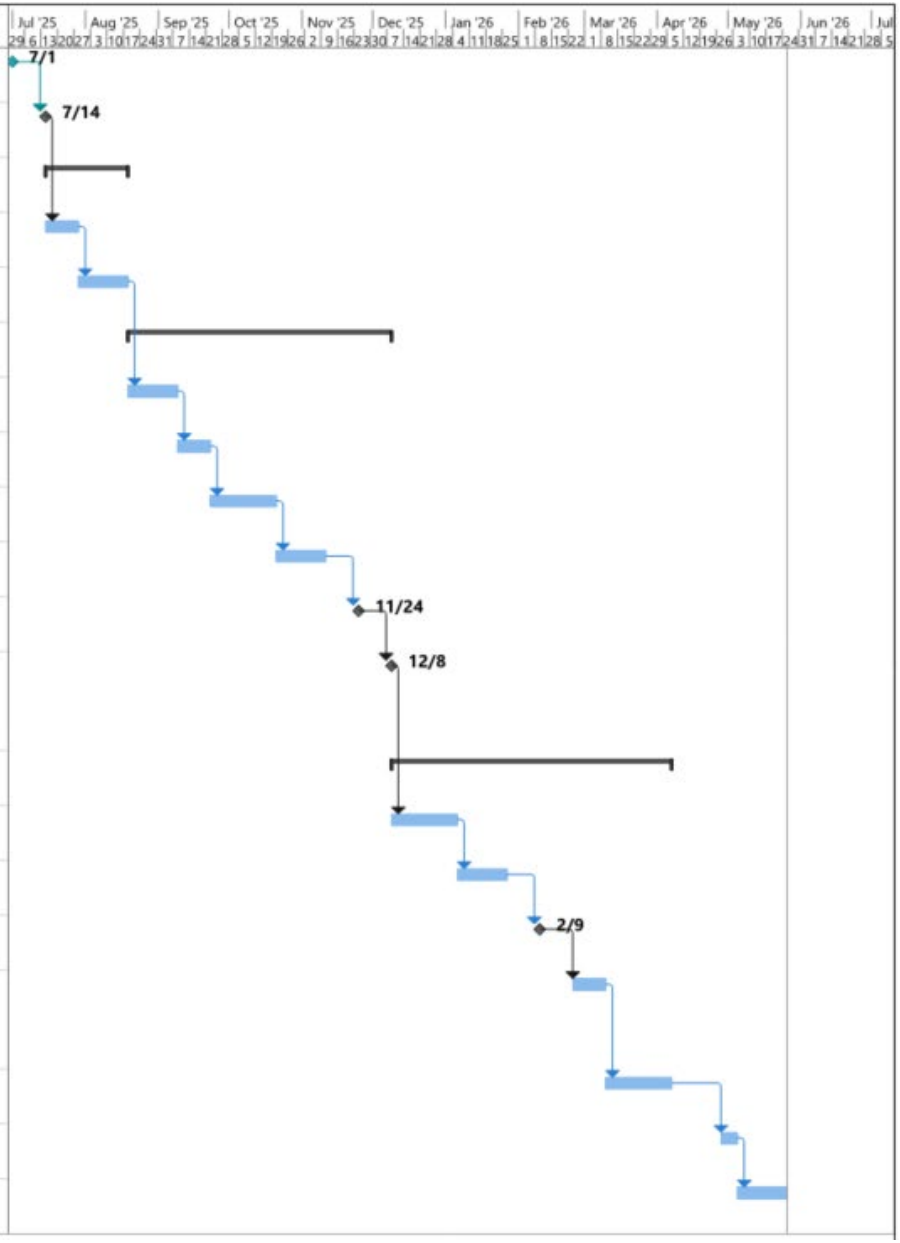
Example Project Schedule with Baseline

We believe in keeping all team members informed of the project status, which includes City staff, Verdantas staff, and other project stakeholders. To fulfill this need, we invite several team members to project meetings and send regular project updates to team members periodically via e-mail. We also like to utilize routine conference calls with the City's project manager to provide status updates, address immediate needs, and ultimately keep the project on track and on schedule.

Constant oversight of the project budget and schedule is a proven method to avoiding surprises. We have implemented several project management tools to assist our project managers. Our accounting system provides up-to-date cost reports by task, which compares actual to budgeted costs. We have developed project scheduling templates using Microsoft Project, which track projects through completion. Our project schedules maintain a baseline schedule, so we can track the overall success of the schedule.

The project schedule for completion of the project is included on the following page. All major outputs and meetings are included in the schedule and 3 weeks have been allocated for City review.

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	NTP	0 days	Tue 7/1/25	Tue 7/1/25		
2	Kick Off Meeting	0 days	Mon 7/14/25	Mon 7/14/25	1FS+10 days	
3	**Existing Information Review**	**25 days**	**Tue 7/15/25**	**Mon 8/18/25**		
4	Data Collection	10 days	Tue 7/15/25	Mon 7/28/25	2	
5	Review of prior UWMP and WSCP	15 days	Tue 7/29/25	Mon 8/18/25	4	
6	**Draft Report**	**80 days**	**Tue 8/19/25**	**Mon 12/8/25**		
7	Update Demand Analysis	15 days	Tue 8/19/25	Mon 9/8/25	5	
8	Update DMMs	10 days	Tue 9/9/25	Mon 9/22/25	7	
9	Update WSCP	20 days	Tue 9/23/25	Mon 10/20/25	8	
10	City Review	15 days	Tue 10/21/25	Mon 11/10/25	9	
11	Public Workshop 1	0 days	Mon 11/24/25	Mon 11/24/25	10FS+10 days	
12	Draft Plan Presentations to City Council and Utility Commission	0 days	Mon 12/8/25	Mon 12/8/25	11FS+10 days	
13	**Final Report**	**85 days**	**Tue 12/9/25**	**Mon 4/6/26**		
14	Incorporate comments	20 days	Tue 12/9/25	Mon 1/5/26	12	
15	City Review	15 days	Tue 1/6/26	Mon 1/26/26	14	
16	Public Workshop 2	0 days	Mon 2/9/26	Mon 2/9/26	15FS+10 days	
17	Final Plan Presentations to City Council and Utility Commission	10 days	Tue 2/24/26	Mon 3/9/26	16FS+10 days	
18	Final Revisions	20 days	Tue 3/10/26	Mon 4/6/26	17	
19	**Public Hearing and Adoption**	5 days	Tue 4/28/26	Mon 5/4/26	18FS+15 days	
20	**Submittal to DWR**	15 days	Tue 5/5/26	Mon 5/25/26	19	



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d. Project Team

All services identified in this proposal will be supported by our team located in PBI's legacy office in Folsom, CA.

Verdantas has assembled a team that has the knowledge, experience and dedication to provide the City with the needed planning services to support the 2025 UWMP. Our team was hand-picked to meet the specific needs of your project.

Ashley Smith, P.E., who is currently providing similar planning support for several clients, will be the project manager for this project. She will be the City's primary point of contact and will oversee all aspects of the project. We have selected Karl Brustad, P.E., MBA to provide QA/QC for this project who has extensive history working with the City.

D. Consultant Staff

Karl Brustad, PE, MBA | Principal-in-Charge | AVP

EDUCATION: M.B.A., California State University, Sacramento | B.S., Civil Engineering, California State University, Chico

LICENSES: CA – Civil Engineer - # 57869 | Grade IV Water Treatment Operator - #22526

Years of Industry Experience: 30

Availability 20%

TECHNICAL SPECIALTIES: Water Infrastructure Planning, Design, and Operation. Water/Wastewater Master Planning

Karl Brustad has more than 30 years of experience in the planning, design, and construction of water supply, flood control systems, water distribution, wastewater collection, groundwater supply wells, water storage, water and wastewater pump stations, and water treatment systems. Karl spent several years working for a water utility prior to entering the consulting field 25 years ago, where it gave him an understanding of the client's perspective and expectations of consultants. He is intimately familiar with a variety of water and wastewater modeling applications.

Ashley Smith, PE | Project Manager III

EDUCATION: B.S. Civil and Environmental Engineering; Minor in Sustainability in the Built Environment,

University of California, Davis

LICENSES: CA – Civil Engineer - #86512 | Water Treatment Operator, Grade T2 - #42384

Years of Industry Experience: 11

Availability: 30%

TECHNICAL SPECIALTIES: Water Infrastructure Design and Planning, Water Master Planning, Hydraulic Modeling, Auto CAD/Civil 3D Design

Ashley has been the responsible lead engineer for numerous water infrastructure projects over the last decade. She has accrued valuable experience in water infrastructure and pipeline design, water treatment plant design, tank rehabilitation, as well as hydraulic modeling. Her design experience includes pump stations, water treatment plants, water storage tanks, and pipelines using AutoCAD Civil 3D. She also has planning experience in water system master plans, capital improvement plans, and cost estimating.

Years of Industry Experience: 8

Availability: 35%

Drew Azavedo, PE | Senior Engineer I

EDUCATION: B.S. Mechanical Engineering, Cal State - Sacramento

LICENSES: CA – Civil Engineer - #95471

TECHNICAL SPECIALTIES: Underground infrastructure with an emphasis on water pipeline design

Drew is an experienced and dedicated water resources engineer with eight years of comprehensive expertise in water pipeline design and project management. Proven track record in collaborating with diverse clients and districts, ensuring adherence to Division of Drinking Water (DDW) standards for multiple plan sets.. Proficient in creating detailed exhibits and correspondence for regulatory compliance. Hands-on experience in design-build projects, with a keen understanding of construction site dynamics. Drew holds a Professional Engineering license (PE) and Associate Design-Build Institute of America (DBIA) certification, demonstrating a commitment to professional excellence and industry best practices.

Years of Industry Experience: 9

Availability: 35%

Laura Hernandez Uribe, EIT | Staff Engineer II

EDUCATION: MS in engineering sciences, University of the Pacific, CA. | B.S. Sciences University of the Pacific, CA - Specialization: Civil Engineering

LICENSES: CA - Engineer-In-Training, No. 172121

TECHNICAL SPECIALTIES: Water treatment, water distribution, water storage, and pumping projects

Laura has worked on a variety of water infrastructure design projects including: water treatment, water distribution, water storage, and pumping projects. She has experience in planning, modeling, designing, and rehabilitating water resources including wells, pipelines, water storage and water treatment facilities. Laura is proficient in AutoCAD software.

Years of Industry Experience: 2

Availability: 30%

Hayden Horan, EIT | Staff Engineer II

EDUCATION: B.S. Civil Engineering, California State University, Sacramento, CA

LICENSES: CA - Engineer-In-Training, No. 178955

TECHNICAL SPECIALTIES: Water infrastructure, water treatment, and pump station projects

Hayden joined Verdantas in 2023 and specializes in water infrastructure, water treatment, and pump station projects. He has experience modeling, designing, cost estimating, and restoring water resources including wells pipelines, water treatment facilities, and levees. He is proficient in ArcGIS, InfoWater, and AutoCAD software.

E. Verdantas Qualifications and References

a. Previous Experience with Similar Projects

Our team has developed numerous water master plans for our clients, which included condition assessments of existing facilities, development of hydraulic models for the evaluations of distribution systems, identification of deficiencies, alternatives analysis and identification of recommended improvements used to support the development of capital improvement programs. Our team has supported water master plans and hydraulic modeling for both large and small water Districts and municipalities including City of Stockton, City of Folsom, Calaveras County Water District, Fair Oaks Water District, El Dorado Irrigation District, Calaveras Public Utility District, Kirkwood Meadows Public Utility District and Placer County Water Agency.

Below we have provided project examples and references for similar work.

2016 Water Master Plan Update & 2015 Urban Water Management Plan

Client: City of Folsom

Contact: Marcus Yasutake, Director of Utilities, City of Folsom, 50 Natoma Street, Folsom, CA 95630 | (916) 351-3528

- *Provided evaluation of the water system relative to current and future water demands consistent with 2015 Urban Water Management Plan.*
- *Provided data review and analysis, development of updated demand projections, analysis of demand management measures, system supplies, water supply reliability, water shortage contingency planning, and climate change.*
- *Updated hydraulic models for existing, intermediate, and build out scenarios.*
- *Identified system improvements and prepared cost estimates and a 10-year Capital Improvement Program.*

2020 and 2015 Urban Water Management Plan

Client: Fair Oaks Water District (FOWD)

Contact: Paul Siebensohn, Technical Services Manager, Fair Oaks Water District, 10326 Fair Oaks Blvd., Fair Oaks, CA | (916) 844-3513

- *Recently completed the 2020 UWMP and WSCP.*
- *Verdantas prepared in its entirety the 2015 UWMP per California Water Code.*
- *Evaluated all aspect of the UWMP sections including water supply and demand for existing and future buildout scenarios, water shortage contingency planning, system supplies, and other factors.*

2010 Urban Water Management Plan

Client: Georgetown Divide Public Utility District (GDPUD)

Contact: Hank White, currently General Manager at Foresthill PUD, | (530) 367-2511 | **gm@foresthillpud.com**

- *Prepared in its entirety the 2010 UWMP per California Water Code.*
- *Work included: evaluating effectiveness of existing best management practice, developing baseline water use, population projections, target water use, and water supply contingency plans.*
- *Benefit cost analyses were presented to the GDPUD Board of Directors for demand management measures that were not implemented by the District.*
- *Presented UWMP findings to the GDPUD Board of Directors*

Recycled Water Master Plan Update and Hydraulic Model (2023)

Client: City of Folsom

Contact: Marcus Yasutake, Director of Utilities, City of Folsom, 50 Natoma Street, Folsom, CA 95630 | (916) 351-3528

- *The City has recently expanded its service area to allow for future development projects in the areas south of Highway 50.*
- *The City is preparing for significant growth, particularly in the areas south of Highway 50.*
- *The major planned developments south of Highway 50 include the Easton Project and the Folsom Plan Area (FPA).*
- *Verdantas is updating the 2015 Folsom Plan Area (FPA) Non-Potable Water Analysis 2.0 (2015 Analysis) in conjunction with developing a hydraulic model for the non-potable water distribution system.*
- *The Plan will include evaluation and sizing for existing infrastructure and planned backbone infrastructure.*

Folsom Plan Area (FPA) Hydraulic Model Update (2022)

Client: City of Folsom

Contact: Marcus Yasutake, Director of Utilities, City of Folsom, 50 Natoma Street, Folsom, CA 95630 | (916) 351-3528

- *Integrating planned FPA and existing developments into the City's hydraulic model.*
- *Redistributed demand data to new development by land type.*
- *Model runs tested to confirm acceptable importation of new infrastructure.*

2025 Water Master Plan and Hydraulic Model Update

Client: Kirkwood Meadows Public Utility District

Contact: Erik Christeson, General Manager, KMPUD, 33540 Loop Road Kirkwood, CA 95646 | (209) 258-4444

- *Verdantas is currently developing the original water master plan that includes a detailed 20+ year capital improvement plan (CIP) used to support financial planning and ensure adequate funding for future improvements.*
- *A hydraulic model was developed using InfoWater Pro to analyze different water supply and demand scenarios throughout the distribution system.*
- *The Master Plan included an evaluation of the water system's water supply, water demands, water treatment facilities, transmission system, distribution system, and storage facilities.*
- *The updated WMP will evaluate the materials, ages, and conditions of the existing infrastructure and provide recommendations to assist the District with updates to the risk and resilience assessment and emergency response planning.*
- *Includes the preparation of capital facilities improvements including estimated costs and implementation schedule for a 5-year CIP and a 20-year Asset Management Program.*

2023 Water Master Plan Update and 2008 Water Master Plan

Client: Calaveras Public Utility District (CPUD)

Contact: Mathew Roberts, Interim Gen. Manager, CPUD, 506 W. Saint Charles Street, San Andreas, CA 95249 | (209) 754-9442

- *Verdantas developed the original water master plan that included a detailed 20+ year capital improvement plan (CIP) used to support financial planning and ensure adequate funding for future improvements.*
- *A hydraulic model was developed using InfoWater Pro to analyze different water supply and demand scenarios throughout the distribution system representing approximately 3,000 rural customers in mountainous terrain.*
- *The Master Plan included an evaluation of the water system's water supply, water demands, water treatment facilities, transmission system, distribution system, and storage facilities.*
- *Verdantas prepared an update to the WMP to evaluate the capacity of the existing water system to meet existing and future water demands including fire flow capabilities.*
- *The updated WMP evaluated the materials, ages, and conditions of the existing infrastructure and provided recommendations to assist the District with updates to the risk and resilience assessment and emergency response planning.*
- *Included the preparation of capital facilities improvements including estimated costs and implementation schedule for a 5-year CIP and a 20-year Asset Management Program.*

Ebbetts Pass Reach Water Master Plan and Capacity Charges

Client: Calaveras County Water District (CCWD)

Contact: Bill Perley, Charles Palmer, District Engineers, CCWD, 120 Toma Court, San Andreas, CA | (209) 642-3209

- *Evaluated historical water demands and growth rates for three different regions of the Ebbetts Pass water system.*
- *Updated water master plan and provided capacity charge updates.*
- *Developed capital improvement projects including: storage tanks, treatment facilities, booster pump stations, and distribution system piping.*
- *Evaluated existing capacity charges and made recommendations for new updated charges.*
- *Estimated costs for build-out conditions.*

Jenny Lind Water System & Copper Cove Water System Master Plan & Capacity Charge

Client: Calaveras County Water District (CCWD)

Contact: Charles Plamer, District Engineer, CCWD, 120 Toma Court, San Andreas, CA 95249 | (209)642-3209

- *Updated water master plan and provided capacity charge updates*
- *Evaluated historical water demands and growth rates for the Jenny Lind Water System.*
- *Developed existing and build-out conditions water system models utilizing Innovyze InfoWater to assess the systems in comparison to District design standards.*
- *Evaluated existing capacity charges and made recommendations for new updated charges.*

F. Verdantas Team Resumes

Karl Brustad, PE, MBA

Principal-in-Charge | AVP

Firm
Verdantas

Office Location
Folsom, CA

Education
MBA, California State University, Sacramento

BS, Civil Engineering, California State University, Chico

Licenses/Certifications
CA – Professional Engineer - #57869

Grade 4 Water Treatment Operator, CA No. 22526

Certificate of Advanced Business Studies; CA State University, Sacramento

Years of Experience
30 Years of Industry Experience

Karl Brustad has more than 30 years of experience in planning, design, and construction of water supply, water distribution, water storage, and water treatment systems. His experience includes groundwater and surface water treatment, storage tanks, pumping stations, pipeline distribution and conveyance, wells, master planning, flood control, telemetry, and SCADA. He is intimately familiar with a variety of water and wastewater modeling applications.

Project Experience

Recycled Water Master Plan Update and Hydraulic
Folsom, CA | 2020 – 2024

The city has recently expanded its service area to allow for future development projects in the areas south of Highway 50. The city is preparing for significant growth, particularly in the areas south of Highway 50. The major planned developments south of Highway 50 include the Easton Project and the Folsom Plan Area (FPA).
Verdantas updated the 2015 Folsom Plan Area (FPA) Non-Potable Water Analysis 2.0 (2015 Analysis) in conjunction with developing a hydraulic model for the non-potable water distribution system. The Plan included evaluation and sizing for existing infrastructure and planned backbone infrastructure.

Folsom Plan Area (FPA) Hydraulic Model Update
Folsom, CA | 2018-Ongoing

Integrating planned South of Highway 50 FPA and existing developments into the City's hydraulic model and redistributing demand data to new development by land type. The model runs tests to confirm acceptable importation of new infrastructure. An intermediate model was developed to simulate temporary operation conditions prior to the planned improvements being constructed.

On-Call Fire Flow Testing – City of Folsom
Folsom, CA | 2016 – Ongoing

Verdantas is importing information from the Folsom Plan Area Developments, south of Highway 50, into the City's existing model and modeling fire flow tests for both the north and south of Highway 50.

Ashley Smith, PE

Project Manager III

Firm

Verdantas

Office Location

Folsom, CA

Education

B.S. Civil and Environmental Engineering with Minor in Sustainability in the Built Environment, UC Davis

Licenses/Certifications

Registered Professional Civil Engineer California No. 86512

Water Treatment Operator, Grade T2 No. 42384

Years of Experience

11 Years of Industry Experience
10 Years at Verdantas

Ashley has over 11 years of experience in water and water resources projects. She has accrued valuable experience in water infrastructure design as well as hydrologic modeling. Ashley's design experience includes transmission mains and pipelines, water storage tanks and pump stations, , new wells design and well rehabilitation, flood control using AutoCAD Civil 3D. She also has planning experience in flood management, water system master plan, capital improvement plans, and cost estimating. She has been the responsible project manager and lead design engineer for dozens of water infrastructure projects since she joined Verdantas in 2014.

Project Experience

2020 and 2015 Urban Water Management Plan (UWMP) – Fair Oaks Water District (FOWD)

Fair Oaks, CA | 2016 and 2021

Verdantas recently completed the 2020 UWMP update for the assessment of all water utilities in Fair Oaks. Previously PBI had prepared, in its entirety, the 2015 UWMP per California Water Code. Provided analysis for the current system and its efficiency and designed a master plan that could be capable to satisfy the demand from the system. Evaluated all aspect of the UWMP sections including water supply and demand for existing and future build-out scenarios, water shortage contingency planning, system supplies, and other factors. Designed a plan for the construction and maintenance needed to be done to get the system to this level of operation. Ashley assisted with the 2015 UWMP and was the project manager for the 2020 UWMP.

Recycled Water Master Plan Update and Hydraulic

Folsom, CA | 2020 – 2024

The City has recently expanded its service area to allow for future development projects in the areas south of Highway 50. The City is preparing for significant growth, particularly in the areas south of Highway 50. The major planned developments south of Highway 50 include the Easton Project and the Folsom Plan Area (FPA). Verdantas is updating the 2015 Folsom Plan Area (FPA) Non-Potable Water Analysis 2.0 (2015 Analysis) in conjunction with developing a hydraulic model for the non-potable water distribution system. The Plan will include evaluation and sizing for existing infrastructure and planned backbone infrastructure. Ashley was the project manager for this project.

Drew Azevedo, PE

Senior Engineer I

Firm

Verdantas

Office Location

Folsom, CA

Education

B.S. Mechanical Engineering, Cal State - Sacramento

Licenses/Certifications

CA – Civil Engineer - #95471

Technical Specialties

Underground infrastructure with an emphasis on water pipeline design

Years of Experience

8 Years of Industry Experience
<1 Year at Verdantas

Training & Software

Proficient in AutoCAD Civil 3D design

Associate DBIA member

Drew is an experienced and dedicated water resources engineer with eight years of comprehensive expertise in water pipeline design and project management. Proven track record in collaborating with diverse clients and districts, ensuring adherence to Division of Drinking Water (DDW) standards for multiple plan sets. Skilled in overseeing engineering projects from conception to completion, adeptly managing schedules, budgets, and resources. Proficient in creating detailed exhibits and correspondence for regulatory compliance. Hands-on experience in design-build projects, with a keen understanding of construction site dynamics. Drew holds a Professional Engineering license (PE) and Associate Design-Build Institute of America (DBIA) certification, demonstrating a commitment to professional excellence and industry best practices.

Project Experience

Engineering Project Manager – West Valley Construction Company

Sacramento, CA | 2024

As a project manager, Drew managed design-build main replacement projects from planning through execution and completion. He was responsible for ensuring the quality of deliverables and maintaining client relationships. He provided oversight for budgeting and billing for multiple projects, including invoice creation and distribution. Additionally, Drew provided management support and mentorship to his staff.

Curry Court Pipeline Loop Project – Placer County Water Agency (PCWA)

Auburn, CA | 2024 – Ongoing

This project is to design approximately 600-ft of 8-in pipe to provide a loop to Shadow Rock Estates subdivision to improve fluctuations in pressure resulting from increased demands in the area. The project would connect to a 8-in ACP line on the north to a 8-in PVC line within Curry Court. This alignment being considered traverses through a private, undeveloped property. The project includes utility coordination, encroachment permit applications, and construction services. Drew is assisting with project design and permitting .

Laura Hernandez Uribe, EIT

Staff Engineer II

Laura joined Verdantas in October of 2023 and has worked on a variety of water infrastructure design projects including water treatment, water distribution, water storage, and pumping projects. She has experience in planning, modeling, designing, and rehabilitating water resources including wells, pipelines, water storage and water treatment facilities. Laura is proficient in AutoCAD software.

Firm

Verdantas

Office Location

Folsom, CA

Education

Master's in Engineering Sciences, University of the Pacific, CA.

B.S. Sciences University of the Pacific, CA.
Specialization: Civil Engineering

Licenses/Certifications

CA - Engineer-In-Training, No. 172121

Years of Experience

9 Years of Industry Experience

< 1 Years at Verdantas

Project Experience

2023 Water Master Plan Update – Calaveras Public Utility District

San Andreas, CA | 2023 – Ongoing

Verdantas created an original water master plan that includes a 20+ year capital improvement plan for financial planning and infrastructure development for approximately 3,000 rural customers. An update is being prepared to assess the capacity of the existing water system to meet current and future demands, including fire flow capabilities. This update will analyze the infrastructure's materials, ages, and conditions, and will provide recommendations for risk assessment and emergency planning, along with a 5-year capital facilities improvement schedule and a 20-year asset management program.

On-Call Modeling Support Services – City of Folsom

Folsom, CA | 2019 – Ongoing

The City of Folsom began development of the South of Highway 50 project and needed to prepare an analysis of anticipated water demand for the area. Verdantas was hired to assist with the analysis of the City's fire hydrants in both the developed and undeveloped areas of the city. A minimum of 20 psi is required to be maintained within the public water distribution system during a fire flow event per the CA Department of Health Services regulations. Laura is the staff engineer responsible for modeling flows and utilizing the extrapolation method per NFPA 291 recommendations to calculate the resultant flow at 20 psi.

Recycled Water Master Plan Update and Hydraulic Model

Folsom, CA | 2020 – 2024

Verdantas updated the 2015 Folsom Plan Area (FPA) Non-Potable Water Analysis 2.0 (2015 Analysis) in conjunction with developing a hydraulic model for the non-potable water distribution system. The Plan included evaluation and sizing for existing infrastructure and planned backbone infrastructure.

Hayden Horan, EIT

Staff Engineer II

Hayden joined Verdantas in October of 2023 and specializes in water infrastructure, water treatment, and pump station projects. He has experience modeling, designing, cost estimating, and restoring water resources including wells pipelines, water treatment facilities, and levees. He is proficient in ArcGIS, AutoCAD, and InfoWater software.

Firm

Verdantas

Office Location

Folsom, CA

Education

B.S. Civil Engineering, California State University, Sacramento, CA

Licenses/Certifications

CA - Engineer-In-Training, No. 178955

Years of Experience

2 Years of Industry Experience

< 1 Years at Verdantas

Project Experience

2023 Water Master Plan Update – Calaveras Public Utility District

San Andreas, CA | 2023 – Ongoing

Verdantas developed a comprehensive water master plan (WMP) featuring a 20+-year capital improvement plan (CIP) for financial planning and infrastructure funding, incorporating a hydraulic model in InfoWater Pro to analyze supply-demand scenarios for a 3,000-customer rural mountainous system. The original WMP assessed supply, treatment, transmission, distribution, and storage, and its update now evaluates system capacity for current/future demands (including fire flows), infrastructure conditions, risk resilience, and emergency planning, while outlining a 5-year CIP and 20-year asset management program with cost estimates. Staff engineer Hayden is updating the InfoWater Pro model and conducting fire flow testing.

Dudley Main Replacement Project – Sacramento Suburban Water District (SSWD)

Sacramento, CA | 2024 – Ongoing

Verdantas is providing engineering design services for the Dudley Main Replacement Project which includes the design of approximately 1,300 ft of 16-in ductile iron (DI) water main to replace the existing 10-in asbestos cement water main. The design includes a cathodic protection system, site survey, utility coordination, a Preliminary Design Report (PDR) as well as final design documents, permitting, Right of Way support, a Water Pollution Control Plan (WPCP), and bid assistance services. Hayden is currently providing design services for the project.