

State of Washington
Capital Projects Advisory Review Board (CPARB)
PROJECT REVIEW COMMITTEE (PRC)

APPLICATION FOR PROJECT APPROVAL

*To Use the General Contractor/Construction Manager (GC/CM)
Alternative Contracting Procedure*

The CPARB PRC will only consider complete applications: Incomplete applications may result in delay of action on your application. Responses to Questions 1-7 and 9 should not exceed 20 pages (*font size 11 or larger*). Provide no more than six sketches, diagrams or drawings under Question 8.

Identification of Applicant

- a) Legal name of Public Body (your organization): Lakehaven Water and Sewer District
- b) Address: 31627 1st Avenue South (P.O. Box 4249), Federal Way, WA 98063
- c) Contact Person Name: John Bowman Title: General Manager
- d) Phone Number: 253.946.5401 E-mail: jbowman@lakehaven.org

1. Brief Description of Proposed Project

- a) Name of Project: Lakehaven Water and Sewer District – Redondo Electrical & Odor Control Upgrades
- b) County of Project Location: King
- c) Please describe the project in no more than two short paragraphs. (*See Example on Project Description*)

The Lakehaven Water and Sewer District (LWSD) Redondo Wastewater Treatment Plant (RWWTP) is located in Des Moines, WA. The facility operates 24/7/365 and is considered a critical facility. The facility has been in operation for 37 years and, as such, some of the existing systems are not meeting current/future needs, have exceeded their useful life and are in need of replacement in order to provide for the needs of future expansion and continued operation. The proposed project will upgrade a portion of the existing electrical power distribution and odor control systems at the RWWTP. The facility will be required to remain occupied and operational during construction and it is critical that construction activities minimize impacts to the RWWTP process and operations.

The upgraded electrical system will be designed to provide additional capacity to support future expansion of the RWWTP as well as to provide improved performance during single point failures within the new electrical distribution system. Structural modifications to the Solids and Digester Buildings will be necessary to support these electrical upgrade activities. The scope of the electrical power distribution upgrade includes:

- Replacement of the existing 480V electrical service with an enlarged 15kV electrical service,
- Demolition of existing equipment within the Solids Building to support a new Main Switchgear Electrical Room and new 2 MW standby power generator
- New electrical distribution vaults and duct banks
- Replacement and relocation of an existing 480V Switchboard with a new 480V Switchboard at the Digester Building
- Transition of plant loads from the existing electrical distribution system to the new electrical distribution system

The scope for the odor control System upgrade includes:

- Demolition of existing odor control equipment within the Solids Building
- Installation of new odor control equipment at a new location near the Solids Building
- Various new instrumentation and permitting agency support tasks

A very large portion of this project's budget (much greater than \$3M) is dedicated to replacement of the electrical supply/distribution system. It is also anticipated that the associated mechanical work under this contract may exceed \$3M. The anticipated values of the electrical and mechanical subcontract work would justify consideration of the use of EC/CM and/or

MC/CM on this project. In the light of Governor Inslee’s recent signing of new legislation related to alternative project delivery and specifically the requirement to obtain PRC approval to utilize the “alternative subcontractor selection process”, we respectfully request permission to have the option to pursue EC/CM and MC/CM on this project.

2. Projected Total Cost for the Project:

A. Project Budget

Costs for Professional Services (A/E, Legal etc.)	\$ 3,119,000
Estimated project construction costs (including construction contingencies):	\$15,597,000
Equipment and furnishing costs	\$ included
Off-site costs	\$ N/A
Contract administration costs (Owner, PM/CM, etc.)	\$ 1,560,000
Contingencies (owner project contingency @ 5%)	\$ 936,000
Other related project costs (Assessments/Fees & BR Insurance)	\$ N/A
Sales Tax (Construction and FF&E @ 10%)	\$ <u>included</u>
Total	\$ 21,211,000

B. Funding Status

Please describe the funding status for the whole project. *Note: If funding is not available, please explain how and when funding is anticipated*

This District currently has \$52M in cash reserves on hand that could fully fund the design and construction costs for the project. However, in order to preserve a portion of the cash reserves for other possible needs, the District is pursuing the issuance of up to \$60M in phased revenue bonds to fund a portion of the projects. Funding for the engineering design, GC/CM advisor services and the GC/CM preconstruction services are being provided from the cash reserves until the revenue bonds are in place. The remaining cost of project manager/construction manager (PM/CM) services, design services and construction of the project will be funded from a combination of funds from the revenue bonds and cash reserves.

3. Anticipated Project Design and Construction Schedule

Please provide:

The anticipated project design and construction schedule, including:

- a) Procurement;
 - b) Hiring consultants if not already hired; and
 - c) Employing staff or hiring consultants to manage the project if not already employed or hired.
- (See Example on Design & Construction Schedule)*

GC/CM Schedule	Start	Finish
Develop PRC Application		May 19, 2021
Submit PRC Application		May 20, 2021
PRC Presentation		June 24, 2021
First publication of RFP for GC/CM Services		July 6, 2021
Second publication of RFP for GC/CM Services		July 13, 2021
Project Information Meeting		July 16, 2021
RFP Submittal Deadline		July 27, 2021
Review & Score RFP Submittals Received	July 28, 2021	Aug 2, 2021
Notify Submitters of Most Highly Qualified Submitters & Invite to Interview		Aug 3, 2021
Interviews with Short-Listed Firms		Aug 12, 2021
Notify Shortlisted Firms of Most Highly Qualified Firms & Invite to Submit responses to RFFP		Aug 13, 2021
RFFP Submittal Deadline & Opening		Aug 24, 2021

Notify Submitters of Scoring and Most Qualified GC/CM		Aug 25, 2021
Board Approval of GC/CM Selection and Authorization to Negotiate Pre-Con Services Agreement		Sept 7, 2021
Pre-Con Work Plan Due From GC/CM		Sept 24, 2021
GC/CM Agreement w/ Pre-Con Services Executed		Oct 8, 2021
Pre-Con Services	Oct 12, 2021	Nov 2022
Board Approval of MACC and MACC Contract Amendment Executed		Nov 2022
Design & Construction Schedule	Start	Finish
30% Design	Aug 2021	Jan 2022
60% Design	Feb 2022	May 2022
90% Design	June 2022	Oct 2022
City of Des Moines Review & Permitting. SEEPA & PSCAA permits	Dec 2022	Mar 2022
MACC Negotiation (90% CD's)		Nov 2022
Board Approval of MACC and MACC Contract Amendment Executed		Dec 2022
100% Design	Nov 2022	Apr 2023
Subcontractor Bidding	Jan 2023	Feb 2023
Construction	Apr 2023	June 2024
Substantial Completion		Mar 2024
Final Completion/Closeout	March 2024	May 2024
Warranty Period	June 2024	May 2025

4. Why the GC/CM Contracting Procedure is Appropriate for this Project

Please provide a detailed explanation of why use of the contracting procedure is appropriate for the proposed project. Please address the following, as appropriate:

- If implementation of the project involves complex scheduling, phasing, or coordination, what are the complexities?

The Lakehaven Water and Sewer District Redondo Wastewater Treatment Plant operates 24/7/365 and is considered a critical facility. The facility will be required to remain occupied and operational during construction and it is critical that construction activities minimize impacts to the wastewater treatment plant existing systems, process and operations. In order to achieve this, the work will need to be coordinated, scheduled and phased to avoid impact on critical services. The construction work will have to be scheduled and phased to take into consideration not only the construction activities, but also the District’s operational activities and access for plant operations and maintenance staff members who support the continued operations of the facility.

This project will require phased construction over an extended period of time to limit the construction impact on the operations of the facility. It is anticipated that the phases of work will include:

- Install Enlarged Electrical Utility Service
- Replace West Odor Control System
- Solids Building Refurbishment (Elect Distribution, Generator, HVAC, Structural, etc.)
- Install New Duct Banks

- Digester Control Building (SWDB-500)

GC/CM input on schedule and phasing during the design and permitting phases will assist the Engineer and Owner in making prudent, efficient and timely decisions. It will also assist in establishing a construction schedule that will meet the critical deadlines and phasing. GC/CM involvement during construction may also create the opportunity for early procurement of long-lead time materials and equipment and an expeditious start of construction work. A competent GC/CM creates greater certainty that work will be executed in a safe manner that minimizes disruption of adjacent existing facilities/systems and facility operations. It will also help ensure that this project will be completed on time.

- **If the project involves construction at an existing facility that must continue to operate during construction, what are the operational impacts on occupants that must be addressed?**

Note: Please identify functions within the existing facility which require relocation during construction and how construction sequencing will affect them. As part of your response you may refer to the drawings or sketches that you provide under Question 8.

The Lakehaven Water and Sewer District Redondo Wastewater Treatment Plant operates 24/7/365 and is considered a critical facility. The facility will be required to remain occupied and operational during construction and it is critical that construction activities minimize impacts to the wastewater treatment plant existing systems, process and operations. In order to achieve this, the work will need to be coordinated, scheduled and phased to avoid impact on critical services. The RWWTP site has limited space open/accessible space, so areas for construction trailers, parking, laydown and staging will have to be carefully thought out and planned by the GC/CM contractor. The construction work will have to be scheduled and phased to take into consideration not only the construction activities, but also the District's operational activities and access for plant operations and maintenance staff members who support the continued operations of the facility. Well thought out construction phasing/sequencing and logistics plans will be critical to the success of this project.

- **If involvement of the GC/CM is critical during the design phase, why is this involvement critical?**

The replacement of existing utilities and systems at a facility that must remain occupied and operational is a complicated undertaking. Having the GCCM involved during design to give input on constructability, construction sequencing, cost and value engineering and scheduling/phasing is critical to a successful project that will meet the needs of LWSD and can be built on time and within budget. The RWWTP is subject to the Department of Ecology (DOE) water quality NPDES discharge permit requirements and the Puget Sound Clean Air Agency (PSCCA) odor control discharge permit requirements. Violations of these discharge permits can result in serious penalties and fines. It is important for the contractor to be aware of and consider these requirements.

Because a large portion of the project budget has been dedicated to the replacement of electrical and mechanical systems, it is Lakehaven's intent to work with the GC/CM soon after selection to analyze the anticipated scope/budget of that work and determine whether the project would qualify for, and benefit from, the use of EC/CM and/or MC/CM. Under the 2021 amendments to RCW 39.10, this selection process may be "used by noncertified public bodies if this selection process has been approved for the project by the project review committee." As such, we are requesting permission to utilize the alternative subcontractor selection process of RCW 39.10.385 for the mechanical subcontractor on this project.

- **If the project encompasses a complex or technical work environment, what is this environment?**

Not applicable.

- **If the project requires specialized work on a building that has historical significance, why is the building of historical significance and what is the specialized work that must be done?**

Not applicable

- **If the project is declared heavy civil and the public body elects to procure the project as heavy civil, why is the GC/CM heavy civil contracting procedure appropriate for the proposed project?**

Not applicable.

5. Public Benefit

In addition to the above information, please provide information on how use of the GC/CM contracting procedure will serve the public interest. For example, your description must address, but is not limited to:

- How this contracting method provides a substantial fiscal benefit; or

Alternative Subcontractor Options – By utilizing GC/CM delivery for this project we are afforded the opportunity, by statute (RCW 39.10.385), to also pursue and utilize alternative subcontractor selection. This project, due to size/scope/value and quantity of electrically related work could benefit substantially from the involvement of an EC/CM partner during design.

Manage Costs in an Inflating Market – Having a GC/CM Contractor on board during design phase will help to focus design efforts to more effectively explore solutions that are viable, buildable, cost effective and efficient, thus enabling the Owner better control of construction costs and time.

GC/CM involvement in the design process will help plan for and reduce the potential for impacts due to cost escalation, product availability problems, and labor shortfalls. This will also help control costs and schedule impacts.

Allocation of Risk –The GC/CM process can reduce risks and claims in the following manner:

- A GC/CM Contractor is highly motivated to maintain a schedule that they had a hand in developing.
 - The GC/CM and EC/CM delivery process offers an “open book” cost accounting of the work which will allow the team to track costs and forecast effectively.
 - The GC/CM and EC/CM understands the nature and scope of the construction work long before it bids, which reduces the “learning curve” associated with design-bid-build projects and lowers the potential for surprises that can become added cost/time during construction.
 - The GC/CM and EC/CM will participate in setting schedule for and packaging the scope of bid packages to fit the marketplace. This will help set realistic expectations before work packages are bought, will lower the risk of non-responsible subcontractor bidding, and will improve cost management and control.
 - The GC/CM and EC/CM participates in and ultimately “owns” pre-construction cost estimates leading up to the MACC negotiations.
 - The GC/CM and EC/CM will participate in value-engineering and constructability reviews early in the design process. This helps ensure cost-effective and value-based design and construction solutions.
 - The potential for serious construction claims and litigation is greatly diminished because of the collaborative relationships among the GC/CM, EC/CM, Owner and design team.
- How the use of the traditional method of awarding contracts in a lump sum is not practical for meeting desired quality standards or delivery schedules.

Real Time, Market Based Cost Estimates – The construction market in the greater Puget Sound region has recently been experiencing unprecedented cost escalation and price increases to materials and labor. GC/CM and EC/CM contractor partners can utilize real time, current market pricing to help the team validate scope and budgeting during the design process. The GC/CM delivery process assists in making the project more fiscally responsible and viable by having the GC/CM and EC/CM participate in constructability reviews, value analysis, design-team/contractor/Owner coordination, and the use of design phase overlap to accelerate project completion. All of these measures have the potential for lowering construction costs and stretching the buying power of the Owner.

Better Coordination of Materials and Equipment Purchases – Utilizing GC/CM and EC/CM contractor partners can result in better coordination of materials and equipment purchases including subcontractor coordination, vendor coordination, timing, procurement, delivery, off-loading, storage, rough-in and installation resulting in benefit to the Owner. This level of coordination is often difficult to achieve on a design-bid-build project.

More Responsive and Responsible Bids – A GC/CM contractor is able to exercise greater control in the organization and assembly of bid packages, the establishment of sub-bidder

qualifications, and the selection of subcontractors compared to the design-bid-build process. This reduces the potential for non-responsible bidders and the submittal of non-responsive bids. It also reduces the potential for constructability errors and omissions and scheduling issues being raised after bids have been received and contracts executed with subcontractors.

Better Ability to Accommodate Activities at Site – A GC/CM contractor can play a critical role during the design phase in preparing a feasible and safe construction plan. This is especially beneficial for a project of this type where construction will occur at a site that is located in an environment with access points, streets and infrastructure that must be maintained as operational. This opportunity for construction planning input during the design phase is not available on a design-bid-build project.

Complex Scheduling – The preparation of a construction schedule by a GC/CM contractor with input from the EC/CM and in support of the design team, provides a more detailed, market driven, accurate and realistic CPM schedule. This schedule will better address potential construction impacts and will assist LWSD staff and RWWTP operators of upcoming construction phases, construction logistics and other potential disruptions or impacts related to the construction project.

Ongoing Cost Estimating, Value Analysis and Constructability Review – The GC/CM method of delivery facilitates an on-going process of cost estimating, value analysis and constructability review during the entire design phase. This ongoing approach has the potential to result in a more economical design, better bid packages, fewer change orders, fewer claims, and less risk of delays to project completion and cost overrun.

- [In the case of heavy civil GC/CM, why the heavy civil contracting procedure serves the public interest.](#)
Not applicable

6. Public Body Qualifications

Please provide:

- [A description of your organization's qualifications to use the GC/CM contracting procedure.](#)

This project will be LWSD's second GC/CM project. They are currently utilizing GCCM delivery for their New Headquarters (Main Campus) project. That project has completed design and is in the process of permitting and the bidding of subcontractor packages. The experience so far on that project has been very favorable and the District is looking forward to utilizing the benefits of the GC/CM delivery method with its collaborative process and construction industry partners on this challenging project.

To initiate the GC/CM ground work and to bolster the opportunity for a successful project, the District has supplemented their team with an experienced GC/CM consultant. The District has contracted the with Parametrix to provide services related to PRC application and approval, GC/CM procurement, and GC/CM advisory services throughout the duration of project. Parametrix is already assisting us on our LWSD New Headquarters project and has extensive experience in the GC/CM procurement and delivery process for public sector clients. Members of the Parametrix team involved on this project have been involved in implementation of the GC/CM procurement/delivery method on not less than thirty major projects totaling nearly \$1.65B in total project costs.

As well as having acquired the services of Parametrix, the District has engaged the services of an external legal counsel (Graehm Wallace of Perkins Coie) to supplement their internal general counsel and provide assistance in contract development and negotiation. Perkins Coie has provided legal and contract related services to numerous public agencies utilizing the GC/CM delivery method and is currently providing counsel on our GC/CM Headquarters project.

The combination of the LWSD's past success in managing capital improvement projects, current experience with GC/CM delivery on the Headquarters project, previous successful projects with the design team and the GC/CM expertise of Parametrix and Perkins Coie all creates a strong team that is well-suited to successfully execute the GC/CM delivery process for this project.

- [A Project organizational chart, showing all existing or planned staff and consultant roles.](#)

Note: The organizational chart must show the level of involvement and main responsibilities anticipated for each position throughout the project (for example, full-time project manager). If acronyms are used, a key should be provided. (See Example on Project Organizational Chart)

Refer to Appendix attachment A.

- Staff and consultant short biographies (*not complete résumés*).

John Bowman, P.E., District General Manager (Lakehaven Water & Sewer District)

Role: General Manager for District and reports directly to the Board. Will meet with the District's Project Manager on a regular basis and coordinate issues from a District upper management perspective.

Relevant Experience: John Bowman was appointed General Manager of Lakehaven Water and Sewer District in 2011. He earned his B.S. in Civil Engineering from the University of Washington and currently oversee the District's operations and capital improvement programs with a \$30 million annual O&M budget and a 10-year capital improvement budget of over \$360 million. He holds a professional Civil Engineer license in Washington State since 1994. Between 2010 and 2016, he was also the District's project representative on a \$187 million GC/CM water filtration plant project built by the City of Tacoma in partnership with Lakehaven, the City of Kent, and Covington Water District. His primary role was to secure the District's \$21 million share of project funding, participate on the Project Committee, and contribute in value engineering discussions. From that experience, he has learned the importance of building an experienced and cohesive project team as the key to success (the project was completed \$30M under its initial budget). His other work experience includes regional water supply planning, design and construction management of water and sewer infrastructure projects and water treatment facilities.

Howard Moreland, Electrical and Controls System Manager & Project Manager (Lakehaven Water & Sewer District)

Role: Howard's role on the project will be the Project Manager with support from the District's Engineering Manager, Ken Miller and Assistant Engineering Manager, Molly DU from Lakehaven Water & Sewer District (LWSD) on this project. He will be the daily contact for Parametrix and the contractors. Howard has been involved in electrical, instrumentation, and control systems design, specification development, project management, for numerous projects at the District's WWTP's, Sewer Pump Stations, and Water Productions facilities during his 39 year career in electrical, instrumentation, and control systems.

Relevant Experience: Howard completed his electrical apprenticeship through the IBEW and became a Wyoming licensed Journeyman Electrician in 1987. His construction experience was heavy industrial oil field and commercial buildings. Howard started at the Lakehaven Water & Sewer District (LWSD) in 1990 and became a Master Electrician in 1995. Howard supports the District's capital improvement program in electrical, instrumentation, and control systems design, specification development, project management, construction management, and capital improvement planning. He also is responsible for District's electrical, instrumentation, and controls systems daily operations and preventative maintenance at the District's WWTP's, Sewer Pump Stations, and Water Productions facilities.

Project	Project Value	Delivery Method	Role	Time Frame
Lakehaven New Headquarters	\$50M	GC/CM	Electrical Design & Construct Support	2017-Current
Pump Station #33B	\$9.3M	D/B/B	Electrical Design & Construct Support	2017-Current
Lakota & Redondo Generator Replacements	\$2.6M	D/B/B	Project Manager	2020-Current
Lakota PLC Processor Upgrade	\$560K	D/B/B	Project Manager	2020-Current
Lakota Liquid Stream Phase II	\$7.5M	D/B/B	Electrical Design & Construct Support	2019-Current

Redondo UV & Filtration	\$6.4M	D/B/B	Electrical Design & Construct Support	2017-Current
Lakota ATS Replacement	\$250K	D/B/B	Project Manager	2019-2020
Lakota Turbo Blowers	\$2.0M	D/B/B	Electrical Design & Construct Support	2018-2019
Lakota Phase I	\$1.0m	D/b/b	Electrical Design & Construct Support	2018-2019
Lakota Headworks Screens	\$2.1.M	D/B/B	Electrical Design & Construct Support	2016-2017
Lakota UV Replacement	\$3.1M	ESCO (DES)	Electrical Design & Construct Support	2015-2017
Lakota Disc Thickner	\$1.1M	D/B/B	Electrical Design & Installation	2015-2016

Ken Miller P.E., Engineering Manager and Project Manager (Lakehaven Water & Sewer District)

Role: Ken's Role will be assisting the Project Manager, Howard Moreland, as part of the project team for Lakehaven Water and Sewer District (LWSD) on the project. He will be a daily onsite contact as needed for Parametrix and the contractor. He has administered and been involved with numerous projects during his 40 years of experience in design and construction of public infrastructure.

Relevant Experience: Ken graduated from Saint Martin's University with a BSCE and the University of Washington with a MSCE. He has been a licensed professional engineer for over 35 years. His design and construction experience includes water, sewer, wastewater, roads, bridges, parks and municipal building projects. This experience includes all phases of the project from planning to warranty work. Currently Ken performs the role of Engineering Manager and is responsible for the planning, engineering and construction of the capital program for LWSD.

Project	Project Value	Delivery Method	Role	Time Frame
Lakehaven New Headquarters	\$50M	GC/CM	Project Manager	2017-current
Pump Station #33B	\$9.3M	D/B/B	Manager	2017-Current
Lakota & Redondo Generator Replacement	\$2.6M	D/B/B	Manager	2020-Current
Lakota Liquid Stream Phase II	\$7.5m	D/B/B	Manager	2019-Current
Redondo UV & Filtration	\$6.4M	D/B/B	Manager	2017-Current
Lakota Turbo Blowers	\$2.0M	D/B/B	Manager	2018-2019
I & I Sewer Lining	\$1.2M	D/B/B	Project Manager	2019
Redondo Shoring Wall Rehabilitation	\$825K	D/B/B	Project Manager	2019
I & I Sewer Lining	\$1.6M	D/B/B	Project Manager	2017
Lakota Headworks Screens Replacement	\$2.1M	D/B/B	Project Manager	2016-2017
Lakota UV Replacement	\$3.1M	ESCO DES	Project Manager	2015-2016
Lakota Disc Thickner	\$1.1M	D/B/B	Project Manager	2015-2016

Molly Du P.E., Assistant Engineering Manager & Project Manager (Lakehaven Water & Sewer District)

Role: Molly's role will be assisting the Project Manager, Howard Moreland, as part of the project team for Lakehaven Water and Sewer District (LWSD) on the project. She will be a daily onsite contact as needed for Parametrix and the contractor. She has administered and been involved with numerous projects during her 20 years of experience in planning, design, construction services, and project management in water and wastewater facilities.

Relevant Experience: Molly graduated from Tianjin University with a BSCE and the University of Las Vegas, Nevada, with a MSCE. Molly has over 20 years of planning, design, construction services, and project management experience in water and wastewater treatment facilities, pump stations and force mains, odor control facilities, solids treatment and management study and design, and COS control facilities. She has worked with HDR, a consulting firm, for over 16 years as a project engineer and a project manager. Her project management experience involves supervision of project teams and sub consultants, budget management, schedule control, development of contract documents, client relationship development, coordination with utility, permitting, and client agencies, and managing engineering services during construction. She also worked on the projects using alternative project delivery method as project engineer, design lead, task manager/project manager.

Molly joined the Lakehaven Water & Sewer District (LWSD) in 2017 as a project engineer and later promoted to assistant engineering manager. Since she joined the District, she has managed multiple capital improvement projects from the project initiation all the way to the construction completion. She also assists the project manager in managing the District's first GC/CM project, the LWSD Headquarter Building and Main Campus Development.

Project	Project Value	Delivery Method	Role	Time Frame
Lakehaven New Headquarters	\$50M	GC/CM	Co-Project Manager	2017-current
Lakota Solids Phase I	\$16M	D/B/B	Project Manager	2020-Current
Lakota Liquid Stream Phase II	\$7.5m	D/B/B	Project Manager	2019-Current
Redondo UV & Filtration	\$6.4M	D/B/B	Project Support	2017-Current
Lakota Turbo Blowers	\$2.0M	D/B/B	Project Manager	2018-2019
Lakota Stream Phase I	\$600	D/B/B	Project Manager	2016-2017

Steve Pritchett, District General Counsel (Lakehaven Water and Sewer District)

Role: As the Lakehaven Water and Sewer District General Counsel, Steve will work with all of the team participants and, in specific consultation and cooperation with Special Counsel Graehm Wallace, advise the Board and staff on matters of drafting and interpreting contract terms and the resolution of any contract issues or disputes that may arise during the Project.

Relevant Experience: Steve has been serving as a legal advisor to the Lakehaven Water and Sewer District for over 35 years. Initially as a private attorney, and then as in-house counsel for the past 27 years, Steve has represented the District in legal matters and advised the Board of Commissioners and staff on matters relating to all areas of general municipal practice; including property, construction, employment, labor relations, and public procurement law, as well as matters of compliance with Chapter 57 of the RCW and other statutory provisions regulating special purpose water/sewer districts. As the supervisor of Lakehaven's Administration Department, Steve oversees the District's contracting for public works and procurement of materials, equipment and supplies. In addition to overseeing direct District procurement, Steve advises the District on matters relating to the development of water/sewer system infrastructure through system extension contracts with developers.

Jim Dugan – Principal in Charge and GC/CM Advisor (Parametrix)

Role: As the principal in charge for Parametrix, Jim will be the point of contact with the District

on all issues related to the GC/CM Advisor/Consultant contract and Parametrix staff. As the GC/CM Advisor to the project, Jim will be responsible for working with the team to consult, recommend and advise the team as required to ensure that the team is proceeding in a manner that meets the intent of RCW 39.10 as it relates to GC/CM project delivery.

Relevant Experience: Jim has over 43 years of experience managing the planning, design, engineering, and construction of industrial, commercial, and institutional projects in both public and private markets. With formal training in civil engineering and project management, he provides his clients with project management and leadership skills needed to plan, hire, and manage design and construction consultants and contractors consistent with program requirements, budget restrictions, and schedule requirements, as well as work collaboratively with all agencies having jurisdiction. Jim is highly skilled at alternative project delivery (GC/CM and D/B), long-range strategic planning and scheduling, budget forecasting and compliance to the plan, public speaking/presentations, collaboration with stakeholders and conflict resolution and claims mitigation.

Jim has intimate knowledge of RCW 39.10 and has served as a member of the GC/CM Advisory and Project Management team for numerous public sector Owners and projects. In 2016, he was appointed to a three-year term on the PRC; in 2018, he was elected to the role of vice chairman; and from July 2019 to July 2020, served as the PRC chairman. Following his chairmanship, Jim returned to the PRC representing Construction Managers for another three-year commitment to serving APD in WA.

Project	Project Value	Delivery Method	Tasks Performed	Time Involved
Lakehaven New Headquarters	\$50M	GC/CM	Project Advisor	2019-current
Columbia River High School Mod/Add, Vancouver Public Schools	\$21.4 M	GC/CM	GC/CM Advisor	2018 - present
Downtown Elementary School, Vancouver Public Schools	\$39.5 M	GC/CM	GC/CM Advisor	2018 - present
Three Elementary School Replacement Program, Auburn School District	\$157.7 M	GC/CM	GC/CM Procurement, GC/CM Advisor	2018 - present
New Headquarters, Chelan County PUD	\$136.36M	GC/CM	GC/CM Advisor	2017 - present
RI & RR Dam Support Facilities, Chelan County PUD	\$70 M	GC/CM	GC/CM Advisor	2017 - present
Grant Elementary School, Tacoma Public Schools	\$34.9 M	GC/CM	Program Manager, GC/CM Advisor	2017 - present
Birney Elementary School, Tacoma Public Schools	\$39.15 M	GC/CM	Program Manager, GC/CM Advisor	2017 - present
Mann Middle School Replacement, Clover Park School District	\$68 M	GC/CM	GC/CM Advisor	2017 - present
Four Elementary School Replacement Program, Auburn School District	\$208.0 M	GC/CM	GC/CM Advisor	2017-present

Dan Cody – GC/CM Procurement Manager & PM/CM (Parametrix)

Role: As the GC/CM Procurement Manager, Dan will be responsible for GC/CM procurement including development of the RFP and RFFP documents, Interview criteria and scoring criteria and project score sheets. During design and construction, Dan will also be available to provide support, mentoring and GC/CM advise to the LWSD project managers. He will also be available to monitor the work of the A/E and GC/CM in order to ensure that they are operating within their contractual obligations to the District.

Relevant Experience: Dan is a Senior Construction Manager/Project Manager with Parametrix. A licensed architect, he has over 34 years of experience in the design and construction industry and has developed the ability to manage all phases of projects from programming through

construction closeout. Dan has been heavily involved in design, production and construction administration for a large number and variety of educational, institutional, and commercial projects. Dan's expertise includes programming, budget analysis, space planning/design, project team coordination, quality control review, production and construction administration. He has extensive experience in the educational, commercial and public sector markets, providing design and construction services on projects throughout western Washington.

Dan successfully completed the AGC GC/CM training seminar in January 2016. Since that time, he has been closely involved in the GC/CM procurement process for more than thirty major projects totaling nearly \$1.65B in total project value. Dan is a proponent of the GC/CM delivery method and believes that it will soon become the preferred delivery method used by public agencies for projects that pose interesting challenges and opportunities. The table below identifies some of Dan's most recent GC/CM project experience.

Project	Project Value	Delivery Method	Role	Timeframe
Lakehaven New Headquarters	\$50M	GC/CM	GC/CM Procurement, Project Manager	2019-current
Columbia River High School Mod/Add, Vancouver Public Schools	\$21.4 M	GC/CM	GC/CM Procurement	2018
Downtown Elementary School, Vancouver Public Schools	\$39.5 M	GC/CM	GC/CM Procurement	2018
Three Elementary School Replacement Program, Auburn School District	\$157.7 M	GC/CM	GC/CM Procurement, GC/CM Advisor	2018 - present
Chelan County PUD – RI & RR Dam Support Facilities	\$70M	GC/CM	GC/CM Procurement	2017
Grant Elementary School, Tacoma Public Schools	\$34.9 M	GC/CM	GC/CM Procurement	2017
Birney Elementary School, Tacoma Public Schools	\$39.15 M	GC/CM	GC/CM Procurement	2017
Mann Middle School Replacement, Clover Park School District	\$68 M	GC/CM	GC/CM Procurement	2017
Four Elementary School Replacement Program, Auburn School District	\$208.0 M	GC/CM	GC/CM Procurement, GC/CM Advisor	2017-present

Graehm Wallace – District Legal Counsel (Perkins Coie)

Graehm Wallace is a partner in the Seattle office of the law firm Perkins Coie LLP. Graehm has provided GC/CM project legal assistance for numerous public entities including preparation of GC/CM contract documents and providing legal counsel regarding compliance with RCW Chapter 39.10 for GC/CM projects. For example, Graehm has prepared GC/CM contracts for the Cities of Oak Harbor and Spokane; for the Chelan County PUD and Spokane Public Libraries; for Columbia County Health System, Grays Harbor Public Hospital District, and Lake Chelan Community Hospitals; and for the following School Districts: Auburn, Bainbridge Island, Bellingham, Centralia, Central Kitsap, Central Valley, Clover Park, Edmonds, Evergreen, Federal Way, Ferndale, Fife, Kalama, Lake Stevens, Mead, Mount Vernon, Port Townsend, Puyallup, Seattle, Shoreline, Spokane, Tacoma, Tahoma, Vancouver, West Valley, and Yelm. Graehm has twenty-three years legal counsel experience working in all areas of construction and has provided legal assistance to over 100 Washington public entities. His work has covered all aspects of contract drafting and negotiating. This includes preconstruction, architectural, engineering, construction-management, GC/CM, design-build, and bidding. Graehm also provides legal advice during construction, claim prosecution, and defense work.

Dave Roberts P.E., Civil Engineer - Principal in Charge (P.I.C.) and Quality Control/Quality Assurance (QC/QA) Lead (Parametrix)

Role: Dave's role will be as P.I.C. and QC/QA Lead for Parametrix on the project. He will oversee the effort of preparing construction plans and specifications ensuring project quality controls and quality assurance are implemented and documented for the duration of the Project for Parametrix.

Relevant Experience: Dave has managed and served as the QC/QA lead on multiple complex Wastewater Treatment Plant upgrade projects in his 25 years of experience in the field municipal consulting engineering. His project experience includes numerous projects serving as engineer of record, project manager, design manager, QA/QC lead, and P.I.C. working in water, wastewater, and municipal infrastructure with emphasis in wastewater treatment plants. Relevant recent wastewater treatment projects with significant electrical improvement work include:

Project	Project Value	Delivery Method	Role	Time Frame
LOTT Process Improvements	\$31.9	D/B/B	PIC/QC/QA	2020
LOTT UV Disinfection Upgrade	\$7M	D/B/B	PIC/QC/QA	2019
LOTT Sludge Dewatering and Electrical Room/MCC Replacement Project	\$7.1M	D/B/B	PIC/QC/QA	2018
LOTT Service Entrance Switchgear, Transformers and UPS Replacement Project	\$2M	D/B/B	PIC/QC/QA	2017

Gary White P.E., Senior Electrical Engineer (Parametrix)

Role: Gary will be the Project Manager for Parametrix on the project. As Project Manager he will manage the project's technical design effort. Gary has over 40 years of experience in design and construction experience including over 5 years working with the District.

Relevant Experience: Gary graduated from the University of Washington with a BSEE. He has been a licensed professional engineer for over 35 years. His design and construction experience includes water, wastewater, transportation and industrial projects. This experience includes all phases of the project from planning thru construction and maintenance. Currently Gary serves as a Senior Electrical Engineer within the Parametrix Electrical Group where he has also served as Group Lead for over 15 years.

Project	Project Value	Delivery Method	Role	Time Frame
Lakota / Redondo Generator Replacement	\$1.6M	DBB	Project Manager	2021
Redondo UV Replacement	\$4.9M	DBB	Project Manager - Electrical	2020
LOTT Service Entrance Switchgear Replacement	\$1.6M	DBB	Technical Lead Substation Design	2017
Interbay Pump Station	\$11.9M	DBB	Technical Lead Electrical Design	2015
Bellevue Pump Station	\$9.0M	DBB	Technical Lead Electrical Design	2011
Oak Street Pump Station	\$6.3M	DBB	Technical Lead Electrical Design	2005

Neil A. Webster, P.E., Lead Odor Control Engineer (Webster Environmental Assoc.)

Role: Neil's role will be Lead Odor Control design engineer as a consultant for the Lakehaven Water and Sewer District (LWSD) on the project. Mr. Webster has been involved with numerous odor control projects during his 40 years of experience in the study of, and design and construction of odor control systems.

Relevant Experience: Mr. Webster graduated from Purdue University with a BSCE and MSCE. He has been a licensed professional engineer for over 35 years. He has been involved with over 500 odor control projects throughout the U.S.. This experience includes all phases of the project from studies to design to construction management. Neil has been involved with LWSD

projects over the past several years at both their wastewater treatment plants. A few examples of recent projects are seen below:

Project	Project Value	Delivery Method	Role	Time Frame
Lakota and Redondo Odor Control Studies and Preliminary Engineering Design (LWSD)	\$150K (prelim design only)	D/B/B	Odor Control Engineer	2018- 2020
Study and Design for Eagle River Water and Sanitation District in Avon, CO	\$ 10 M+	CMAR	Odor Control Engineer	2019 - 2020
Bellingham, WA Solids Handling Expansion	\$250K (study and facility plan only)	D/B/B	Odor Control Engineer	2021
Oak Harbor Clean Water Facility Odor Control Evaluation	\$25K	Study	Odor Control Engineer	2018
Odor Control Design for AFB International is Aurora, MO	\$ 5 M	D/B/B	Odor Control Engineer	2019 - 2021

Bryan Nicholson, P.E., CCM, DBIA; Civil Engineer and Construction Manager (Parametrix)

Role: Bryan's role will be as Construction Manager for Parametrix on this project. He will help provide constructability review and input throughout the design process as well as manage the contracting process from award, through construction, commissioning, and close out.

Relevant Experience: As a Construction Manager and Owner's Representation with over 35 years of experience Bryan has led multidisciplinary teams to successfully deliver potable and waste water projects in design/bid/build, GC/CM, and design/build delivery methods focusing on the needs of public sector Owners. His project experience includes new construction of advanced technology wastewater treatment plant, upgrades and emergency repair of existing wastewater plants, construction of new potable water treatment plants, and upgrade and expansion of existing functioning potable water plants without loss of treatment. He is focused on claims prevention and change management to accomplish on time delivery.

Project	Project Value	Delivery Method	Role	Time Frame
Redondo & Lakota WWTP Generator Upgrade	\$1.6M	D/B/B	CM	2021
Coupeville WTP	\$16M	D/B	CM	2019
West Point WWTP Emergency	\$72M	GC/CM	CM	2018
JBLM WWTP (new)	\$125M	D/B	CM/QCM	2014
Short Hill (NJ) WTP (new)	\$56M	D/B	CM/PM	2012
Windermere CSO (new)	\$32M	GC/CM	CM/PM	2011

Connor Wittman P.E., Electrical Engineer and Design Lead (Parametrix)

Role: Connor's role will be as Electrical Design Lead for Parametrix on the project. He will lead the effort in preparing construction plans and specifications and will serve as the primary point of contact for Parametrix for technical discussion.

Relevant Experience: Connor has led multiple electrical infrastructure upgrade projects in his 12 years of experience in the field of industrial and municipal consulting engineering. His project experience encompasses engineering design work in various industrial environments, including wastewater treatment plants, and especially in the specification and application of medium and low voltage fault-tolerant distribution systems.

Project	Project Value	Delivery Method	Role	Time Frame
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Redondo and Lakota WWTP Generator Upgrade	\$1.6M	D/B/B	EE	2021
LOTT Process Improvements	\$31.9M	D/B/B	EE	2020
Sunnyside WWTP MBR Upgrade	\$13.5M	D/B/B	EE	2020
LOTT UV Disinfection Upgrade	\$7.0M	D/B/B	EE	2019
Sunnyside WWTP UV Disinfection Upgrade	\$2.1M	D/B/B	EE	2019
Redondo WWTP UV Disinfection and Filtration Upgrade	6.0M	D/B/B	EE	2019

- Provide the **experience and role on previous GC/CM projects delivered** under RCW 39.10 or equivalent experience for each staff member or consultant in key positions on the proposed project. (See Example Staff/Contractor Project Experience and Role. The applicant shall use the abbreviations as identified in the example in the attachment.)

Refer to the Bios above.

- The qualifications of the existing or planned project manager and consultants.

Refer to the Bios above.

- If the project manager is interim until your organization has employed staff or hired a consultant as the project manager, indicate whether sufficient funds are available for this purpose and how long it is anticipated the interim project manager will serve.

The primary Project Manager role will be provided by current, full-time LWSD staff and supplemented by Parametrix who will be providing GC/CM advisory services and is available to provide PM/CM support, if required.

- A brief summary of the construction experience of your organization's project management team that is relevant to the project.

Refer to the Bios and project experience tables above.

- A description of the controls your organization will have in place to ensure that the project is adequately managed.

Howard Moreland, the District's Electrical and Control Systems Manager, will serve as the District's focal point for the project serving as Project Manager. He will be supported by Ken Miller, the District's Engineering Manager, Molly Du, the District's Assistant Engineering Manager and will additionally receive GC/CM advisory and PM/CM support from Parametrix, as required. Ken Miller and Molly Du are currently managing the District's GC/CM Headquarters project giving them recent/relevant GC/CM experience.

The organizational chart included in this application describes the relationships between the various parties and the Bios above describe the roles for each member of the project team. The District's Maintenance and Operations staff will be routinely consulted throughout the project and participate in all design phase reviews, value analysis, and constructability reviews.

The District completes numerous infrastructure or maintenance construction projects every year. In order to be successful, the District has developed a comprehensive management system that has been successful in delivering infrastructure and capital projects on time and within budget during a time of unprecedented industry-wide cost escalation.

Controls will be exercised through a signature authority process for changes. The Maximum Allowable Construction Cost (MACC) will include a GC/CM Risk Contingency that may be used by the team during coordination of the work and specifically during subcontract buyout. Use of any of these contingency funds by the GC/CM requires approval by the District, but the District cannot unreasonably withhold use of the contingency. The District will also carry a minimum 5% Project Contingency outside of the MACC that can be utilized for costs such as unforeseen conditions, errors/omissions in the construction documents and owner directed changes in project scope.

The District's General Manager and Project Manager will meet regularly and will have authority to approve spending from the Owner's contingency funds up to the limits established by the

District's Board. This will allow most items to be resolved quickly, reserving more expensive matters for further review and Board approval.

The Parametrix team will not have signature authority for changes in the contract value. They will work closely with the District's Project Manager to keep him fully informed of any potential cost issues. This approach balances the need for direct decisions/direction to be made by the District with the capability to manage emerging issues that arise at the site and has proven to work well on General Contractor/Construction Manager (GC/CM) projects.

- **A brief description of your planned GC/CM procurement process.**

The procurement process will build upon the experience and success that Parametrix has had in GC/CM project delivery and will including the following:

- Contact/Outreach to experienced, potential GC/CM candidates prior to the release of the RFP.
- Develop/Issue RFP to solicit qualification/proposal statements from GC/CM candidates.
- Receive and score/rank the qualifications/proposals received.
- Check references of GC/CM firms and team members.
- Shortlist the most qualified GC/CM firms to the interview stage.
- Interview and score/rank the shortlisted GC/CM candidates.
- Develop/Issue RFFP to solicit final proposals (price factors) from the highest ranked GC/CM candidates.
- Receive and open/score the final proposals (price factors) received to identify the most highly qualified GC/CM.
- Request approval from the Board to negotiate pre-construction services and contract with the most highly qualified GC/CM.
- Negotiate pre-construction services and contract with the most highly qualified GC/CM.
- Recommend that the Board award to the most highly qualified GC/CM.
- Execute GC/CM Agreement with pre-construction services.

The GC/CM RFP will be advertised in early July 2021. By late September 2021, the GC/CM procurement process will have been completed and a Pre-construction Services agreement will be negotiated. A GC/CM agreement for Pre-Construction services will be presented for approval to the Board of Commissioners in early October 2021. This will allow the GC/CM Contractor to join the project team prior to the end of Schematic Design and participate in the Schematic Design Cost Estimating and Value Analysis exercises.

- **Verification that your organization has already developed (or provide your plan to develop) specific GC/CM or heavy civil GC/CM contract terms.**

The District will utilize GC/CM Contract, Guaranteed Maximum Price Amendment and General Conditions documents based on the AIA-A133, AIA-A133A and AIA-A201 prepared by Perkins Coie. The District will also use, in conjunction with the Perkins Coie documents, standardized GC/CM RFP, RFFP and selection documents developed and used successfully by Parametrix. These documents will include a draft version of the General Conditions, GC/CM Contract, general requirements, preconstruction services scope of work, and cost allocation matrix. These documents will be amended prior to issuing the final RFFP to reflect the input of GC/CM candidates, industry best practices and any recent revisions to applicable RCWs.

7. Public Body (your organization) Construction History:

Provide a matrix summary of your organization's construction activity for the past six years outlining project data in content and format per the attached sample provided: *(See Example Construction History. The applicant shall use the abbreviations as identified in the example in the attachment.)*

- Project Number, Name, and Description
- Contracting method used
- Planned start and finish dates
- Actual start and finish dates
- Planned and actual budget amounts

- Reasons for budget or schedule overruns

Refer to Appendix Attachment B.

8. Preliminary Concepts, sketches or plans depicting the project

To assist the PRC with understanding your proposed project, please provide a combination of up to six concepts, drawings, sketches, diagrams, or plan/section documents which best depict your project. In electronic submissions these documents must be provided in a PDF or JPEG format for easy distribution. (See Example concepts, sketches or plans depicting the project.) At a minimum, please try to include the following:

- A overview site plan (indicating existing structure and new structures)
- Plan or section views which show existing vs. renovation plans particularly for areas that will remain occupied during construction.

Note: Applicant may utilize photos to further depict project issues during their presentation to the PRC.

Refer to Appendix Attachment C for aerial photos of the neighborhood/site as well as concept drawings of the anticipated construction and sequencing.

9. Resolution of Audit Findings on Previous Public Works Projects

If your organization had audit findings on **any** project identified in your response to Question 7, please specify the project, briefly state those findings, and describe how your organization resolved them.

The District has not received any audit findings on the projects listed in the response to question 7 above.

10. Subcontractor Outreach

Please describe your subcontractor outreach and how the public body will encourage small, women and minority-owned business participation.

The District is committed to supporting the local community and economy by encouraging their contractors to include participation of local businesses, small business enterprises, women and minority business, and socially and economically disadvantaged business enterprises on their projects. This is intended to invest tax-payer dollars back into the community, as well as help build a strong professional community able to tackle the increased construction project load that is being experienced in Washington State and especially the greater Puget Sound region.

The GC/CM will be expected to demonstrate due diligence to attempt to encourage and include participation of these businesses to bid and be successful at winning work on the project. Our RFP/RFFP documents will require the contractor to provide their approach for outreach and to encourage participation of local businesses, small business enterprises, women and minority businesses, and socially and economically disadvantaged business enterprises. We will also request their success and performance related to inclusion on prior, completed projects.

CAUTION TO APPLICANTS

The definition of the project is at the applicant’s discretion. The entire project, including all components, must meet the criteria to be approved.

SIGNATURE OF AUTHORIZED REPRESENTATIVE

In submitting this application, you, as the authorized representative of your organization, understand that: (1) the PRC may request additional information about your organization, its construction history, and the proposed project; and (2) your organization is required to submit the information requested by the PRC. You agree to submit this information in a timely manner and understand that failure to do so may delay action on your application.

If the PRC approves your request to use the GC/CM contracting procedure, you also understand that: (1) your organization is required to participate in brief, state-sponsored surveys at the beginning and the end of your approved project; and (2) the data collected in these surveys will be used in a study by the state to evaluate the effectiveness of the GC/CM process. You also agree that your organization will complete these surveys within the time required by CPARB. Additionally, responding to the 2013 Joint Legislative Audit and Review Committee (JLARC) Recommendations is a priority and focus of CPARB. Data collection shall include GC/CM project information on subcontract awards and payments, and if completed, a final project report. For each GC/CM project, documentation supporting compliance with the limitations on the GC/CM self-performed work will be required. This information may include, but is not limited to: a construction management and contracting plan, final subcontracting plan and/or a final TCC/MACC summary with subcontract awards, or similar.

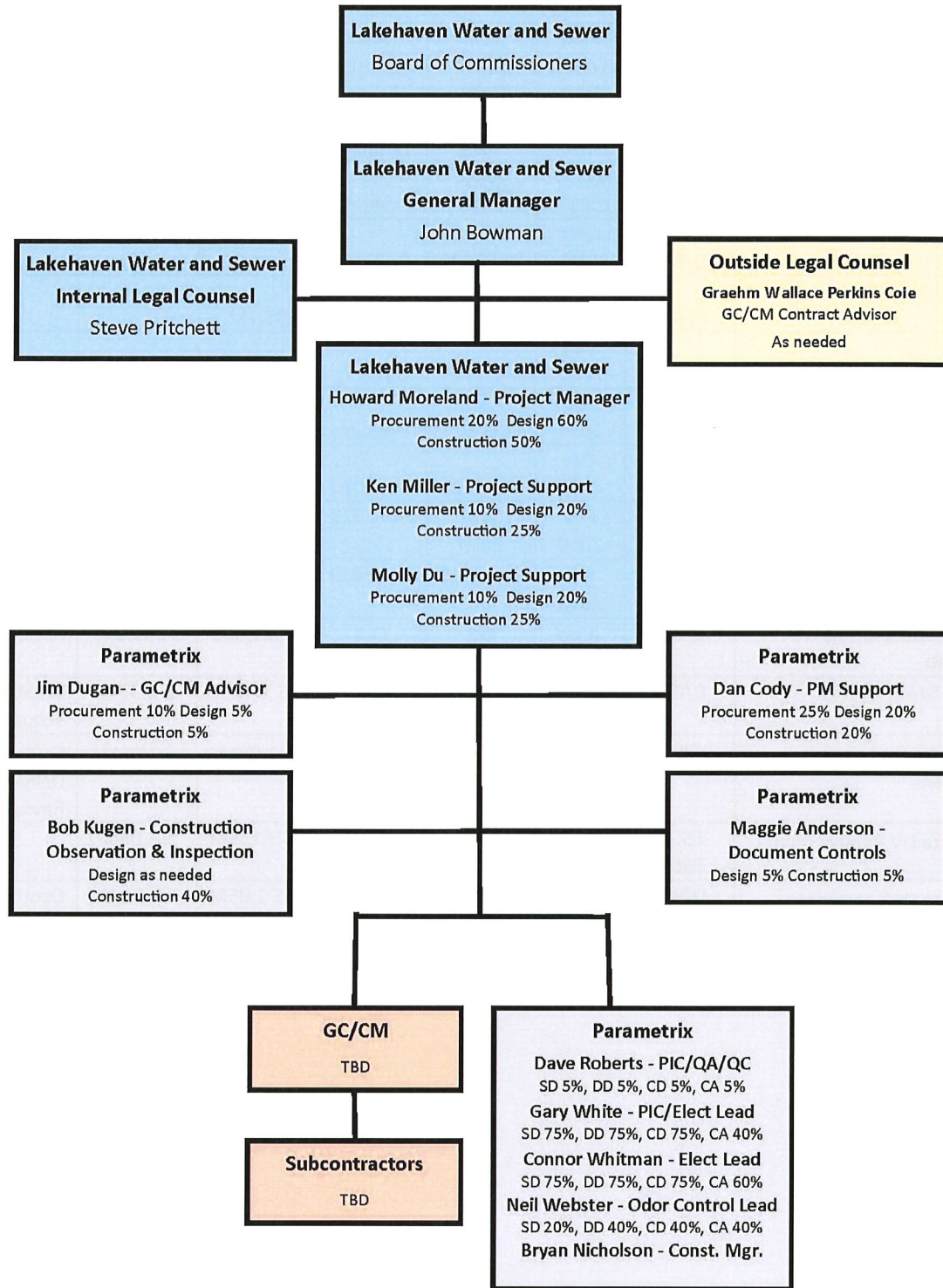
I have carefully reviewed the information provided and attest that this is a complete, correct and true application.

Signature:  _____

Name: John Bowman, PE.
Title: General Manager
Date: May 20, 2021

Appendix Information

Attachment A – Project Organizational Chart



Lakehaven Water and Sewer District

REDONDO WASTEWATER TREATMENT PLANT
PROJECT ORGANIZATION CHART

Attachment B – District Construction History

Project Name	Contract Method	Plan Const. Start	Plan Const. Finish	Act. Const. Finish	Original Const. Budget	Actual Cost of Const.	Reasons for Budget or Schedule Overruns
Lakehaven New Headquarters	GC/CM	June 2021	June 2023	Ongoing	\$50M		
Pump Station #33B	D/B/B	April 2021	May 2022	Ongoing	\$7.3M		
Lakota & Redondo Generator Replacements	D/B/B	April 2021	Dec 2021	Ongoing	\$1.6M		
Lakota Liquid Stream Phase II	D/B/B	Oct 2020	Dec 2021	Ongoing	\$5.7M		
Redondo UV & Filtration	D-B/B	May 2020	Dec 2021	Ongoing	\$4.8M		
Lakota PLC Processor Upgrade	D/B/B	Feb 2021	Oct 2021	Ongoing	\$560K		
Lakota ATS-282 Replacement	D/B/B	Oct 2019	Oct 2020	Oct 2020	\$195K	\$195K	
Lakota Turbo Blower	D/B/B	Feb 2019	Sept 2019	Feb 2020	\$ 1.2M	\$ 1.25M	Additional Scope
I & I Sewer Lining	D/B/B	July 2019	Dec 2019	Dec 2019	\$1.2M	\$963K	Savings
Redondo Shoring Wall Rehab	D/B/B	June 2018	Oct 2018	Oct 2018	\$ 511,500	\$ 541,846	Added Project
I & I Sewer Lining	D/B/B	Sept 2017	Dec 2017	June 2018	\$ 1.4M	\$ 1.37M	Weather and Scope
Lakota Headworks Screens	D/B/B	April 2017	Sept 2017	Dec 2017	\$ 1.08M	\$ 1.06M	Equipment Delivery and O&M Review
Lakota UV Replacement	ESCO (DES)	Aug 2016	July 2017	April 2017	\$ 3.134M	\$ 3.036M	
Lakota Disk Thickener	D/B/B	Jan 2016	July 2016	Sept 2016	\$ 1.05M	\$ 1.04M	Coordination of Equipment "Start Up"

Attachment C – Aerials

Figure 1 – Lakehaven Redondo Wastewater Treatment Plant – Neighborhood Aerial

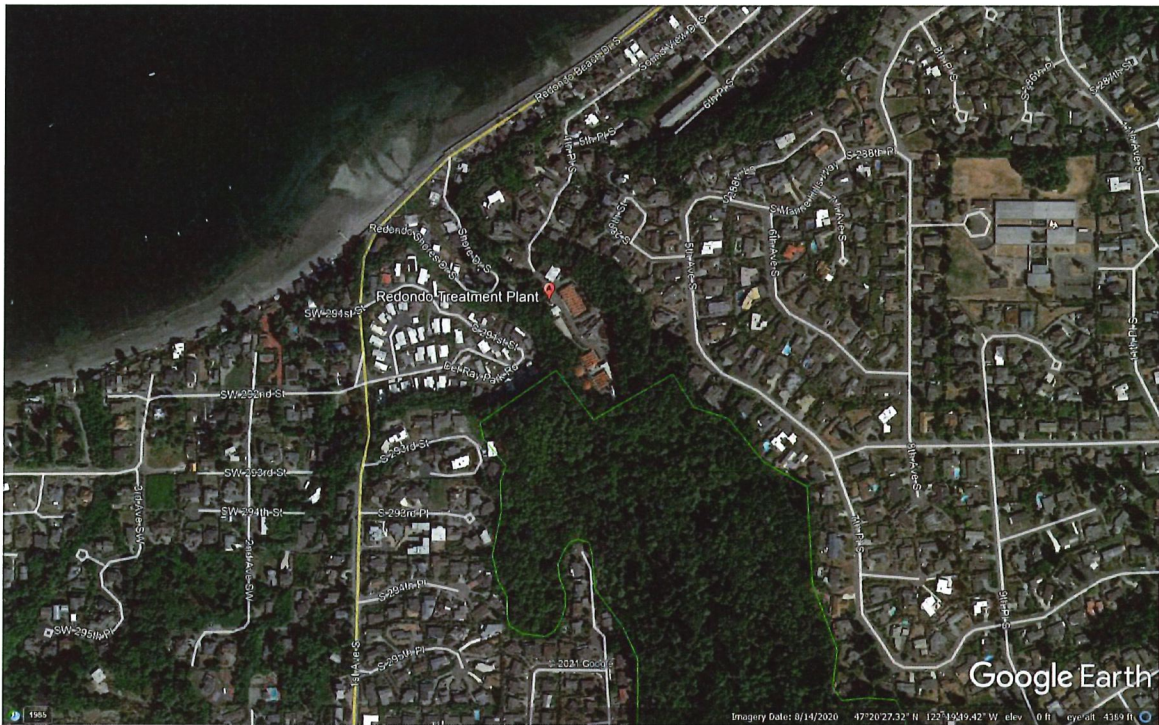


Figure 2 – Lakehaven Redondo Wastewater Treatment Plant – Site Aerial

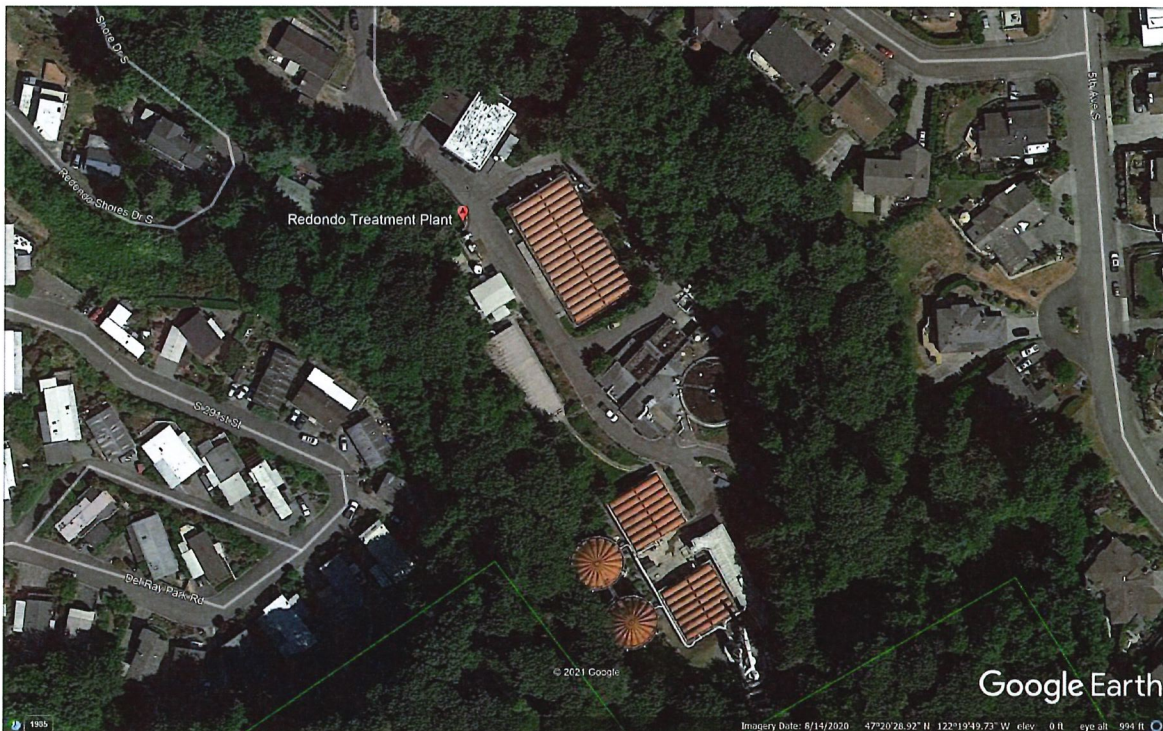
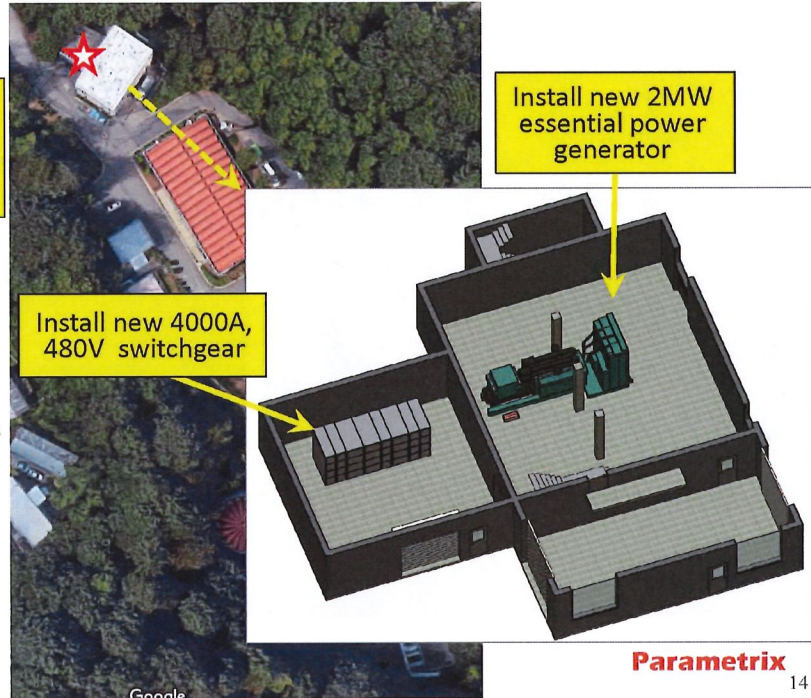


Figure 3 – Concept Design

REDONDO WWTP WEST SOLIDS BUILDING MODIFICATIONS

**Proposed Approach
West End**

- **Install new 2MW generator and distribution switchgear in Solids Building.**
- Upgrade the PSE service to 12.5kV and provide capacity for future loads.
- Feed the West processes from new switchgear in the Solids Building.
- Provide capacity for new UV and Odor Control processes as well as future MBR.

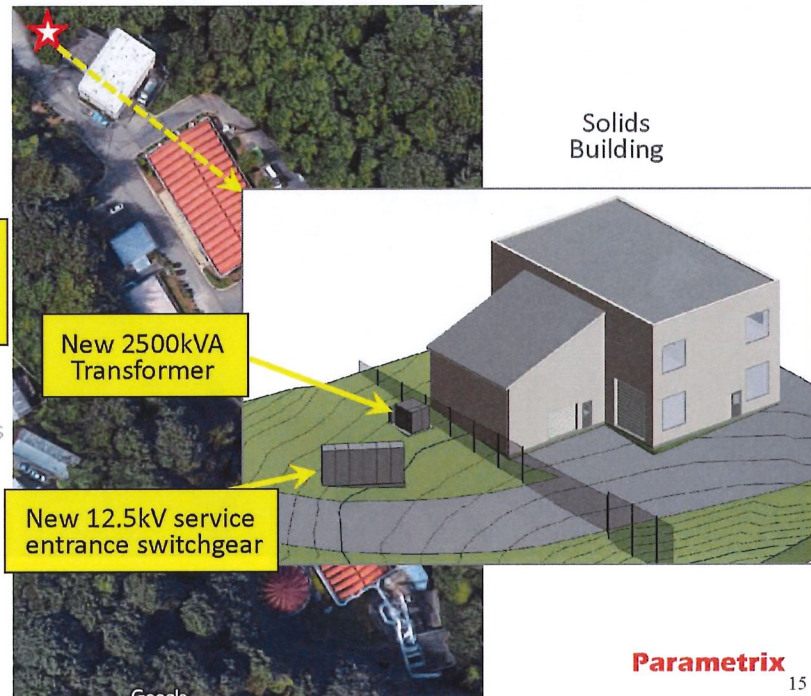


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REDONDO WWTP WEST PSE ELECTRIC SERVICE MODIFICATIONS

**Proposed Approach
West End**

- Install new 2MW generator and distribution switchgear in Solids Building.
- **Upgrade the PSE service to 12.5kV and provide capacity for future loads.**
- Feed the West processes from new switchgear in the Solids Building.
- Provide capacity for new UV and Odor Control processes as well as future MBR.

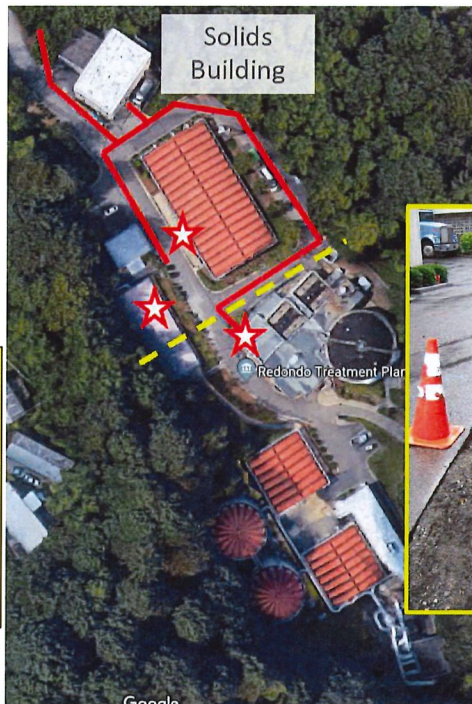


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REDONDO WWTP WEST NEW DISTRIBUTION DUCTS

Proposed Approach West End

- Install new 2MW generator and distribution switchgear in Solids Building.
- Upgrade the PSE service to 12.5kV and provide capacity for future loads.
- **Feed the West processes from new switchgear in the Solids Building.**
- **Provide capacity for new UV and Odor Control processes as well as future MBR.**



CHALLENGE

- Significant below-grade utilities in some areas



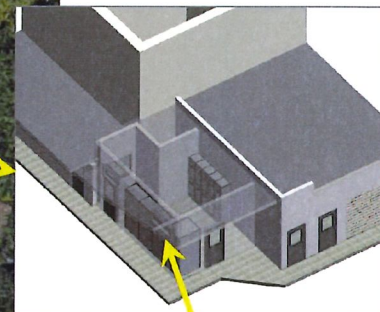
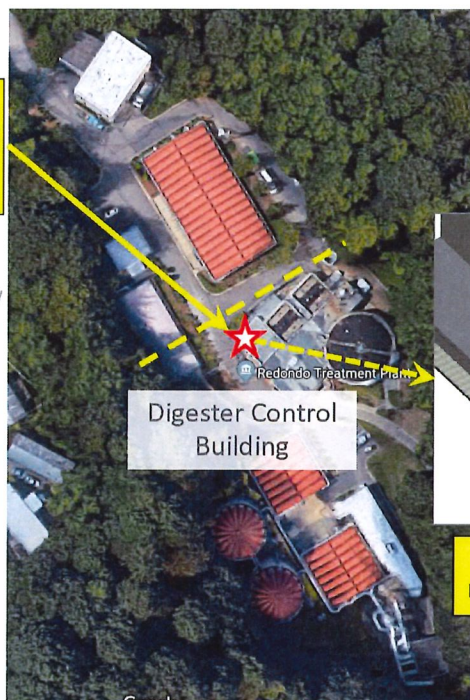
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REDONDO WWTP EAST DIGESTER CONTROL BUILDING MODIFICATIONS

Proposed Approach East End

- **Install new Switchboard 500 in SW corner of Digester Control Building.**
- Supply Switchboard 500 from new 1000kVA transformer and 500kW generator.
- Refeed the East processes from new Switchboard 500.



Replace, upscale and relocate Switchboard 500.

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REDONDO WWTP EAST NEW TRANSFORMER AND 500KW GENERATOR

Proposed Approach East End

- Install new Switchboard 500 in NW corner of Digester Control Building.

- Supply Switchboard 500 from new 1000kVA transformer and 500kW generator.
- Refeed the East processes from new Switchboard 500.

