April 26, 2026

Pajaro/Sunny Mesa Community Services District
Attention: Judith Vasquez-Varela, General Manager
136 San Juan Road
Royal Oaks, CA 95076

SUBJECT: Proposal for Professional Services – Pajaro – Sunny Mesa – Springfield Area Regional Water System Consolidation Project – Final Design Proposal for Phase 1 and Phase 2 and Engineering Services and Construction Management During Bid/Construction Phase for Phase 1

MNS DETAILS

LEGAL NAME
MNS Engineers, Inc.

FIRM OWNERSHIP TYPE
C-Corporation

YEAR FIRM ESTABLISHED
1962

CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS
DIR No. 1000003564

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PROJECT CONTACT AND AUTHORIZED SIGNATORY
Nick Panofsky, PE, QSD
Project Manager
805.722.2734 Mobile
npanofsky@mnsengineers.com

Dear Ms. Vasquez-Varela,

Thank you for the opportunity to submit this proposal for Design, Engineering, Bid Phase, Construction Support, and Construction Management Services for the Pajaro – Sunny Mesa – Springfield (PSMS) Area Regional Water System Consolidation Project (Project) for the Pajaro/Sunny Mesa Community Services District (PSMCSD or District).

Background and Existing Systems

MNS Engineers, Inc. (MNS) was retained by the Community Water Center (CWC) as part of a technical assistance work plan funded by the State Water Board to provide planning and detailed design services to improve the potable water supply system for the North of Moss Landing (NOML) area and to substantially improve the resiliency and reliability of the Pajaro Water System (PWS), the Sunny Mesa Water System (SMWS), and the Springfield Water System (SWS). The consolidated system will be owned and operated by the District.

MNS recently completed 30% design documents for the Project. Due to funding limitations, the Project has been divided into two phases, such that each phase is within a fundable dollar value. The intent is for Phase 1 of the Project to be constructed and able to provide independent utility from Phase 2 Project elements. Phase 1 of the Project would function as a standalone water system in the event Phase 2 is not funded or is otherwise delayed. Phase 2 will extend water service to the NOML area.

Project Understanding

The District and CWC has requested MNS prepare this proposal to provide final design, bid support, engineering services during construction, and construction management support for Phase 1 and to provide final design for Phase 2 of the PSMS Project.

Phase 1 includes the following components:

- Iron/Manganese Water Treatment Plant at Pajaro Well No. 1.
- Approximately 34,320 linear feet of transmission and distribution pipelines including associated appurtenances such as valves, fire hydrants, blow off valves, air release valves, and water sampling stations.
- Service connection tie-overs to 4 existing residences in the Sunny Mesa Water System Area and 1 service connection in the Springfield Water System area.
- Transmission Booster Packaged Pump Station including site improvements.
- Modifications to the existing PWS including fill modifications to the PWS storage tanks and rehabilitation of one of PWS's 600,000-gallon storage tanks.
- Conversion of existing Sunny Mesa Wells No. 1 and No. 2 to stand-by operation.
- Replacement of water meters in the PWS and SMWS to radio read meters.

Phase 2 includes the following components:

- Approximately 13,200 linear feet of transmission and distribution pipelines including associated appurtenances such as valves, fire hydrants, blow off valves, air release valves, and water sampling stations.
- Service connections to 76 existing residences in the North of Moss Landing Area.

- Water Storage Facility for the Bluff/Jensen Zone, with Chemical Dosing facilities and a booster pump station to maintain pressure in the Bluff/Jensen Zone.
- Abandonment of private wells in the North of Moss Landing Area.

The goal of this proposal is to support advancement of Phase 1 of the Project through final design, bidding, and construction and the Phase 2 Project through 100% design, based on the Preliminary Engineering Report (PER) and 30% design documents. The Phase 1 and Phase 2 Projects will be two separate contract document packages.

Figures showing the overall Project layout, identifying the elements included in Phase 1 and Phase 2, are included as attachments to this proposal.

Detailed Scope of Work

MNS will actively manage individual Project tasks, minimizing the District's effort to move the Project forward. The MNS design team includes Buhler Engineering, Inc. (Buhler) to provide structural engineering, IRJ Engineers, Inc. (IRJ) to provide electrical engineering, and TJCAA to provide Instrumentation and controls support. The design team will support the Project through design and construction (phase 1). Proposals for services to be provided by subconsultants are provided as attachments. We have developed the following scope of work specifically for the Project.

Task 1 – Project Management, Quality Assurance/Quality Control, and Coordination

Subtask 1.1 – Project Management

The Project Manager, Nick Panofsky, PE, will continue to provide ongoing coordination of the Project team including the District, CWC, subconsultants, and the internal Project team during design of the Project. Nick will monitor the budget and serve as the main point of contact with the District. Regular phone calls and e-mail updates will be sent from Nick to the District's Project Manager to keep lines of communication open and up to date. He will submit monthly invoices with supporting documentation in a format acceptable to the District and manage contract terms. He will also provide updated Project schedules as requested by the District.

Nick will also manage deliverable deadlines around a mutually agreeable schedule. He will ensure internal quality control reviews are completed and that final products satisfy the contract requirements.

Subtask 1.2 – Quality Assurance/Quality Control (QA/QC)

In accordance with MNS company policy, deliverables, calculations, recommendations, and other documentation will be reviewed by an experienced engineer, not otherwise associated with the Project, prior to submittal to the District. Documents will be reviewed for technical excellence, the goals and expectations of the District are being met, and conformance with applicable design checklists and standards. For the Project, MNS deliverables and other items requiring QA/QC reviews will be reviewed by Tyler Hunt, PE, QSD/QSP.

Subconsultants will be responsible for quality control reviews of subconsultant deliverables. The MNS team will provide interdisciplinary reviews of subconsultant work products to verify the work has been coordinated.

Subtask 1.3 – Coordination with the District and Project Stakeholders

Over the duration of the Project, MNS will lead meetings and conference calls to move the Project forward and maintain open communications with the District. Meetings with District staff and Project stakeholders will be held at key times of the design, bid, and construction phases to obtain data and to develop design details for progress updates, discussion, clarifications, and direction.

We have budgeted for the following meetings over the course of the Project:

- Project Kick-Off Meeting
- Phase 1 - 60%, 90%, and 100% Design Review Meetings
- Phase 2 - 60%, 90%, and 100% Design Review Meetings

The Project Manager and one support staff will attend budgeted meetings. We assume all meetings will be held virtually. We have also budgeted for attendance at two community meetings led by CWC, and 60 half-hour bi-weekly virtual update meetings with CWC staff. For the Project kick-off meeting, MNS will develop a meeting agenda and will submit action items to the District within five business days to document decision making.

In addition to these meetings, we have budgeted to attend up to 36 additional monthly Virtual Coordination Meetings with the District, CWC, the State, and other Project stakeholders. We assume these meetings will be led by others, and MNS will not develop meeting agendas or meeting minutes.

Subtask 1.4 – Project Schedule Development

MNS will maintain an overall Project schedule in Gantt chart format. The schedule will include Project phases through design, permitting, bidding, and construction. The schedule will be updated at regular intervals throughout the Project based on the development and findings and ongoing environmental permitting process. Schedule updates on the environmental permitting process will be provided by the District's environmental consultant, Denise Duffy and Associates (DDA).

Task 1 Deliverables:

- Meeting Agendas, Minutes, and Action Items
- Invoices
- Project Schedule Updates

Task 2 – 60%, 90%, 100% and Final Design Development – Phase 1

MNS will prepare draft and final design documents for the Project clearly defining the work to be completed and suitable for public bid. Plans, specifications, and construction cost opinions (PS&Es) will be developed and submitted at the 60%, 90%, 100%, and Final design stages.

Plans

MNS will prepare detailed drawings for the Project clearly defining the work to be completed. Plans will be prepared in AutoCAD Civil 3D.

Plan and profile drawings of pipelines will be prepared at a horizontal scale of 1" = 20', with the vertical scale drawn at a scale of 1" = 4'. Design standards and specifications for pipelines, treatment facilities, tanks, and other water system elements will be in accordance with District standards, where applicable.

As part of the design submittals, MNS will prepare detailed traffic control plan drawings that clearly define the work to be completed in accordance with the California MUTCD, the Work Area Traffic Control Handbook (WATCHBOOK), Caltrans Standard Plans and applicable local standards as adopted by the Pajaro/Sunny Mesa Community Services District. These drawings will reflect typical and site-specific conditions, including lane shifts, closures, detours, and bicycle accommodations. Where necessary, we will perform truck turning analyses at intersections or tight corners impacted by the proposed traffic control systems to ensure adequate clearance for large vehicles and to verify constructability and safety.

An anticipated sheet list is provided as follows.

Sheet	Sheet No.	Description
1	G-001	Title Sheet, Vicinity Map, and Location Map
2	G-002	General and Civil Notes
3	G-003	Sheet Layout Plan and Basis of Bearings
4	G-004	Sheet Index
5	G-005	Construction Management Plan
6 to 53	C-001 - C-048	Water Pipeline Plan and Profile
54	C-049	Caltrans Crossing Details
55	C-050	Connection Details
56	C-051	Water Service Laterals
57	C-052	Pajaro Well No. 1 Site Demolition Piping Plan
58	C-053	Pajaro Well No. 1 Site Piping Plan
59	C-054	Pajaro Well No. 1 Site Piping Details
60	C-055	Pajaro Well No. 1 Site Chemical Electrical Building Plan & Section
61	C-056	Pajaro Well No. 1 Site Civil Details
62	C-057	Pajaro Tank Plan
63	C-058	Pajaro Tank Piping Modifications Details
64	C-059	Booster Pump Station Site Improvement Plan
65	C-060	Booster Pump Station Site Piping Plan
66	C-061	Booster Pump Station Site Civil Details
67	C-062	Sunny Mesa Well Site Meter Relocation
68	C-063	Trench Details
69	C-064	Valve Vault Details
70	M-101	Pajaro Well No. 1 Treatment Mechanical Plan

Sheet	Sheet No.	Description
71	M-102	Pajaro Well No. 1 Treatment Mechanical Sections
72	M-201	Pajaro Tank Rehabilitation Plan
73	M-202	Pajaro Tank Site Details
74	M-203	Pajaro Tank Rehabilitation Details
75	M-301	Booster Pump Station Mechanical Plan and Section
76	I-001	Symbols and Legend – Process & Instrumentation Diagram
77	I-002	Loop Diagrams – Process & Instrumentation Diagram
78	I-003	Network Communication Diagram
79	I-101	Pajaro Well No. 1 – Process & Instrumentation Diagram
80	I-201	Pajaro Tank Water Production – Process & Instrumentation Diagram
81	I-202	Pajaro Tank Booster Pump – Process & Instrumentation Diagram
82	I-301	Transmission Booster Pump Station – Process & Instrumentation Diagram
83	I-401	Sunny Mesa Tank Site – Process & Instrumentation Diagram
84	I-501	Springfield Water Production – Process & Instrumentation Diagram
85	I-502	Springfield Booster Pumps – Process & Instrumentation Diagram
86	BR-01	Bridge Crossing Structural Notes
87	BR-02	Bridge Crossing General Plan
88	BR-03	Bridge Crossing Vault Details
89	BR-04	Bridge Crossing Interior Pipe Support Details
90	S-001	Structural Notes - 1
91	S-002	Structural Notes - 2
92	S-101	Pajaro Well No. 1 Treatment Plant Structural Site Plan
93	S-102	Pajaro Well No. 1 Treatment Plant Tank Foundation Plan and Details
94	S-103	Pajaro Well No. 1 Treatment Plant Foundation Plan and Roof Framing Plan
95	S-104	Pajaro Well No. 1 Treatment Plant Elevations
96	S-201	Pajaro Tank Rehabilitation Structural Details - 1
97	S-202	Pajaro Tank Rehabilitation Structural Details - 2
98	S-301	Booster Pump Station Foundation Plan
99	S-601	Typical Details
100	S-602	Typical Tank & Booster Pump Foundation Details
101	S-603	Typical Details
102	E-001	Symbol Lists, Luminaire Schedule, Details
103	E-002	Single Line Diagrams
104	E-003	Pajaro Well No. 1 Site Electrical Plan
105	E-004	Pajaro Tank and Well No. 2 Site Electrical Plan
106	E-005	Transmission Booster Pump Station Site Electrical Plan
107	E-006	Sunny Mesa Tank Site Electrical Plan
108	MH-001	Legend, Schedules, Notes
109	MH-002	Pajaro Well No. 1 Site Mechanical Plan
110	MH-003	Control Schematic, Mechanical Details
111	TCP-001	Traffic Control Title Sheet
112	TCP-002	Construction Area Signs
113	TCP-003	Salinas Rd Bridge Crossing Over Hwy 1

Sheet	Sheet No.	Description
114	TCP-004	Intersection of Jensen Rd at Bluff Rd
115	TCP-005	Intersection of Cabrillo Hwy at Springfield Rd
116	TCP-006	Intersection of Cabrillo Hwy at Jensen Rd
117	TCP-007	Intersection of Elkhorn Rd at Hudson Landing Rd
118	TCP-008	Intersection of Elkhorn Rd at Garin Rd
119	TCP-009	Intersection of Elkhorn Rd at Werner Rd
120	TCP-010	Typical TCP 1: Pipe Installation Within Narrow Shoulder
121	TCP-011	Typical TCP 2: Pipe Installation Within Wide Shoulder
122	TCP-012	Typical TCP 3: Pipe Installation Within Travel Lane
123	TCP-013	Typical TCP 4: Pipe Installation Within Center of Roadway
124	TCP-014	Traffic Handling Plan and Quantity Sheet 1
125	TCP-015	Traffic Handling Plan and Quantity Sheet 2
126	TCP-016	Detour Plan: Detour Plan for Highway 1 FWY/Ramp Closure North
127	TCP-017	Detour Plan: Detour Plan for Highway 1 FWY/Ramp Closure South

Specifications

Front end specification documents will be developed based on the Engineering Joint Council on Contract Documents Committee (EJCDC) 2018 template. Technical specifications will reference the latest edition Standard Specifications for Public Works Construction (Greenbook) and Caltrans Standard Specifications where applicable. MNS will also provide CSI format technical specifications for the work to be completed. A table of contents and select technical specifications will be submitted with the 60% design submittal. Complete specifications will be submitted with the 90%, 100%, and Final design deliverables.

Engineer's Opinion of Probable Construction Cost

MNS will prepare an Engineer's Opinion of Probable Construction Cost for the 60%, 90%, 100%, and Final design deliverables. We will base the opinions on recent projects of similar size and scope upon which we have worked and communications with contractors, vendors, and material suppliers.

MNS will prepare and submit 60%, 90%, 100%, and Final PS&E document electronically in Adobe Acrobat PDF format. Following each submittal and receipt of comments, MNS will lead a design review meeting per Subtask 1.3. with District and CWC staff to discuss the submittal and review comments. A breakdown of anticipated work required to complete the design is provided in the following tasks.

Subtask 2.1 – Trenchless Installation Support

The Project requires a trenchless crossing in an environmentally sensitive area at the Jensen – Springfield tie-in location along Highway 1. MNS has teamed with Schnabel Engineering (Schnabel) to provide trenchless construction support for the Project. Schnabel will provide technical support for the horizontal directional drilling (HDD) crossing and include review of geotechnical information, recommendations for additional investigations, evaluation of HDD alignment feasibility (including hole stability, fluid return potential, settlement, and pipe stress analysis), and preparation of supporting calculations summarized in a technical memorandum. Schnabel will assist with HDD alignment parameters (entry/exit angles, tangent lengths, minimum bend radii) and prepare and review related contract specifications and design drawings. Services will cover technical input and review through the 60%, 90%, and 100% design submittals. A detailed proposal for services to be provided by Schnabel is provided as an attachment.

Subtask 2.2 – Utility Location (Potholing)

MNS will coordinate and oversee subsurface utility investigation (SUE) activities to verify the location, depth, and horizontal alignment of existing utilities within the proposed Project limits. Work will be performed to support design and reduce construction risk related to unknown or inaccurately mapped utilities. MNS will collect and review available utility maps, as-builts, and GIS data to identify potential conflicts within the Project area. MNS will prepare a potholing plan to provide a basis for pothole locations. MNS will coordinate with the potholing contractor, contracted to MNS. Our contractor will perform vacuum excavation ("potholing") to confirm utility type, size, material, and depth. Horizontal and vertical coordinates of exposed utilities will be noted for incorporation into the Project base map, tied to surveyed features. We have budgeted $65,000 for a subcontractor to complete up to 25 potholes. We assume the work will be completed within one week. We assume the potholing contractor will be responsible for traffic control and encroachment permitting.

Subtask 2.3 – SCADA Planning Support

MNS Subconsultant, TJC and Associates (TJCAA) will prepare preliminary information in support of the design of a new SCADA system for the District. The work includes a field radio survey and preparation of a technical memo detailing design parameters for

the SCADA system. Inclusion of the optional radio survey detailed in TJCAA's scope of work is recommended and included in the scope of work to reduce risks associated with changes during construction to achieve a successful communications approach. MNS will coordinate the work. A detailed description of the services to be provided by TJCAA is provided in their proposal, attached.

Subtask 2.4 – Welded Steel Tank Inspection

To provided a basis for developing rehabilitation design for the PWS 600,000 gallon welded steel water storage tank, MNS will facilitate an in-service inspection. MNS will contract with Blue Locker Diving to complete the inspection. The inspection will be completed in accordance with applicable AWWA standards. A dive inspection report will be provided following completion of the work. MNS will coordinate the inspection.

Based on the findings of the inspection, design for the rehabilitation of the existing tank will be developed as discussed in subsequent tasks. The design documents will include base bid items and a series of additive bid items to obtain pricing for repairs with assumed quantities that can be implemented based on observed conditions in the field once the existing coating and corrosion have been removed.

Subtask 2.5 – 60% Design Development

The MNS team will prepare 60% PS&E sufficiently complete to provide for District review. We will assemble a review package in Adobe Acrobat PDF (PDF) format and transmit electronically. We will prepare a response matrix summarizing each comment on the 30% design, identifying how each comment is addressed in the 60% submittal. Following receipt of the consolidated 60% design comments, we will hold a design review meeting with CWC and District staff to discuss the comments as discussed in Task 1. We anticipate all comments will be generally within the scope of this proposal.

Subtask 2.6 – 90% Design Development

MNS will prepare 90% PS&E sufficiently complete to provide for District review and agency permitting. Comments received on the 60% design submittal will be incorporated. We will assemble a review package in PDF format and transmit electronically. Following receipt of the consolidated 90% design comments, we will hold a design review meeting with CWC and District staff to discuss the comments. We will prepare a response matrix summarizing each District comment on the 60% design, identifying how each comment is addressed in the 90% submittal. We will also prepare a response matrix summarizing each constructability review comment and how each comment was addressed. We anticipate all comments will be generally within the scope of this proposal.

Subtask 2.7 – Constructability Review

Prior to the 90% design submittal stage, MNS will perform a constructability review to evaluate the feasibility of the proposed design from a construction perspective. This review will identify potential conflicts, sequencing issues, or cost and schedule risks, with the goal of improving biddability, minimizing change orders, and ensuring a smooth transition from design to construction. Recommendations will be documented and incorporated into the 100% and Final design submittal for CWC and District approval. The Constructability Review will be performed by Megan Panofsky, PE, CCM.

Subtask 2.8 – 100% Design Development

MNS will prepare 100% PS&E sufficiently complete to provide for District review and agency permitting. Comments received on the 90% design submittal will be incorporated. Environmental permitting information and mitigation measures will be integrated into the contract documents.

We will assemble a review package in PDF format and transmit electronically. Following receipt of consolidated 100% design comments, we will hold a design review meeting with District staff to discuss the comments. We will prepare a response matrix summarizing each District comment on the 90% design, identifying how each comment is addressed in the 100% submittal. We will also prepare a response matrix summarizing each constructability review comment and how each comment was addressed. We anticipate all comments will be generally within the scope of this proposal.

Subtask 2.9 – Final Design Development

MNS will prepare Final PS&E documents which will include complete plans and details for the proposed work suitable for public bidding. These plans will include changes based upon the 100% design review comments and discussion. We will prepare a response matrix summarizing each District comment on the 100% design, identifying how each comment is addressed in the Final submittal. We will submit electronic documents upon completion of the work. Electronic formats will include images prepared in PDF format and electronic files compatible with Microsoft Word, Excel, and AutoCAD, as appropriate. Contract documents will be stamped and signed by professional engineers in the appropriate disciplines, registered in the State of California. MNS assumes the District will provide final reproduction of plans and specifications and will provide plans and specifications to prospective bidders.

Task 2 Deliverables:

- Trenchless Installation Memo
- SCADA Planning Memorandum and Radio Survey Results
- Tank Inspection Report
- 60%, 90%, 100%, and Final PS&E

Task 3 – 60%, 90%, 100% and Final Design Development – Phase 2

MNS will prepare draft and final design documents for the Project clearly defining the work to be completed and suitable for public bidding. PS&E will be developed and submitted at the 60%, 90%, 100%, and Final stages.

Plans

MNS will prepare detailed drawings for the Project clearly defining the work to be completed. Plans will be prepared in the latest version of AutoCAD Civil 3D.

Plan and profile drawings of pipelines will be prepared at a horizontal scale of 1" = 20', with the vertical scale drawn at a scale of 1" = 4'. Design standards and specifications for pipelines, treatment facilities, tanks, and other water system elements will be in accordance with District standards, where applicable.

An anticipated sheet list is provided as follows.

Sheet	Sheet No.	Description
1	G-001	Title Sheet, Vicinity Map, and Location Map
2	G-002	General and Civil Notes
3	G-003	Sheet Layout Plan and Basis of Bearings
4	G-004	Sheet Index
5	G-005	Construction Management Plan
6 to 33	C-001 - C-028	Water Pipeline Plan and Profile
34	C-029	Connection Details
35 to 42	C-030 – C-037	Water Service Laterals
43	C-038	Bluff-Jensen Site Improvement Plan
44	C-039	Bluff-Jensen Site Piping Plan
45	C-040	Bluff-Jensen Site Tank Plan and Sections
46 to 48	C-041 to C-043	Bluff-Jensen Site Tank Details
49	C-044	Bluff-Jensen Site Chemical/Electrical Building Plan and Section
50 to 51	C-045 – C-046	Bluff-Jensen Site Civil Details
52	C-047	Trench Details
53	M-101	Bluff-Jensen Pump Station Plan and Sections
54	I-001	Symbols and Legend – Process & Instrumentation Diagram
55	I-002	Loop Diagrams – Process & Instrumentation Diagram
56	I-003	Network Communication Diagram
57	I-101	Bluff-Jensen Site Process & Instrumentation Diagram
58	S-001	Structural Notes - 1
59	S-002	Structural Notes - 2
60	S-101	Bluff-Jensen Pump Station Structural Site Plan
61	S-102	Bluff-Jensen Pump Station Tank Foundation Plan and Details
62	S-103	Bluff-Jensen Pump Station Foundation Plan and Roof Framing Plan
63	S-104	Bluff-Jensen Pump Station Elevations
64	S-601	Typical Details
65	S-602	Typical Tank & Booster Pump Foundation Details
66	S-603	Typical Details
67	E-001	Symbol Lists, Luminaire Schedule, Details
68	E-002	Single Line Diagrams
69	E-003	Bluff-Jensen Site Electrical Plan
70	MH-001	Legend, Schedules, Notes

Sheet	Sheet No.	Description
71	MH-002	Bluff-Jensen Site Mechanical Plan
72	MH-003	Control Schematic, Mechanical Details

Specifications

Front end specification documents will be developed based on the Engineering Joint Council on Contract Documents Committee (EJCDC) 2018 template. Technical specifications will reference the latest edition Standard Specifications for Public Works Construction (Greenbook) and Caltrans Standard Specifications where applicable. MNS will also provide CSI format technical specifications for the work to be completed. A table of contents and select technical specifications will be submitted with the 60% design submittal. Complete specifications will be submitted with the 90%, 100%, and Final design deliverables.

Engineer's Opinion of Probable Construction Cost

MNS will prepare an Engineer's Opinion of Probable Construction Cost for the 60%, 90%, 100%, and Final design deliverables. We will base the opinions on recent projects of similar size and scope upon which we have worked and communications with contractors, vendors, and material suppliers.

MNS will prepare and submit 60%, 90%, 100%, and Final PS&E electronically in Adobe Acrobat PDF format. Following each submittal and receipt of comments, MNS will lead a design review meeting per Subtask 1.3. with District and CWC staff to discuss the submittal and review comments. A breakdown of anticipated work required to complete the design is provided in the following tasks.

PG&E Coordination

A new PG&E service will be required for the Bluff-Jensen site. Relocation and/or upgrade of the PG&E services at the transmission booster pump station and at the Pajaro Well No. 1 site may be required. Our electrical engineer, IRJ Engineers, will be responsible for coordinating with PG&E to determine the requirements for these services and incorporating appropriate improvements into the Project contract documents.

Subtask 3.1 – 60% Design Development

The MNS team will prepare 60% PS&E sufficiently complete to provide for District review. We will assemble a review package in Adobe Acrobat PDF (PDF) format and transmit electronically. We will prepare a response matrix summarizing each comment on the 30% design, identifying how each comment is addressed in the 60% submittal. Following receipt of the consolidated 60% design comments, we will hold a design review meeting with CWC and District staff to discuss the comments as discussed in Task 1. We anticipate all comments will be generally within the scope of this proposal.

Subtask 3.2 – 90% Design Development

MNS will prepare 90% PS&E sufficiently complete to provide for District review and agency permitting. Comments received on the 60% design submittal will be incorporated. We will assemble a review package in PDF format and transmit electronically. Following receipt of the consolidated 90% design comments, we will hold a design review meeting with CWC and District staff to discuss the comments. We will prepare a response matrix summarizing each District comment on the 60% design, identifying how each comment is addressed in the 90% submittal. We will also prepare a response matrix summarizing each constructability review comment and how each comment was addressed. We anticipate all comments will be generally within the scope of this proposal.

During detailed design development, we will coordinate with the Project Geotechnical Engineer, Pacific Crest, to confirm the design appropriately addresses the recommendations of the geotechnical report.

Subtask 3.3 – Constructability Review

Prior to the 90% design submittal stage, MNS will perform a constructability review to evaluate the feasibility of the proposed design from a construction perspective. This review will identify potential conflicts, sequencing issues, or cost and schedule risks, with the goal of improving biddability, minimizing change orders, and ensuring smooth transition from design to construction. Recommendations will be documented and incorporated into the 100% and Final design submittal for District approval. The Constructability Review will be performed by Megan Panofsky, PE, CCM.

Subtask 3.4 – 100% Design Development

MNS will prepare 100% PS&E sufficiently complete to provide for District review and agency permitting. Comments received on the 90% design submittal will be incorporated. Environmental permitting information and mitigation measures will be integrated into the contract documents.

We will assemble a review package in PDF format and transmit electronically. Following receipt of consolidated 100% design comments, we will hold a design review meeting with CWC and District staff to discuss the comments. We will prepare a response matrix summarizing each District comment on the 90% design, identifying how each comment is addressed in the 100% submittal. We will also prepare a response matrix summarizing each constructability review comment and how each comment was addressed. We anticipate all comments will be generally within the scope of this proposal.

Subtask 3.5 – Final Design Development

MNS will prepare Final PS&E documents which will include complete plans and details for the proposed work suitable for public bidding. These plans will include changes based upon the 100% design review comments and discussion, and any requirements associated with Project construction funding. We will prepare a response matrix summarizing each District comment on the 100% design, identifying how each comment is addressed in the Final submittal. We will submit electronic documents upon completion of the work. Electronic formats will include images prepared in PDF format and electronic files compatible with Microsoft Word, Excel, and AutoCAD, as appropriate. Contract documents will be stamped and signed by professional engineers in the appropriate disciplines, registered in the State of California. MNS assumes the District will provide final reproduction of plans and specifications and will provide plans and specifications to prospective bidders.

Task 3 Deliverables:

- 60%, 90%, 100%, and Final PS&E

Task 4 – Permitting – Phase 1

MNS will provide permitting support for Phase 1 of the Project as described in the following subtasks.

Subtask 4.1 – County of Monterey Building Permit

MNS will prepare and submit permit application materials to the County Building Department for building improvements required as part of the Project, specifically the CMU building at the Pajaro Well No. 1 site. We will submit application materials to CWC and the District prior to submittal to the County utilizing the County's ePlan Review building permit web portal. Tasks will include:

- Compiling structural, mechanical, and electrical drawings in accordance with County building codes and standards;
- Providing calculations, specifications, and supporting documents as required by County plan review staff;
- Coordinating responses to plan check comments and revising documents as needed; and,
- Tracking permit status and facilitating communication between the County, CWC, and the District through permit issuance.

Subtask 4.2 – County of Monterey Encroachment Permit

MNS will prepare and submit a County Encroachment Permit application for installation of pipelines, valves, and related infrastructure within County rights-of-way. Tasks will include:

- Preparing detailed civil engineering drawings showing proposed improvements, traffic control plans, and construction staging areas within County ROW.
- Preparing and submitting the encroachment permit application package, including calculations, quantities, and environmental documentation provided by the District's environmental consultant.
- Coordinating with County staff during the review and approval process.
- Incorporating plan and specification revisions as required by the County into the Project PS&E, including trench restoration and paving specifications.

It is anticipated that the final encroachment permit will not be issued until the project has been bid and awarded for construction, as the selected contractor will need to pull the final permit.

Subtask 4.3 – California Department of Transportation (Caltrans) Encroachment Permit

MNS will apply for a Caltrans Encroachment Permit for work affecting State highway rights-of-way, including the Salinas Road Bridge crossing Highway 1, and staging area near the intersection of Hilltop Road and Bluff Road. Tasks will include:

- Submittal of Project plans demonstrating conformance with Caltrans standards, showing proposed crossings, construction methods, and traffic control plans compliant with the California Manual on Uniform Traffic Control Devices (MUTCD).
- Preparing and submitting a complete permit application, including environmental compliance documentation.
- Coordinating with Caltrans permit engineers and addressing review comments through permit approval.

Subtask 4.4 – Industrial Waste Discharge Permit

MNS will:

- Review applicable regulations and permitting requirements with Pajaro County Sanitation District staff on Project specific permitting requirements.
- Compile industrial waste stream data to identify discharge requirements.
- Prepare and submit the Industrial Waste Discharge Permit application package, including technical support documents.
- Coordinate with agency staff, respond to comments, and provide clarifications through permit issuance.

We assume pre-treatment will not be required.

Subtask 4.5 – DDW Potable Drinking Water Permit

MNS will prepare an application for a new potable water supply permit for the consolidated water system including the work covered by Phase 1 of the Project. Work anticipated to be required for acquisition of the permit include:

- Review California Title 22 requirements and DDW permitting criteria for potable water system approval. Coordinate with DDW on Project specific permitting requirements.
- Compile system data, engineering reports, and water quality results needed to support the application.
- Preparation of an operation and maintenance manual for the iron and manganese treatment system based on manufacturer submittal information, suitable for DDW permitting and District operation of the facility.
- Prepare and submit the DDW Potable Drinking Water Permit application package.
- Coordinate with DDW staff, address review comments, and support utility staff through permit issuance.

We assume that maps of existing potable water distribution systems will not be required for permitting.

Task 4 Deliverables:

- County of Monterey Building Permit
- County of Monterey Encroachment Permit
- Caltrans Encroachment Permit
- Industrial Waste Discharge Permit
- DDW Potable Drinking Water Permit
- Iron and Manganese System Operations Manual

Task 5 – Permitting – Phase 2

MNS will provide permitting support for the Project as described in the following subtasks.

Subtask 5.1 – County of Monterey Building Permit

MNS will prepare and submit complete permit application materials to the County Building Department for building improvements required as part of the Project, specifically the CMU building at the Bluff-Jensen site and the transmission booster pump station building foundation. The County may require additional review of the packaged booster pump station building submittal during construction as a deferred submittal. We will submit application materials to the District prior to submittal to the County utilizing the County's ePlan Review building permit web portal. Tasks will include:

- Compiling structural, mechanical, and electrical drawings in accordance with County building codes and standards;
- Providing calculations, specifications, and supporting documents as required by County plan review staff;
- Coordinating responses to plan check comments and revising documents as needed; and,
- Tracking permit status and facilitating communication between the County, and the District through permit issuance.

Subtask 5.2 – County of Monterey Encroachment Permit

MNS will prepare and submit a County Encroachment Permit application for installation of pipelines, valves, and related infrastructure within County rights-of-way. Tasks will include:

- Preparing detailed civil engineering drawings showing proposed improvements, and construction staging areas within County ROW.
- Preparing and submitting the encroachment permit application package, including calculations, quantities, and required environmental documentation provided by the District's environmental consultant.
- Coordinating with County staff during the review and approval process.
- Incorporating plan and specification revisions as required by the County into the Project PS&E, including trench restoration and paving specifications.

We assume preparation of traffic control plans will be the responsibility of the contractor.

Subtask 5.3 – Monterey County Air Resources Board Permit to Construct/Operate

MNS will apply for permits from the Monterey County Air Resources Board for the new generator at the Bluff-Jensen Tank site.

Subtask 5.4 – DDW Potable Drinking Water Permit

MNS will coordinate with the District and DDW to update the PSMS potable water system permit with the proposed improvements included in Phase 2 of the Project. Work anticipated to be required as part of the permit update includes:

- Review California Title 22 requirements and DDW permitting criteria for potable water system approval. Coordinate with DDW on Project specific permitting requirements.
- Compile system data, engineering reports, and water quality results needed to support the application.
- Prepare and submit the DDW Potable Drinking Water Permit application package.
- Coordinate with DDW staff, address review comments, and support utility staff through permit issuance.

Task 5 Deliverables:

- County of Monterey Building Permit
- County of Monterey Encroachment Permit
- Construct and Operate Permits
- DDW Potable Drinking Water Permit

Task 6 – Bid Support Services – Phase 1

Subtask 6.1 – Engineering Support During Advertising and Bid Review

MNS will provide services to the District during the bidding period to facilitate the bidding process. We will coordinate with the District to comply with public noticing requirements and circulate the notice inviting bids to local plan rooms. We will assist in advertising the contract documents to contractors. MNS will maintain a plan holders list during the bid period. We assume no hard copies of the plans will be required.

The MNS Project Manager will attend the bid opening virtually.

Following the close of the bidding period, MNS will review the bids received including tabulation of bids, review bids for responsiveness, and research the Contractor submitting the apparent low bid. Research will include contacting references, internal and external, to verify the Contractor's experience statements. We will develop a letter documenting the bid analysis, and our recommendation regarding awarding the contract.

Subtask 6.2 – Pre-Bid Meeting

The MNS Project Manager and Project Engineer will conduct the pre-bid meeting. We will prepare an attendees list and circulate it to plan holders following the meeting. We will document questions received from Contractors during the bid process. MNS will prepare minutes from the pre-bid meeting, which will be provided to the District within three working days.

Subtask 6.3 – Addenda

MNS will respond to questions from contractors. As required, MNS will also prepare addenda during the bidding process to clarify or modify the intent of the contract documents. We will prepare and submit the addenda to the District in a timely manner for distribution. The addenda will include changes to the contract documents as identified during the bid, as necessitated by comments from District staff, questions from contractors, questions during the pre-bid meeting, and from internal sources. We have assumed four addenda will be prepared for this Project. MNS will issue addenda to plan holders.

Subtask 6.4 – Conformed Contract Documents

Following the conclusion of the bidding period, MNS will incorporate the addenda to prepare a conformed set of contract documents. We will submit these final documents to the District in Adobe Acrobat (PDF) for distribution to the Contractor. We assume no hard copies of the plans will be required.

Task 6 Deliverables:

- Bid Summary
- Recommendation to Award
- Pre-Bid Meeting Minutes
- Responses to Contractor Questions / Addenda (4)
- Conformed Contract Documents

Task 7 – Engineering Support Services During Construction – Phase 1

The MNS design team will support the District through the construction process as described in the following subtasks.

Subtask 7.1 – Construction Meetings

The MNS Project Manager and Senior Project Engineer will attend the pre-construction meeting, which is anticipated to be completed virtually. We have also budgeted for the MNS Senior Project Engineer to attend up to 88 additional weekly videoconference meetings during construction, and the MNS Project Manager to attend 24 weekly video conference meetings during construction.

The MNS Senior Project Engineer and Project Manager will also attend 24 monthly internal monthly coordination calls over the course of construction.

Subtask 7.2 – Submittal Review

MNS design staff will review Contractor shop drawings and submittals requiring technical input from the Construction Manager for conformance with the Project drawings and specifications. For budgeting, we have assumed 120 technical submittals with 80 requiring one re-submittal. We will prepare a Shop Drawing Review Letter (SDRL) for each submittal and maintain a Submittal Log. We have assumed all submittals and SDRLs will be transmitted electronically.

Subtask 7.3 – Respond to RFIs/RFCs

MNS will prepare responses to requests for information/clarification (RFI/RFCs) forwarded by the construction management team from the Contractor, or develop recommendations based on changed field conditions. We have assumed responses will be prepared for a total of 32 RFIs/RFCs.

We have budgeted $5,000 for Schnabel to provide support for changed conditions resulting from trenchless construction of the pipe segment to be installed using horizontal directional drilling.

Subtask 7.4 – Contract Change Order Support

MNS will review submitted contract change orders for validity with respect to the contract documents. If appropriate, MNS will provide revisions to the contract documents to provide a basis for development of contract change orders. We have assumed 8 change orders will require support during construction of the Project.

Subtask 7.5 – Start-Up Support

MNS will support the District with start-up of the Project. Prior to start-up of the facility, MNS will review the Contractor's start-up and testing procedures. The MNS Project Manager and Project Engineer will attend start-up and testing operations of the facility. We assume three days on site will be required.

Subtask 7.6 – Project Closeout

MNS staff will assist in developing a Project punch list. Once complete, MNS will prepare a letter documenting that the Project has been completed in accordance with the contract documents. The letter will be stamped and signed by a professional engineer, registered in California

Subtask 7.7 – Record Drawings

MNS will prepare record drawings based on a single consolidated set of Construction Manager and Contractor red-line drawings. Record drawings will be prepared using the latest version of AutoCAD and will be transmitted to the District within four weeks of receipt of red-line drawings. We will provide electronic versions of the record drawings in both AutoCAD and Adobe PDF format.

Task 7 Deliverables:

- SDRLs (200)
- Responses to RFIs/RFCs (32)
- Contract Change Order Responses (8)
- Project Punch List
- Project Completion Letter
- Record Drawings

Task 8 – Grant Management

Subtask 8.1 – Quarterly Progress Reports

MNS will assemble, consolidate, and summarize available information pertaining to the progress of tasks funded by the Drinking Water State Revolving Fund (DWSRF) – Expedited Drinking Water Grant Program (EDWGP) and prepare quarterly progress reports in the form and format required by the grant agreement with the State Water Resources Control Board (SWRCB). This subtask will include coordination between the grantee and grantor.

Subtask 8.2 – Reimbursement Requests

MNS will prepare reimbursement request to the SWRCB Division of Financial Assistance (DFA). MNS will ensure the accuracy and eligibility of expenditures for reimbursement through reconciliation of consultant and contractor invoices with various Project documents, the grant agreement, and the SWRCB Disbursement Request Instructions. This subtask will include coordination between the grantee and grantor.

Task 8 Deliverables:

- Quarterly Progress Reports
- Reimbursement Requests including:
  - SWRCB-DFA Form 259 (construction only)
  - SWRCB-DFA Form 260
  - SWRCB-DFA Form 261

Task 9 – Construction Administration

MNS proposes to provide the following scope of work in support of the construction of Phase 1 of the Project.

MNS will provide contract administration services as required to maintain accurate documentation of the construction. It is our intent to support the District through the construction of this Project. Throughout the construction process, MNS staff will be available to the District. Project records and documentation will be available to all members of the Project team.

The MNS Construction Manager will act as the point of contact between the Contractor, material testing technicians, design team, District Environmental Consultant, and District staff during the construction phase of the work. Timely, accurate and relevant information will be communicated to key stakeholders as a basis for decision making, using the latest Project information from the electronic contract administration software platform.

MNS has budgeted $5,000 for reimbursable expenses for costs for miscellaneous lodging, office supplies and technical support for the Construction Management / Closeout Phases of the Project

Subtask 9.1 – Project Initiation

The MNS Construction Manager will verify the Contractor's contractual obligations and District's concerns are consistently met. These include the following: Stormwater Best Management Practices (BMPs) and Environmental Compliance Monitoring measures per the contract documents; verification of subcontractors listed in the original bid; conformed set of contract documents utilized by the Contractor; verification of Contractor's project manager and project superintendent minimum qualifications per the bid documents if applicable; and verification of Contractor's reference projects. The MNS Construction Manager will also verify the Payment and Performance Bonds meet the contract minimum requirements.

The MNS Construction Manager will also verify and communicate the Contract Documents Order of Precedence to the Contractor for resolution of conflicting contract documents. The Construction Manager will establish a clear chain of command and a clearly defined project organization chart.

- Documentation of compliance to contract agreement terms and conditions
- Order of Precedence Memorandum to key Stakeholders
- Organizational Chart and Chain of Command memorandum to key Stakeholders

Subtask 9.2 – Coordination with District Staff

MNS will proactively coordinate with District staff to receive their input; address their concerns; obtain District concurrence on Project sequencing plan, cost, or schedule changes to ensure continuity of water system construction quality and operations and maintain open communication regarding Project status.

Task 9.2 Deliverables:

- Meeting Minutes regarding sitewide activity scheduling coordination with District staff as needed.

Subtask 9.3 – Contractor Coordination

Subtask 9.3.1 – Submittal Management

MNS will manage the review of all submittals, shop drawings, safety plan and other submittals for general conformance with contract document submittal requirements. Technical submittal reviews will be coordinated with the design team as needed for technical support. It is assumed MNS will receive all submittals in an electronic format.

Task 9.3.1 Deliverables:

- Submittal and Resubmittal Reviews

Subtask 9.3.2 – RFI Review

MNS will review, coordinate and resolve issues with the design team, in a timely manner. Responses will be coordinated with the design team, field staff, and District staff. Responses to RFIs and other requests will be addressed in a timely manner. A running log of RFIs and current status will be maintained.

Task 9.3.2 Deliverables:

- RFI Responses

Subtask 9.3.3 – Correspondence and Reports:

MNS will furnish correspondence, bulletins, and reports on a regular basis as dictated by the Project and as required by the District. Other correspondence will be produced as appropriate to the Project status.

Subtask 9.3.4 – Construction Schedule:

MNS will coordinate with the Contractor to verify maintenance of an up-to-date computerized schedule in critical path format. MNS will review the Contractor's baseline and monthly CPM schedule updates, coordinate changes, and forward written conclusions to the District. We will review the same to verify milestone dates and any shutdown dates are realized in the schedule. MNS will notify the District and the Contractor when the Project schedule slips by more than 10% and request a recovery schedule from the Contractor.

Task 9.3.4 Deliverables:

- Monthly Schedule Review Reports during Pre-Construction, Construction Management and Close-out Phases

Subtask 9.3.5 – Cost Control:

MNS will review and monitor contract progress. Construction costs will be carefully managed in an effort to contain expenditures within the available budget. The Project's document control system will track and monitor the actual construction costs on the Project. Tracking contract item payments and quantities will be incorporated into a progress payment tracking spreadsheet. Contract change order payments, extra work, supplemental work, item overruns and underruns will also be tracked. The Project contingency balance will be verified as part of the monthly progress pay estimate review and submittal. MNS will work closely with the District to monitor Project costs and forecast potential additional costs due to Project conditions or changes.

Task 9.3.5 Deliverables:

- Monthly Cost Control Spreadsheet Reports providing budgeted costs versus expended costs and estimates to complete will be provided.

Subtask 9.3.6 – Change Order Processing and Review:

MNS will strive to anticipate and address potential problems before they occur, assist the District with timely review of RFIs, process change orders promptly, review the Contractor's schedule, and provide an experienced review of the Project work. If unforeseen conditions occur, MNS will identify and help resolve cost and schedule related issues to keep the Project on schedule and within budget to the extent feasible. During construction, MNS will work to reduce or minimize third party impacts to the work and notify the District and Contractor in a timely manner such that the schedule is not disrupted.

MNS will collaborate with the District and Contractor in the review and comments of the Contractor's change orders. MNS will utilize our in-depth construction management experience to determine the reasonableness of the Contractor's change order costs; we will review and evaluate proposed changes to ensure compliance with the original design intent of the Project. For the purposes of this proposal, we have assumed review and negotiation of ten change orders during construction. MNS will maintain a log of all changes during construction.

Task 9.3.6 Deliverables:

- Change order reviews and MNS recommendations will be provided by MNS competent and experienced staff.

Subtask 9.3.7 – Progress Pay Requests:

MNS will keep accurate and complete quantity calculations. Item quantities will be checked during onsite construction observations as well as tracking extra work performed. MNS will assist the District in ensuring accurate and timely monthly estimates for the Project.

MNS will provide monthly progress payment reviews and recommendations to provide the District with the verified or corrected installed work-in-place percentages in a memorandum to process the monthly invoices from the Contractor. This task will be performed during Pre-Construction, Construction Management, and Close-out phases.

Task 9.3.7 Deliverables:

- Monthly Progress Payment Reviews

Task 9.4 – Construction Meetings

Subtask 9.4.1 – Project Kick-off Meeting

The MNS Construction Manager will meet with District staff to establish parameters including inspection needs, and procedures for contract change orders, submittal review and approval, requests for information (RFIs), procedures for progress payments, and quality control. We will also review project administration requirements.

Task 9.4.1 Deliverables:

- Meeting Agenda and Minutes

Subtask 9.4.2– Pre-Construction Conference

The pre-construction conference will be held with key Project stakeholders and the Contractor shortly after awarding the construction contract. It will cover scope, operations coordination, submittal procedures, safety, invoicing, labor complaints and associated protocols to be utilized throughout the Project. MNS will develop the agenda and lead the conference as well as develop the meeting minutes for the team.

Task 9.4.2 Deliverables:

- Meeting Agenda and Meeting Minutes

Subtask 9.4.3 – Project Internal Meetings

MNS will prepare agendas and meeting minutes for Project internal meetings monthly to provide Project coordination and construction schedule and cost control. Meeting minutes will be published and distributed. We have budgeted for the MNS Construction Manager to develop agendas for, and to lead, 24 monthly Project Meetings during the 24-month active construction window. MNS will prepare the meeting notes and distribute them to the key stakeholders via electronic document management software.

Task 9.4.3 Deliverables:

- 24 Meeting Agendas and Minutes

Subtask 9.4.4 – Weekly Contractor Meetings

Weekly Contractor Meetings will address the day-to-day Project progress and issues including procurement issues as perceived by MNS, District staff and other stake holders. MNS will develop the agenda, lead the meeting, and distribute the minutes. This meeting will address the schedule, scope changes, submittals, safety, on-site coordination, and logistics issues.

For the purposes of this proposal, it is assumed that one MNS construction management team member will attend one meeting per week for a period of 24 months for a total of 104 meetings.

The Contractor will also review the three-week-look-ahead schedule with the team. The overall Project schedule and budget will be discussed along with the review of the submittal, RFI, and Contract Change Order (CCO) logs.

MNS will also attend meetings with the District, Contractor, and other staff as appropriate to aid in the communication between the various Project stakeholders during construction. MNS will prepare the meeting agenda and minutes.

Task 9.4.4 Deliverables:

- 104 Meeting Agendas and Meeting Minutes

Subtask 9.5 – Labor Compliance:

MNS will provide comprehensive labor compliance services for the Project in accordance with California Department of Industrial Relations (DIR) requirements, SRF funding requirements, and applicable federal labor standards.

MNS will serve as the Project's Labor Compliance Administrator and will:

- Review 100% of weekly certified payroll reports from prime contractors and subcontractors for proper classifications, prevailing wage rates, overtime, fringe benefits, deductions, DIR registration, and apprenticeship compliance.
- Review Division of Apprenticeship Standards (DAS) forms, fringe benefit statements, and related compliance documentation.
- Conduct periodic employee interviews and reconcile interview findings with certified payroll records.

- Identify payroll deficiencies and labor violations; notify the Contractor in writing; calculate restitution, if required; and verify corrective action.
- Monitor D/M/WBE (DBE) participation and Good Faith Efforts in accordance with SRF requirements and prepare required reports.
- Utilize certified payroll records to verify labor rates for force account and Extra Work Bills.
- Maintain complete labor compliance files and provide status updates during construction.
- Confirm resolution of labor compliance issues prior to final payment and prepare required close-out documentation.

The District's responsibilities related to labor compliance will be limited to:

- Executing construction contracts incorporating required labor compliance provisions.
- Authorizing withholding of payments when recommended by MNS for unresolved labor violations.
- Executing required owner certifications and funding agency submittals.
- Providing legal or Board-level support if formal enforcement action becomes necessary.
- Withholding final acceptance and payment until labor compliance clearance is confirmed by MNS.

Task 9.5 Deliverables: Monthly Review Reports during Construction Management / Closeout Phases of the Project.

Subtask 9.6 – On-Site Construction Observation and Daily Logs

MNS will provide on-site construction inspectors for construction operations and inspections. The inspector's primary duties will be to inspect and verify that work in place meets the requirements of the contract plans and specifications. Responsibilities include:

- Inspection diaries
- Photo record maintenance
- Record drawing maintenance
- Verification of material and equipment
- Quality assurance
- Acceptance/performance testing

We have scheduled inspections for a 24-month estimated construction duration for the Project. Inspection is estimated to be on an as needed basis but is assumed to be full-time for 24 months. Actual inspection time will be dictated by the Contractor's schedule and operations. It is anticipated that multiple inspectors will be needed at times due to the likely probability that the Contractor will be working across multiple geographically diverse sites throughout the project duration. We have also included an electrical inspector to be provided as needed.

Daily inspection reports will detail weather conditions, status of work, and the location and type of work performed by the Contractor. Inspection reports will include documentation of the craft labor, equipment, description of work, and quantities.

Task 9.6 Deliverables:

- Daily Construction Inspection reports developed by the MNS Inspection team as noted above will be furnished to the District via Microsoft Office based electronic software including Excel and Word software customized for the Project or cloud-based document management platform.

Subtask 9.7 – Specialty Inspections and Materials Testing

MNS will coordinate with Pacific Crest Engineering to provide materials testing, geotechnical testing, and special inspection to verify installed materials meet Project requirements. A detailed scope of work for the services to be provided for this task by Pacific Crest Engineering is included as an attachment to this proposal.

Task 9.7 Deliverables:

- Material testing reports as required by the contract documents will be distributed via Cloud-Based Microsoft Office Word and Excel based documentation to all relevant stakeholders.

Subtask 9.8 – Start-up and Commissioning

MNS will review the Contractor's detailed startup and commissioning plan and schedule. MNS will coordinate with the Contractor and District staff for the commissioning of the new system. We will assist with troubleshooting and addressing corrective actions that may be required.

MNS has included a Start-up Engineer with specialized expertise to support the ARE during the start-up and commissioning of the Project in the final two months of construction. We have allocated 60 hours for the Start-up Engineer.

Subtask 9.9 – Environmental Compliance

MNS will coordinate with the District's Environmental Consultant to provide environmental permitting compliance services prior to, and during construction.

TASK 10 – Project Closeout

Final Job Walk and Punch List Preparation. MNS' Construction Manager will attend a final job walk in the presence of the District prior to the completion of construction. The Construction Manager will administer the specifications' final acceptance requirements and develop a deficiency list (punch list) for the work performed, notify the Contractor, and re-inspect the completed work.

Based on the results of the punch list, MNS will make a written recommendation to the District to accept the completed work following the completion of punch list items.

O&M Manual and Warranty Coordination. MNS will coordinate with the MNS design team and the Contractor to confirm required O&M manuals and maintenance manuals are submitted in accordance with contract requirements. We will also verify warranty information is submitted and we will assist the District during this period if corrective work is required by the Contractor.

Review Contractor's Redlines

It is assumed the Contractor will be responsible for documenting all variations from the contract documents and will provide that information to MNS on a single official project redlined plan set, which is maintained by the District and the Contractor during project construction. The MNS Construction Manager will verify the Contractor's redlined drawings are maintained to reflect the installed conditions at the site.

Closeout. Upon satisfactory completion of all contract work, we will perform a final inspection, compile final invoices, assemble and submit contract closeout packages, prepare project closeout files and reports, and recommend final acceptance of the Project.

Task 10 Deliverables:

- Record drawings
- Punch lists
- Recommendation to Accept Completed Work (Notice of Completion)
- Engineer's Certificate of Project Completion

Project Team

MNS has assembled a qualified team with the skills and expertise to bring this Project to successful completion.

Our design team will be led by Nick Panofsky, PE, as Project Manager. Nick will be supported by Jordyn Arreola, PE as the Senior Project Engineer, Chad Harden, PE, SE, for bridge structural support, Alyssa Kispersky, PE, to lead HVAC design, and Tyler Hunt, PE, will provide quality assurance/quality control (QA/QC) reviews of each deliverable prior to submittal.

Our construction management team will be led by Randy Egner, PE, as Senior Construction Manager. Randy will be supported by Ryuun Ernst as Resident Engineer, Laurie Jones, as Office Engineer, Thom King, as Senior Construction Inspector, David Tannaci as Construction Inspector, Jeff Mitchum as Electrical and I&C Inspector, Ed Waggoner as Start-up Manager, and Sandara Lee to provide labor compliance support.

Additional MNS staff will be utilized as needed to complete the work.

We have supplemented our team with specialty subconsultants to bring the Project to successful completion:

- IRJ Engineers, Inc. (IRJ), led by Jill Johnson, PE, will provide electrical engineering support.
- Buehler Engineering, Inc., led by Joseph Klimiczyk, PE, will provide structural engineering support.
- TJCAA, led by Jacqueline N. Arama, P.E., PMP, will provide instrumentation and controls engineering support.
- Schnabel, led by Phaidra Campbell, PE, will provide trenchless engineering support (Phase 1 only).
- Pacific Crest Engineering, led by Chris Johnson, PE, will provide materials testing and special inspection.
- Blue Locker Diving will provide tank inspection services.

Schedule

A tentative Project schedule in Gantt chart format schedule has been prepared and is attached, for reference. MNS is prepared to meet the schedule milestones established in the schedule.

Compensation

MNS proposes to perform the base services described herein for a not-to-exceed fee estimate provided in the following table. Detailed fee proposal spreadsheets are provided as attachments. All fees are in accordance with the MNS 2025 - 2026 Standard Fee Schedule, also included as an attachment. A fee escalation of 4% per year has been included in the fee estimate. For budgetary purposes, it is assumed pre-bid work will be completed in 2026, and construction will begin in 2027.

Task	Fee
Task 1 – Project Management, QA/QC, and Coordination	$188,150
Task 2 – 60%, 90%, 100% and Final Design Development and Constructability Review – Phase 1	$829,378
Task 3 – 60%, 90%, 100% and Final Design Development and Constructability Review – Phase 2	$306,965
Task 4 – Permitting – Phase 1	$100,760
Task 5 – Permitting – Phase 2	$51,580
Task 6 – Bid Support Services	$52,240
Task 7 – Engineering Support Services During Construction	$337,602
Task 8 – Grant Administration	$80,312
Task 9 – Construction Administration	$2,324,004
Task 10 – Project Closeout	$79,291
Total	**$ 4,350,282**

Assumptions

- MNS is currently contracted to provide ongoing support for a variety of services for the Project including easement acquisition support, development of 30% design documents, geotechnical engineering, etc. We assume the scope of work under the existing contract will be successfully completed under the existing contract.
- A construction funding source will be identified and secured prior to finalization of the Phase 2 final design documents.
- The transmission booster pump station will not be subject to a County building permit.
- The District will provide site access, facilitate right-of-entry permissions, if required, and pay for any permit fees.
- Only utilities in conflict areas identified by the design team will be pothole-verified. Additional locations can be added as an extra service.
- MNS assumes no traffic studies will be needed for any of the locations.
- MNS assumes no interaction with Caltrans Headquarters will be necessary.
- Traffic control will be the responsibility of the contractor. Traffic controls plans will not be required as part of the Phase 2 design package.
- The Contractor(s) will be responsible for preparation of stormwater control plans and Storm Water Pollution Prevention Plans (SWPPP), as applicable.

- The Contractor is responsible for Project construction site safety. MNS field staff will review the site and notify the Contractor of unsafe conditions observed and verify the safety concerns have been properly addressed.
- MNS has assumed that all Construction work will be performed during normal work hours. No overtime for holidays or weekends is included.

Closing

Thank you for the opportunity to submit this proposal. We are excited and look forward to continuing work with the District. Please feel free to contact me with any questions you may have at 805.722.2274 or npanofsky@mnsengineers.com. Thank you for your consideration.

Sincerely,
MNS Engineers, Inc.

Nick Panofsky, PE
Vice President

Attachments:

- Project Phasing Figures
- Project Schedule
- MNS 2026 Rate Schedule
- Detailed Fee Spreadsheet
- Schnabel Proposal (Phase 1 only)
- IRJ Proposal (Phase 1 + Phase 2)
- Buehler Proposal (Phase 1 + Phase 2)
- TJCAA Proposal (Phase 1 + Phase 2)
- PCE Proposal (Phase 1 only)

MATCH LINE
SEE FIGURE 2

CA SR-1

NORTH OF MOSS LANDING
TRANSMISSION MAIN

CONNECT TO EXISTING
SUNNY MESA WATER
SYSTEM

SUNNY MESA WATER SYSTEM

SALINAS RD

CONNECT TO EXISTING
SUNNY MESA WATER
SYSTEM

SUNNY MESA TANK SITE

NORTH OF MOSS LANDING
TRANSMISSION MAIN

TRANSMISSION BOOSTER
PUMP STATION SITE
(PHASE 1)

SALINAS RD

HALL RD

SUNNY MESA WELLS
TO BE CONVERTED TO STANDBY
(PHASE 1)

MATCH LINE
SEE LEFT VIEWPORT

TRAFTON RD

MATCH LINE
SEE RIGHT VIEWPORT

PAJARO RIVER

CONNECT TO EXISTING
PAJARO WATER SYSTEM

IRON AND MANGANESE TREATMENT
PLANT AT WELL NO. 1 SITE
(PHASE 1)

UNION PACIFIC RR

RAILROAD AVE

PAJARO TANK SITE
(PHASE 1)

PAJARO WATER SYSTEM

LEGEND

- TRANSMISSION MAIN (PHASE 1)
- PARCEL BOUNDARY
- SYSTEM BOUNDARY
- SITE BOUNDARY

1000' 0' 1000'

SCALE: 1" = 1000'

C:\Box\Projects\CWTRC - Community Water Center\CWTRC.200476.06 PSMS Proj\5 Engl_CAD_Exhibits\PSMS Consolidation Map For TM.dwg

Mon 26 Jan 26 12:09:11 PM

MNS

0 1/2 1 2

THIS BAR IS 2 INCHES AT FULL SCALE. IF NOT 2 INCHES, THEN SCALE ACCORDINGLY.

SCALE:

1"=1000'

PHASED CONSTRUCTION MAP

PAJARO - SUNNY MESA - SPRINGFIELD AREA REGIONAL CONSOLIDATION

FIGURE 1

January 2026

LEGEND

- TRANSMISSION MAIN (PHASE 1)
- TRANSMISSION MAIN (PHASE 2)
- BLUFF / JENSEN DISTRIBUTION MAIN (PHASE 1)
- BLUFF / JENSEN DISTRIBUTION MAIN (PHASE 2)
- SPRINGFIELD EXPANSION DISTRIBUTION MAIN (PHASE 2)
- PARCEL BOUNDARY
- SYSTEM BOUNDARY
- SITE BOUNDARY

1000' 0' 1000'

SCALE: 1" = 1000'

SPRINGFIELD EXPANSION

JENSEN DISTRIBUTION

BLUFF DISTRIBUTION

TRAFTON RD

BLUFF RD

JENSEN RD

APN : 117-033-005-000

APN : 117-021-008-000

GIBERSON RD

CONNECT TO FUTURE SPRINGFIELD WATER SYSTEM

SALINAS RD

STRUVE RD

PROPOSED BLUFF/JENSEN TANK AND BOOSTER PUMP STATION SITE (APPROX. 17,300 SF) (PHASE 2)

SPRINGFIELD RD

APN: 412-032-011-000

APN: 117-022-002-000

CONNECT TO FUTURE SPRINGFIELD WATER SYSTEM

SPRINGFIELD WATER SYSTEM

BLUFF/JENSEN EXPANSION (PHASE 2)

APN: 117-021-013-000

CA SR-1

HILLTOP RD

MATCH LINE SEE FIGURE 1

C:\Box\Projects\CWTRC - Community Water Center\CWTRC.200476.06 PSMS Proj\5 Engl_CAD_Exhibits\PSMS Consolidation Map For TM.dwg

Mon 26 Jan 26 12:09:11 PM

MNS

0 1/2 1 2

THIS BAR IS 2 INCHES AT FULL SCALE. IF NOT 2 INCHES, THEN SCALE ACCORDINGLY.

SCALE: 1"=1000'

PHASED CONSTRUCTION MAP

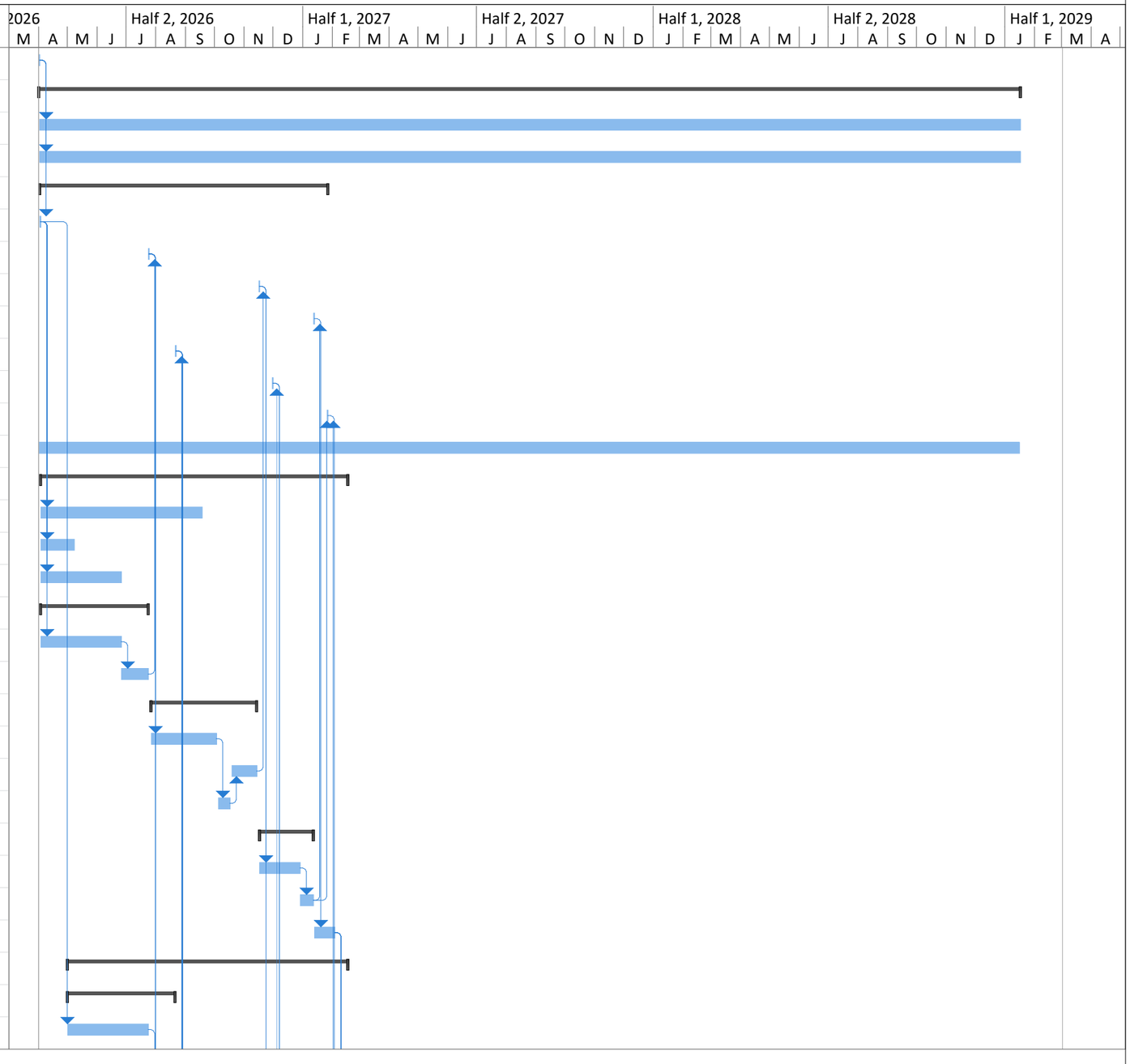
PAJARO - SUNNY MESA - SPRINGFIELD AREA REGIONAL CONSOLIDATION

FIGURE 2

January 2026

Pajaro/Sunny Mesa Community Services District - PSMS Project
Project Implementation Schedule

ID	Task Name	Duration	Start	Finish
1	**Notice to Proceed**	1 day	Wed 4/1/26	Wed 4/1/26
2	**Task 1 - PM, QA/QC, Coordination**	**730 day**	**Wed 4/1/26**	**Tue 1/16/29**
3	1.1 - Project Management	729 day	Thu 4/2/26	Tue 1/16/29
4	1.2 - QA/QC	729 day	Thu 4/2/26	Tue 1/16/29
5	**1.3 - Coordination with Project Stakeholder**	**214 day**	**Thu 4/2/26**	**Tue 1/26/27**
6	Project Kick-off Meeting	1 day	Thu 4/2/26	Thu 4/2/26
7	Phase 1 60% Design review Meeting	1 day	Fri 7/24/26	Fri 7/24/26
8	Phase 1 90% Design review Meeting	1 day	Mon 11/16/26	Mon 11/16/26
9	Phase 1 100% Design review Meeting	1 day	Tue 1/12/27	Tue 1/12/27
10	Phase 2 60% Design review Meeting	1 day	Fri 8/21/26	Fri 8/21/26
11	Phase 2 90% Design review Meeting	1 day	Mon 11/30/26	Mon 11/30/26
12	Phase 2 100% Design review Meeting	1 day	Tue 1/26/27	Tue 1/26/27
13	1.4 - Schedule Development	729 day	Wed 4/1/26	Mon 1/15/29
14	**Task 2 - 60%, 90%, 100% and Final Design – Phase 1**	**228 day**	**Fri 4/3/26**	**Tue 2/16/27**
15	2.1 - Trenchless Installation Support	6 mons	Fri 4/3/26	Thu 9/17/26
16	2.2 - Utility Location (Potholing)	5 wks	Fri 4/3/26	Thu 5/7/26
17	2.3 - SCADA Planning Support	3 mons	Fri 4/3/26	Thu 6/25/26
18	**2.4 - 60% Design**	**80 days**	**Fri 4/3/26**	**Thu 7/23/26**
19	60% Design Development	3 mons	Fri 4/3/26	Thu 6/25/26
20	60% Design District/CWC Review	1 mon	Fri 6/26/26	Thu 7/23/26
21	**2.5 - 90% Design**	**80 days**	**Mon 7/27/26**	**Fri 11/13/26**
22	90% Design Development	2.5 mor	Mon 7/27/26	Fri 10/2/26
23	90% Design District/CWC Review	1 mon	Mon 10/19/26	Fri 11/13/26
24	2.6 - Constructibility Review	2 wks	Mon 10/5/26	Fri 10/16/26
25	**2.7 - 100% Design**	**40 days**	**Tue 11/17/26**	**Mon 1/11/27**
26	100% Design Development	6 wks	Tue 11/17/26	Mon 12/28/26
27	100% Design District/CWC Review	2 wks	Tue 12/29/26	Mon 1/11/27
28	2.8 - Final Design	3 wks	Wed 1/13/27	Tue 2/2/27
29	**Task 3 - 60%, 90%, 100% and Final Design – Phase 2**	**208 day**	**Fri 5/1/26**	**Tue 2/16/27**
30	**3.1 - 60% Design**	**80 days**	**Fri 5/1/26**	**Thu 8/20/26**
31	60% Design Development	3 mons	Fri 5/1/26	Thu 7/23/26

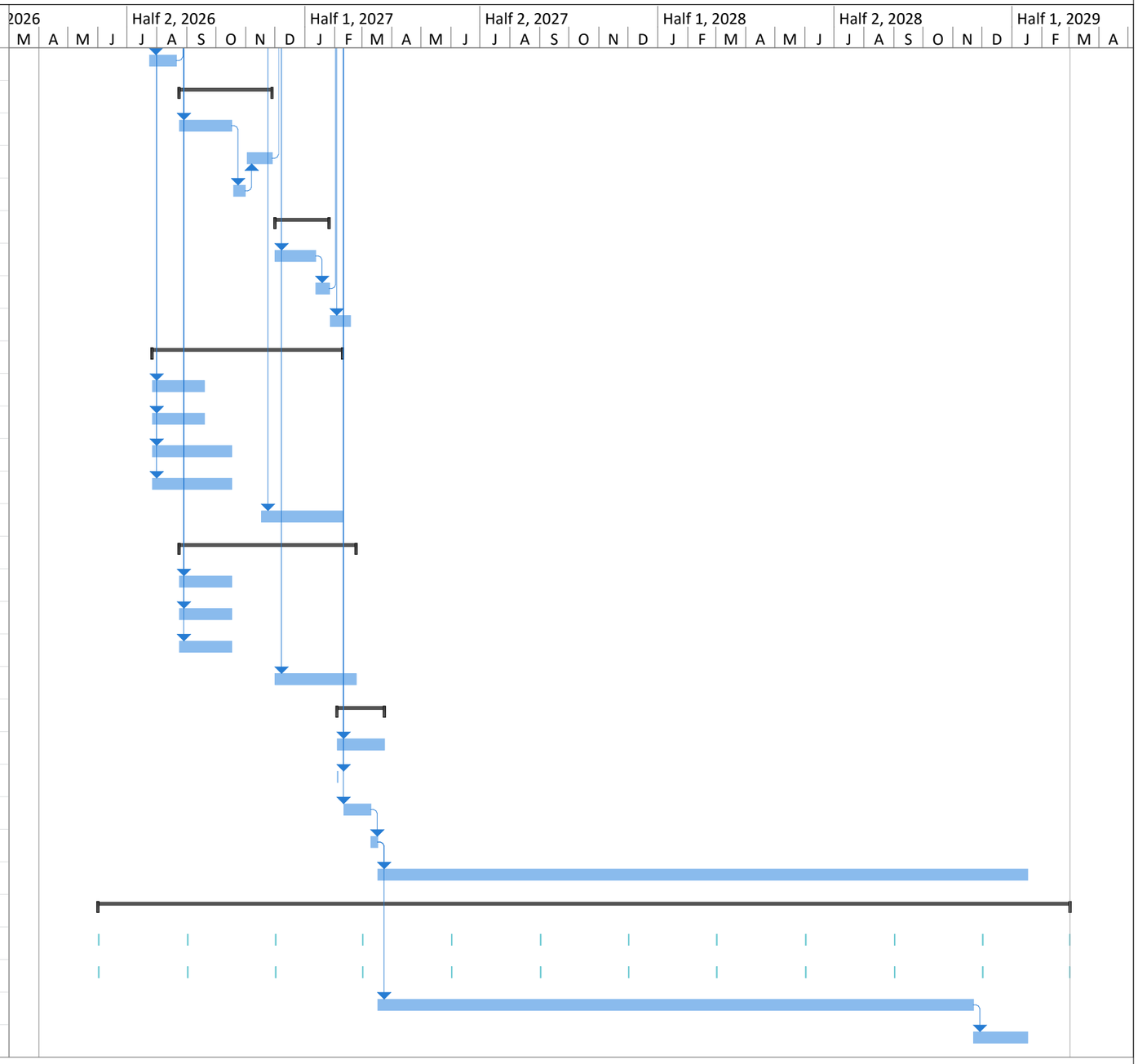


Project: msproj11
Date: Thu 1/15/26

Task Summary

Pajaro/Sunny Mesa Community Services District - PSMS Project
Project Implementation Schedule

ID	Task Name	Duration	Start	Finish
32	60% Design District/CWC Review	1 mon	Fri 7/24/26	Thu 8/20/26
33	**3.2 - 90% Design**	**70 days**	**Mon 8/24/26**	**Fri 11/27/26**
34	90% Design Development	2 mons	Mon 8/24/26	Fri 10/16/26
35	90% Design District/CWC Review	1 mon	Mon 11/2/26	Fri 11/27/26
36	3.3 - Constructibility Review	2 wks	Mon 10/19/26	Fri 10/30/26
37	**3.4 - 100% Design**	**40 days**	**Tue 12/1/26**	**Mon 1/25/27**
38	100% Design Development	6 wks	Tue 12/1/26	Mon 1/11/27
39	100% Design District/CWC Review	2 wks	Tue 1/12/27	Mon 1/25/27
40	3.5 - Final Design	3 wks	Wed 1/27/27	Tue 2/16/27
41	**Task 4 - Permitting Phase 1**	**141 day**	**Mon 7/27/26**	**Mon 2/8/27**
42	4.1 - County of Monterey Building Permit	2 mons	Mon 7/27/26	Fri 9/18/26
43	4.2 - County of Monterey Encroachment Permit	2 mons	Mon 7/27/26	Fri 9/18/26
44	4.3 - Caltrans Encroachment Permit	3 mons	Mon 7/27/26	Fri 10/16/26
45	4.4 - Industrial Waste Discharge Permit	3 mons	Mon 7/27/26	Fri 10/16/26
46	4.5 - DDW Potable Drinking Water Permit	3 mons	Tue 11/17/26	Mon 2/8/27
47	**Task 5 - Permitting Phase 2**	**131 day**	**Mon 8/24/26**	**Mon 2/22/27**
48	5.1 - County of Monterey Building Permit	2 mons	Mon 8/24/26	Fri 10/16/26
49	5.2 - County of Monterey Encroachment Permit	2 mons	Mon 8/24/26	Fri 10/16/26
50	5.3 - MBARD Permit to Construct/Operate	2 mons	Mon 8/24/26	Fri 10/16/26
51	5.4 - DDW Potable Drinking Water Permit	3 mons	Tue 12/1/26	Mon 2/22/27
52	**Task 6 - Bid Support Services**	**35 days**	**Wed 2/3/27**	**Tue 3/23/27**
53	6.1 - Engineering During Bid	7 wks	Wed 2/3/27	Tue 3/23/27
54	6.2 - Pre-Bid Meeting	1 day	Wed 2/3/27	Wed 2/3/27
55	6.3 - Addenda	4 wks	Wed 2/10/27	Tue 3/9/27
56	6.4 Conformed Contract Documents	1 wk	Wed 3/10/27	Tue 3/16/27
57	**Task 7 - Engnieering Support Services During Construction**	24 mon	Wed 3/17/27	Tue 1/16/29
58	**Task 8 - Grant Management**	**719 day**	**Mon 6/1/26**	**Thu 3/1/29**
59	**8.1 - Quarterly Progress Reports**	**719 day**	**Mon 6/1/26**	**Thu 3/1/29**
72	**8.2 - Reimbursement Requests**	**719 day**	**Mon 6/1/26**	**Thu 3/1/29**
85	**Task 9 - Construction Administration**	**22 mon**	**Wed 3/17/27**	**Tue 11/21/28**
86	**Task 10 - Project Closeout**	2 mons	Wed 11/22/28	Tue 1/16/29



Project: msproj11
Date: Thu 1/15/26

Task Summary

2025 - 2026 STANDARD SCHEDULE OF FEES

PROJECT/PROGRAM MANAGEMENT

Principal-In-Charge	$395
Senior Project/Program Manager	355
Project/Program Manager	305
Assistant Project/Program Manager	280
Senior Project Coordinator	220
Project Coordinator	185

ENGINEERING

Principal Engineer	$340
Lead Engineer	300
Supervising Engineer	285
Senior Project Engineer	255
Project Engineer	230
Associate Engineer	210
Assistant Engineer	195

SURVEYING

Principal Surveyor	$310
Lead Surveyor	300
Supervising Surveyor	255
Senior Project Surveyor	230
Project Surveyor	205
Associate Project Surveyor	195
Assistant Project Surveyor	180
Party Chief (PW)	210
Chainperson (PW)	180
One-Person Survey Crew (PW)	250

TECHNICAL SUPPORT

CADD Manager	$220
Supervising Technician	195
Senior Technician	185
Engineering Technician	150

CONSTRUCTION MANAGEMENT

Principal Construction Manager	$375
Senior Construction Manager	325
Senior Resident Engineer	295
Resident Engineer	275
Structure Representative	280
Construction Manager	250
Assistant Resident Engineer	225
Sr. Construction Inspector (PW)	210
Construction Inspector (PW)	195
Office Administrator	140

PLANNING

Practice Lead	$315
Senior Technical Specialist	275
Technical Specialist	250
Principal Planner/Scientist	210
Senior Planner/Scientist	195
Associate Planner/Scientist	165
Assistant Planner/Scientist/Monitor	140
Planning Technician/Field Monitor	115
Senior GIS Technician	185
GIS Technician	140
Labor Compliance Officer	165
Labor Compliance Analyst	125
Senior Housing Manager	235
Housing Manager	195
Principal Housing Analyst	175
Senior Housing Analyst	145
Housing Analyst	115

GOVERNMENT SERVICES

City Engineer	$295
Deputy City Engineer	260
Assistant City Engineer	245
Plan Check Engineer	205
Permit Engineer	195
City Inspector	185
Senior City Inspector (PW)	210
City Inspector (PW)	195
Principal Stormwater Specialist	250
Senior Stormwater Specialist	220
Stormwater Specialist	190
Stormwater Technician	170
Building Official	285
Senior Building Inspector	220
Building Inspector	195
Senior Grant Writer	210
Grant Writer	200
Associate Grant Writer	180
Assistant Grant Writer	160

ADMINISTRATIVE SUPPORT

Senior Management Analyst	$220
Management Analyst	190
IT Technician	155
Graphics/Visualization Specialist	165
Administrative Assistant	115

DIRECT EXPENSES

Use of outside consultants as well as copies, blueprints, survey stakes, monuments, computer plots, telephone, travel (out of area) and all similar charges directly connected with the work will be charged at cost plus fifteen percent (15%). Mileage will be charged at the current federal mileage reimbursement rate.

PREVAILING WAGE RATES

Rates shown with Prevailing Wage "(PW)" annotation are used for field work on projects subject to federal or state prevailing wage law and are subject to increases per DIR.

ANNUAL ESCALATION

Standard fee rates provided for each classification are subject to 4% annual escalation or the most recent US Bureau of Labor Statistics Consumer Price Index, whichever is higher.

OVERTIME

Overtime for non-exempt employees will be charged at 1.5 x hourly rate; overtime for exempt employees and other classifications will be charged at 1 x hourly rate.

Rev. 11/7/2025

Pajaro/Sunny Mesa Community Services District
PSMS Project - Final Design, Bid, and Construction Support

		PM			ENGINEERING													
		Principal Engineer - Nick Pandofsky	Principal Engineer (Bridge) - Chad Hard	Principal Engineer (QA/QC) - Tyler Hunt	Lead Engineer - Tony Salas	Supervising Engineer (Bridge) - Mike Er	Bridge Engineer - Andres Lozano	Associate Engineer - Yasmin Fuselni	Assistant Engineer - Jonathan Maas	Assistant Engineer - Mina Salama	Senior Project Engineer - Jordyn Doyle	Senior Project Engineer - Alissa Kaspers	Senior Management Analyst - Beth Rein	Senior Construction Manager - Megan P	Associate Engineer - Hope Maloney	Engineering Technician - Kiley Diego	Total Resource Hours	Total Hours*Rates
	2025/2026 Rate	$340	$340	$340	$300	$285	$230	$210	$195	$195	$255	$255	$220	$325	$210	$150		
1 - Project Management - Both Phases	Task 1																	
1.1 Project Management	Task 1.1	200									40						240	$78,200
1.2 Quality Assurance/Quality Control (QA/QC)	Task 1.2			120													120	$40,800
1.3 Coordination with CWC and Stakeholders	Task 1.3	120									80						200	$61,200
1.4 Project Schedule Development	Task 1.4	8									16						24	$6,800
Task 1 Subtotal		**328**	**0**	**120**	**0**	**0**	**0**	**0**	**0**	**0**	**136**	**0**	**0**	**0**	**0**	**0**	**584**	**$187,000**
2 - 60%, 90%, 100% and Final Design Development and Constructability Review - Phase 1	Task 2																	
2.1 Trenchless Installation Support	Task 2.1	4									8						12	$3,400
2.2 Utility Locating	Task 2.2	4							44		16						64	$14,020
2.3 SCADA Planning Support	Task 2.3	2									6						8	$2,210
2.4 Welded Steel Tank Inspection	Task 2.4	2									8						10	$2,720
2.5 60% Design Development	Task 2.5	40	16		45	20	48	65	80	120	120	24			40	120	738	$165,050
2.6 90% Design Development	Task 2.6	60	12		30	16	48	40	80	90	100	24			40	40	580	$136,650
2.7 Constructibility Review	Task 2.7													20			20	$6,500
2.8 100% Design Development	Task 2.8	40	4		16	8	24	24	80	42	80	8				16	342	$81,230
2.9 Final Design Development	Task 2.9	20	4		4	2	8	8	20	8	40	4				16	134	$32,530
Task 2 Subtotal		**172**	**36**	**0**	**95**	**46**	**128**	**137**	**304**	**260**	**378**	**60**	**0**	**20**	**80**	**192**	**1,908**	**$444,310**
3 - 60%, 90%, 100% and Final Design Development and Constructability Review - Phase 2	Task 3																	
3.1 60% Design Development	Task 3.1	30							60		80	20			80	100	370	$79,200
3.2 90% Design Development	Task 3.2	40							40		100	16			40	40	276	$65,380
3.3 Constructibility Review	Task 3.3													16			16	$5,200
3.4 100% Design Development	Task 3.4	24							60		80	8				20	192	$45,300
3.5 Final Design Development	Task 3.5	16							16		32	4				12	80	$19,540
Task 3 Subtotal		**110**	**0**	**0**	**0**	**0**	**0**	**0**	**176**	**0**	**292**	**48**	**0**	**16**	**120**	**172**	**934**	**$214,620**
4 - Permitting - Phase 1	Task 4																	
4.1 County of Monterey Building Permit	Task 4.1	8							16		20						44	$10,940
4.2 County of Monterey Encroachment Permit	Task 4.2	4							12		16						32	$7,780
4.3 Caltrans Encroachment Permit	Task 4.3	6	4				4		12		16						42	$10,740
4.4 Industrial Waste Discharge Permit	Task 4.4	4							16		12						32	$7,540
4.5 DDW Potable Drinking Water Permit	Task 4.5	24							40		40		160			16	280	$63,760
Task 4 Subtotal		**46**	**4**	**0**	**0**	**0**	**4**	**0**	**96**	**0**	**104**	**0**	**160**	**0**	**0**	**16**	**430**	**$100,760**
5 - Permitting - Phase 2	Task 5																	
5.1 County of Monterey Building Permit	Task 5.1	8							8		20						36	$9,380
5.2 County of Monterey Encroachment Permit	Task 5.2	4							12		16						32	$7,780
5.3 Monterey County ARB Permit to Construct/Operate	Task 5.3	4							8		16						28	$7,000
5.4 DDW Potable Drinking Water Permit	Task 5.4	12							24		12		60			16	124	$27,420
Task 5 Subtotal		**28**	**0**	**0**	**0**	**0**	**0**	**0**	**52**	**0**	**64**	**0**	**60**	**0**	**0**	**16**	**220**	**$51,580**
6 - Bid Phase Support - Phase 1	Task 6																	
6.1 Engineering Support During Advertising and Bid Review	Task 6.1	8									12						20	$5,780
6.2 Pre-Bid Meeting	Task 6.2	8									8	2					18	$5,270
6.3 Addenda (4)	Task 6.3	16	4			4				24	40					24	112	$26,420
6.4 Conformed Contract Documents	Task 6.4	2								12	8					8	30	$6,260
Task 6 Subtotal		**34**	**4**	**0**	**0**	**4**	**0**	**0**	**0**	**36**	**68**	**2**	**0**	**0**	**0**	**32**	**180**	**$43,730**
Sub-Total	Hours	718	44	120	95	50	132	137	628	296	1,042	110	220	36	200	428	**4,256**	**$ 1,042,000**
	Cost	$244,120	$14,960	$40,800	$28,500	$14,250	$30,360	$28,770	$122,460	$57,720	$265,710	$28,050	$48,400	$11,700	$42,000	$64,200		

	SUBCONSULTANTS								
	Subconsultant Participation	Buehler Engineering	IRJ Engineers, Inc.	Schnabel Engineering	Utility Potholing	Pacific Crest	Blue Locker Diving	TJCAA	Total Subconsultant Costs
1 - Project Management - Both Phases	Task 1								
1.1 Project Management	Task 1.1								$0
1.2 Quality Assurance/Quality Control (QA/QC)	Task 1.2								$0
1.3 Coordination with CWC and Stakeholders	Task 1.3								$0
1.4 Project Schedule Development	Task 1.4								$0
Task 1 Subtotal		**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
2 - 60%, 90%, 100% and Final Design Development and Constructability Review - Phase 1	Task 2								
2.1 Trenchless Installation Support	Task 2.1			$28,270					$28,270
2.2 Utility Locating	Task 2.2				$65,000				$65,000
2.3 SCADA Planning Support	Task 2.3							$70,000	$70,000
2.4 Welded Steel Tank Inspection	Task 2.4						$6,000		$6,000
2.5 60% Design Development	Task 2.5	$18,000	$16,000					$40,000	$74,000
2.6 90% Design Development	Task 2.6	$10,000	$13,000			$10,672		$30,000	$63,672
2.7 Constructibility Review	Task 2.7								$0
2.8 100% Design Development	Task 2.8	$4,000	$5,000					$10,000	$19,000
2.9 Final Design Development	Task 2.9	$2,500	$2,500					$2,900	$7,900
Task 2 Subtotal		**$34,500**	**$36,500**	**$28,270**	**$65,000**	**$10,672**	**$6,000**	**$152,900**	**$333,842**
3 - 60%, 90%, 100% and Final Design Development and Constructability Review - Phase 2	Task 3								
3.1 60% Design Development	Task 3.1	$10,000	$12,200					$12,000	$34,200
3.2 90% Design Development	Task 3.2	$7,000	$10,200					$9,400	$26,600
3.3 Constructibility Review	Task 3.3								$0
3.4 100% Design Development	Task 3.4	$3,000	$4,200					$5,300	$12,500
3.5 Final Design Development	Task 3.5	$2,000	$2,000					$3,000	$7,000
Task 3 Subtotal		**$22,000**	**$28,600**	**$0**	**$0**	**$0**	**$0**	**$29,700**	**$80,300**
4 - Permitting - Phase 1	Task 4								
4.1 County of Monterey Building Permit	Task 4.1								$0
4.2 County of Monterey Encroachment Permit	Task 4.2								$0
4.3 Caltrans Encroachment Permit	Task 4.3								$0
4.4 Industrial Waste Discharge Permit	Task 4.4								$0
4.5 DDW Potable Drinking Water Permit	Task 4.5								$0
Task 4 Subtotal		**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
5 - Permitting - Phase 2	Task 5								
5.1 County of Monterey Building Permit	Task 5.1								$0
5.2 County of Monterey Encroachment Permit	Task 5.2								$0
5.3 Monterey County ARB Permit to Construct/Operate	Task 5.3								$0
5.4 DDW Potable Drinking Water Permit	Task 5.4								$0
Task 5 Subtotal		**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
6 - Bid Phase Support - Phase 1	Task 6								
6.1 Engineering Support During Advertising and Bid Review	Task 6.1		$3,500					$3,900	$7,400
6.2 Pre-Bid Meeting	Task 6.2								$0
6.3 Addenda (4)	Task 6.3								$0
6.4 Conformed Contract Documents	Task 6.4								$0
Task 6 Subtotal		**$0**	**$3,500**	**$0**	**$0**	**$0**	**$0**	**$3,900**	**$7,400**
Sub-Total	Sub-Total	**$56,500**	**$68,600**	**$28,270**	**$65,000**	**$10,672**	**$6,000**	**$186,500**	**$421,542**

	Reimbursable Expenses	MNS Engineers	Reimbursable Expense Costs
1 - Project Management - Both Phases	Task 1		
1.1 Project Management	Task 1.1	$1,000	$1,000
1.2 Quality Assurance/Quality Control (QA/QC)	Task 1.2		$0
1.3 Coordination with CWC and Stakeholders	Task 1.3		$0
1.4 Project Schedule Development	Task 1.4		$0
Task 1 Subtotal		**$1,000**	**$1,000**
2 - 60%, 90%, 100% and Final Design Development and Constructability Review - Phase 1	Task 2		
2.1 Trenchless Installation Support	Task 2.1		$0
2.2 Utility Locating	Task 2.2	$1,000	$1,000
2.3 SCADA Planning Support	Task 2.3		$0
2.4 Welded Steel Tank Inspection	Task 2.4		$0
2.5 60% Design Development	Task 2.5		$0
2.6 90% Design Development	Task 2.6		$0
2.7 Constructibility Review	Task 2.7		$0
2.8 100% Design Development	Task 2.8		$0
2.9 Final Design Development	Task 2.9		$0
Task 2 Subtotal		**$1,000**	**$1,000**
3 - 60%, 90%, 100% and Final Design Development and Constructability Review - Phase 2	Task 3		
3.1 60% Design Development	Task 3.1		$0
3.2 90% Design Development	Task 3.2		$0
3.3 Constructibility Review	Task 3.3		$0
3.4 100% Design Development	Task 3.4		$0
3.5 Final Design Development	Task 3.5		$0
Task 3 Subtotal		**$0**	**$0**
4 - Permitting - Phase 1	Task 4		
4.1 County of Monterey Building Permit	Task 4.1		$0
4.2 County of Monterey Encroachment Permit	Task 4.2		$0
4.3 Caltrans Encroachment Permit	Task 4.3		$0
4.4 Industrial Waste Discharge Permit	Task 4.4		$0
4.5 DDW Potable Drinking Water Permit	Task 4.5		$0
Task 4 Subtotal		**$0**	**$0**
5 - Permitting - Phase 2	Task 5		
5.1 County of Monterey Building Permit	Task 5.1		$0
5.2 County of Monterey Encroachment Permit	Task 5.2		$0
5.3 Monterey County ARB Permit to Construct/Operate	Task 5.3		$0
5.4 DDW Potable Drinking Water Permit	Task 5.4		$0
Task 5 Subtotal		**$0**	**$0**
6 - Bid Phase Support - Phase 1	Task 6		
6.1 Engineering Support During Advertising and Bid Review	Task 6.1		$0
6.2 Pre-Bid Meeting	Task 6.2		$0
6.3 Addenda (4)	Task 6.3		$0
6.4 Conformed Contract Documents	Task 6.4		$0
Task 6 Subtotal		**$0**	**$0**
Sub-Total	Sub-Total	**$2,000**	**$2,000**

	Summary	Total MNS Resource Costs	Total Subconsultant Costs & All Reimbursable Expenses with 15% Markup	Total
1 - Project Management - Both Phases	Task 1			
1.1 Project Management	Task 1.1	$78,200	$1,150	$79,350
1.2 Quality Assurance/Quality Control (QA/QC)	Task 1.2	$40,800	$0	$40,800
1.3 Coordination with CWC and Stakeholders	Task 1.3	$61,200	$0	$61,200
1.4 Project Schedule Development	Task 1.4	$6,800	$0	$6,800
Task 1 Subtotal				**$188,150**
2 - 60%, 90%, 100% and Final Design Development and Constructability Review - Phase 1	Task 2			
2.1 Trenchless Installation Support	Task 2.1	$3,400	$32,511	$35,911
2.2 Utility Locating	Task 2.2	$14,020	$75,900	$89,920
2.3 SCADA Planning Support	Task 2.3	$2,210	$80,500	$82,710
2.4 Welded Steel Tank Inspection	Task 2.4	$2,720	$6,900	$9,620
2.5 60% Design Development	Task 2.5	$165,050	$85,100	$250,150
2.6 90% Design Development	Task 2.6	$136,650	$73,223	$209,873
2.7 Constructibility Review	Task 2.7	$6,500	$0	$6,500
2.8 100% Design Development	Task 2.8	$81,230	$21,850	$103,080
2.9 Final Design Development	Task 2.9	$32,530	$9,085	$41,615
Task 2 Subtotal				**$829,378**
3 - 60%, 90%, 100% and Final Design Development and Constructability Review - Phase 2	Task 3			
3.1 60% Design Development	Task 3.1	$79,200	$39,330	$118,530
3.2 90% Design Development	Task 3.2	$65,380	$30,590	$95,970
3.3 Constructibility Review	Task 3.3	$5,200	$0	$5,200
3.4 100% Design Development	Task 3.4	$45,300	$14,375	$59,675
3.5 Final Design Development	Task 3.5	$19,540	$8,050	$27,590
Task 3 Subtotal				**$306,965**
4 - Permitting - Phase 1	Task 4			
4.1 County of Monterey Building Permit	Task 4.1	$10,940	$0	$10,940
4.2 County of Monterey Encroachment Permit	Task 4.2	$7,780	$0	$7,780
4.3 Caltrans Encroachment Permit	Task 4.3	$10,740	$0	$10,740
4.4 Industrial Waste Discharge Permit	Task 4.4	$7,540	$0	$7,540
4.5 DDW Potable Drinking Water Permit	Task 4.5	$63,760	$0	$63,760
Task 4 Subtotal				**$100,760**
5 - Permitting - Phase 2	Task 5			
5.1 County of Monterey Building Permit	Task 5.1	$9,380	$0	$9,380
5.2 County of Monterey Encroachment Permit	Task 5.2	$7,780	$0	$7,780
5.3 Monterey County ARB Permit to Construct/Operate	Task 5.3	$7,000	$0	$7,000
5.4 DDW Potable Drinking Water Permit	Task 5.4	$27,420	$0	$27,420
Task 5 Subtotal				**$51,580**
6 - Bid Phase Support - Phase 1	Task 6			
6.1 Engineering Support During Advertising and Bid Review	Task 6.1	$5,780	$8,510	$14,290
6.2 Pre-Bid Meeting	Task 6.2	$5,270	$0	$5,270
6.3 Addenda (4)	Task 6.3	$26,420	$0	$26,420
6.4 Conformed Contract Documents	Task 6.4	$6,260	$0	$6,260
Task 6 Subtotal				**$52,240**
Grand Total	Grand Total	$1,042,000	$487,073	**$1,529,073**

Pajaro/Sunny Mesa Community Services District
PSMS Project - Final Design, Bid, and Construction Phase Support

		PM		ENGINEERING							
		Principal Engineer - Nick Panofsky	Principal Engineer (Bridge) - Chad Harden	Supervising Engineer (Bridge) - Mike Embly	Assistant Engineer - Jonathan Maas	Senior Project Engineer - Jordyn Doyle	Grant Manager - Greg Jaquez	Grant Writer - Taylor Guilkson	Engineering Technician - Kiley Diego	Total Resource Hours	Total Hours*Rates
	2025 Rate + Escalation	$354	$354	$296	$203	$265	$305	$200	$156		
7 - Engineering Support Services During Construction - Phase 1	**Task 7**										
7.1 Construction Meetings	**Task 7.1**	42				124				166	$47,728
7.2 Submittal Review (200)	**Task 7.2**	40	8	8	200	160				416	$102,360
7.3 Respond to RFIs/RFCs (32)	**Task 7.3**	16	8	8	32	64				128	$34,320
7.4 Contract Change Order Support (8)	**Task 7.4**	8			8	16				32	$8,696
7.5 Start-Up Support	**Task 7.5**	40			16	40				96	$28,008
7.6 Project Closeout	**Task 7.6**	2			8	8				18	$4,452
7.7 Record Drawings	**Task 7.7**	4			24	24			40	92	$18,888
Task 7 Subtotal		**152**	**16**	**16**	**288**	**436**	**0**	**0**	**40**	**948**	**$244,452**
8 - Grant Management - Phase 1	**Task 8**										
8.1 Quarterly Progress Reports	**Task 8.1**	4				8	30	140		182	$40,686
8.2 Reimbursemnet Requests	**Task 8.2**	4				4	30	140		178	$39,626
Task 8 Subtotal		**8**	**0**	**0**	**0**	**12**	**60**	**280**	**0**	**360**	**$80,312**
Sub-Total	**Hours**	160	16	16	288	448	60	280	40	**1,308**	**$ 324,764**
	Cost	$56,640	$5,664	$4,736	$58,464	$118,720	$18,300	$56,000	$6,240		

	SUBCONSULTANTS					
	Subconsultant Participation	Buehler Engineering	IRJ Engineers, Inc.	Schnabel Engineering	TJCAA	Total Subconsultant Costs
7 - Engineering Support Services During Construction - Phase 1	**Task 7**					
7.1 Construction Meetings	**Task 7.1**				$3,500	$3,500
7.2 Submittal Review (200)	**Task 7.2**	$12,000	$12,000		$21,500	$45,500
7.3 Respond to RFIs/RFCs (32)	**Task 7.3**	$2,500	$3,000	$5,000	$10,000	$20,500
7.4 Contract Change Order Support (8)	**Task 7.4**	$2,000	$800		$2,500	$5,300
7.5 Start-Up Support	**Task 7.5**					$0
7.6 Project Closeout	**Task 7.6**					$0
7.7 Record Drawings	**Task 7.7**	$1,000	$1,200		$2,500	$4,700
Task 7 Subtotal		**$17,500**	**$17,000**	**$5,000**	**$40,000**	**$79,500**
8 - Grant Management - Phase 1	**Task 8**					
8.1 Quarterly Progress Reports	**Task 8.1**					$0
8.2 Reimbursemnet Requests	**Task 8.2**					$0
Task 8 Subtotal		**$0**	**$0**	**$0**	**$0**	**$0**
Sub-Total	**Sub-Total**	**$17,500**	**$17,000**	**$5,000**	**$40,000**	**$79,500**

	Reimbursable Expenses	MNS Engineers	Reimbursable Expense Costs
7 - Engineering Support Services During Construction - Phase 1	**Task 7**		
7.1 Construction Meetings	**Task 7.1**	$1,500	$1,500
7.2 Submittal Review (200)	**Task 7.2**		$0
7.3 Respond to RFIs/RFCs (32)	**Task 7.3**		$0
7.4 Contract Change Order Support (8)	**Task 7.4**		$0
7.5 Start-Up Support	**Task 7.5**		$0
7.6 Project Closeout	**Task 7.6**		$0
7.7 Record Drawings	**Task 7.7**		$0
Task 7 Subtotal		**$1,500**	**$1,500**
8 - Grant Management - Phase 1	**Task 8**		
8.1 Quarterly Progress Reports	**Task 8.1**		$0
8.2 Reimbursemnet Requests	**Task 8.2**		$0
Task 8 Subtotal		**$0**	**$0**
Sub-Total	**Sub-Total**	**$1,500**	**$1,500**

	Summary	Total MNS Resource Costs	Total Subconsultant Costs & All Reimbursable Expenses With 15% Mark-up	Total
7 - Engineering Support Services During Construction - Phase 1	**Task 7**			
7.1 Construction Meetings	**Task 7.1**	$47,728	$5,750	$53,478
7.2 Submittal Review (200)	**Task 7.2**	$102,360	$52,325	$154,685
7.3 Respond to RFIs/RFCs (32)	**Task 7.3**	$34,320	$23,575	$57,895
7.4 Contract Change Order Support (8)	**Task 7.4**	$8,696	$6,095	$14,791
7.5 Start-Up Support	**Task 7.5**	$28,008	$0	$28,008
7.6 Project Closeout	**Task 7.6**	$4,452	$0	$4,452
7.7 Record Drawings	**Task 7.7**	$18,888	$5,405	$24,293
			Task 7 Subtotal	**$337,602**
8 - Grant Management - Phase 1	**Task 8**			
8.1 Quarterly Progress Reports	**Task 8.1**	$40,686	$0	$40,686
8.2 Reimbursemnet Requests	**Task 8.2**	$39,626	$0	$39,626
			Task 8 Subtotal	**$80,312**
Grand Total	**Grand Total**	$324,764	$93,150	**$417,914**

Pajaro/Sunny Mesa Community Services District
Project 2: Planning and Design of Springfield Water System Improvements

			Senior Construction Manager (Randy Egner)	Resident Engineer (Ryuun Ernst)	Office Engineer (Laurie Jones)	Sr. Construction Inspector (Thom King)	Constuction Inspector (David Tannaci)	EE/I&C Inspector (Jeff Mitchum)	Start-Up Manager (Ed Waggoner)	Labor Compliance (Sandra Lee)	Total Resource Hours	Total Resource Costs	Subconsultant Participation	Pacific Crest Engineering, Inc.	Total Subconsultant Costs	Reimbursable Expenses	Reimbursable Expense Costs	Summary	Total MNS Resource Costs	Total Subconsultant Costs & All Reimbursable Expenses with 15% Markup	Total
		2027 Rate	$317.00	$296.00	$161.00	$223.60	$204.00	$226.00	$275.60	$176.80											
		2028 Rate	$329.68	$307.84	$167.44	$232.54	$212.16	$235.04	$286.62	$183.87											
9 - Construction Administration	**Task 9**	**Rate Year**																			
Project Initiation	Task 9.1	2027	6	6	6	6	6	0	0	28	58	$12,160			$0		$5,000		$12,160	$5,750	$17,910
District Coordination	Task 9.2	2027	18	18	18	18	18	0	0	0	90	$21,629			$0		$0		$21,629	$0	$21,629
		2028	18	18	18	18	18	0	0	0	90	$22,494			$0		$0		$22,494	$0	$22,494
Contractor Coordination	Task 9.3	2027	64	620	196	146	146	0	0	0	1,172	$297,794			$0		$0		$297,794	$0	$297,794
		2028	64	620	196	146	40	0	0	0	1,066	$287,216			$0		$0		$287,216	$0	$287,216
Construction Meetings	Task 9.4	2027	24	86	24	86	86	0	0	0	306	$73,702			$0		$0		$73,702	$0	$73,702
		2028	24	86	24	86	30	0	0	0	250	$64,769			$0		$0		$64,769	$0	$64,769
Labor Compliance	Task 9.5	2027	0	0	0	0	0	0	0	280	280	$49,504			$0		$0		$100,988	$0	$100,988
		2028	0	0	0	0	0	0	0	280	280	$51,484			$0		$0				
Onsite Construction Observation and Daily Logs	Task 9.6	2027	0	30	0	1,500	800	0	0	0	2,330	$507,480			$0		$0		$1,032,181	$0	$1,032,181
		2028	0	20	0	1,500	800	0	0	0	2,320	$524,701			$0		$0				
Specialty Inspections and Reports	Task 9.7	2027	0	20	0	40	40	20	0	0	120	$27,544		$199,552	$199,552		$0		$87,556	$229,485	$317,041
		2028	0	15	0	40	40	160	0	0	255	$60,012					$0				
Start-up and Commissioning	Task 9.8	2028	0	20	0	0	0	0	60	0	80	$23,354			$0		$0		$23,354	$0	$23,354
Environmental Compliance	Task 9.9	2027	0	40	0	60	60	0	0	0	160	$37,496			$0		$0		$64,927	$0	$64,927
		2028	0	30	0	60	20	0	0	0	110	$27,431			$0		$0				
Task 2 Subtotal			**218**	**1,629**	**482**	**3,706**	**2,104**	**180**	**60**	**588**	**8,967**	**2,088,769**		**$199,552**	**$199,552**		**$5,000**			**Task 3 Subtotal**	**$2,324,004**
10 - Post-Construction Phase	**Task 10**	**Rate Year**											**Task 10**			**Task 10**		**Task 10**			
Final Job Walk, Punchlist, Record Drawings, Project Closeout	Task 10	2028	12	120	80	40	24	24	0	27	327	$79,291	Task 10		$0	Task 10	$0	Task 10	$79,291	$0	$79,291
Task 3 Subtotal			**12**	**120**	**80**	**40**	**24**	**24**	**0**	**27**	**327**	**$79,291**		**$0**	**$0**		**$0**			**Task 3 Subtotal**	**$79,291**
Sub-Total		Hours	230	1,749	562	3,746	2,128	204	60	615	**9,294**	**$2,168,061**	**Sub-Total**	**$199,552**	**$199,552**	**Sub-Total**	**$5,000**	**Grand Total**	$ 2,168,061	$ 235,235	**$2,403,295**
		Cost	$74,406	$528,703	$92,530	$854,510	$442,044	$47,767	$17,197	$110,903											

1. CM NTP assumed as December 2026.
2. Contractor NTP assumed as Jan 2027 and 24-month duration. Assume 2-month submittal period before contractor mobilization.
3. Used an average of 172 hours per month based upon 8 hour working days with no overtime.
4. Annual escalation of hourly rates applied at 4%.
5. Inspector hourly rates subject to increase depending upon DIR PW rate increases
6. Any night work will be at $7/hour for PW night differential.
7. Project Management task includes management of Submittals, RFIs, Correspondence, Budget, Schedule, Change Orders, and Contractor Payments
8. Meetings include pre-construction meeting, internal client meetings, and construction site meetings.

August 20, 2025

Mr. Nick Panofsky
MNS Engineers
811 El Capitan Way, Suite 130
San Luis Obispo, CA 93401
Email: npanofsky@mnsengineers.com

Subject: **Pajaro – Sunny Mesa – Springfield Area Regional Consolidation**
Jensen – Springfield Intertie Horizontal Directional Drill (HDD) Proposal
(Schnabel Project Number: 25720044.000)

Dear Mr. Panofskyu:

SCHNABEL ENGINEERING, LLC is pleased to present this proposal for engineering assistance on the Pajaro – Sunny Mesa – Springfield Area Regional Consolidation Water Project. Based on our correspondence and documentation shared with us (geotechnical data report, drawings), Schnabel understands that as part of the larger project, MNS Engineers is requesting a proposal for assistance with the design of a trenchless crossing by way of horizontal directional drilling (HDD) methods at an environmentally sensitive area at the Jensen – Springfield location along Highway 1 in Pajaro, California.

Our understanding of the project consists of the following information:

• Final Lining:	6-inch-diameter fusible PVC or HDPE
• Depth:	Approximately 5 to 7 feet below the ground surface to pipeline crown, but may vary depending on hydrofracturing calculations
• Length:	Riparian habitat 384 feet long (Sta. 408+06 to 404+22); however, pipeline length will be longer to stay outside the riparian habitat and account for entrance and exit angles.
• Location:	1770 Salinas Road, Watsonville, California
• Ground Conditions:	Alluvium Nearby borings from May 28, 2025, geotechnical data report: • Boring B-36: Silty sand (SM), medium dense, ~ 39% fines • Boring B-37: Silty sand (SM), very loose, ~ 25% fines Recommend additional borings with laboratory testing for HDD alignment
• Groundwater Conditions:	Approximately 5 to 7 feet below the ground surface
• Existing facilities:	Existing chain link fence, Highway 1 roadway (south bound) east of waterline alignment
• Environmental Conditions:	ESA-Riparian Habitat

At this time, the project is in the design stage and the initial geotechnical investigation has been completed; however, after review of the geotechnical data report (May 28, 2025), we recommend that one additional boring (with continuous SPT sampling) be completed to a depth of 15 feet below the ground surface with laboratory testing (that is, natural water content, gradation [including hydrometer], and Atterberg Limits (for plastic soils, if encountered as the current borings show low plasticity material)).

The objective of Schnabel's proposed services is to provide design assistance and contract specifications for the HDD crossing. Specifically, Schnabel proposes to:

- Review geotechnical information and provide recommendations for additional geotechnical investigations. Provide input on additional geotechnical investigations including boring location and depth, sampling intervals, and laboratory testing program. Review additional geotechnical investigation results.
- Provide support and coordination with MNS Engineers for HDD alignments (e.g., entry/exit angles, tangent lengths, and minimum bend radii).
- Prepare calculations to support HDD feasibility which may include:
    - evaluation of hole stability,
    - potential for inadvertent fluid returns (frac out analysis),
    - surface and nearby utility settlement evaluation, and
    - pipe stress analysis and structural design.

  Results of calculations will be provided within a technical memorandum.
- Produce and provide one (1) specification sections (horizontal directional drilling), and provide review of two (2) specification sections (i.e. pipe spec and support of excavation), relevant to HDD trenchless crossing, including two rounds of comment and review, for the 60%, 90%, and 100% submittals; and,
- Provide direction and review of up to two (2) design drawings relevant to the trenchless crossing, including two rounds of comment and review for the 60%, 90%, and 100% submittals.

Key assumptions we have included in our proposal are:

- Topographic data will be provided by MNS Engineers electronically;
- Contract drawings and AutoCAD work will be completed by MNS Engineers;
- Contract specification formatted template will be provided by MNS Engineers;
- Any calculations for the trenchless crossing will be preliminary. Final calculations will be dependent on contractor's means and methods and will require construction submittals in the specifications;
- No site visits will be required;
- Engineering support during construction under an additional time and materials contract, and;
- Subsurface materials are free of environmental contaminants.

We propose performing this work on a time and materials basis. Our estimated fee for the proposed services is $28,270, we will not exceed the estimated fee without prior authorization. Attached, please find our standard schedule of fees for personnel for backup.

Our Standard Contract Terms and Conditions of Enclosure, in Attachment A, will apply to services to be provided under this proposed agreement. If there are any updates or changes requested, please contact us to review. We appreciate the opportunity to be of service for this project. Please contact either of the undersigned if clarification is needed for any aspect of this report.

Sincerely,

SCHNABEL ENGINEERING, LLC

Phaidra Campbell

Phaidra Campbell, PE (California 81850)
Vice President

Attachment A – Signature Page and Standard Contract Terms and Conditions
Attachment B – Standard Schedule of Fees for Personnel
Attachment C – Resumes of Schnabel Personnel (Phaidra Campbell, Rick Smith, Kemp Lewis, Gerald Aspiras, Ian Donovan)

MNS Engineers
Pajaro – Sunny Mesa – Springfield Area Regional Consolidation
Jensen – Springfield Intertie Horizontal Directional Drill (HDD) Proposal
(Schnabel Project Number: 25720044.000)

The terms and conditions of this proposal, including the attached Standard Contract Terms and Conditions are:

ACCEPTED BY: _____

SIGNATURE: _____

PRINTED NAME: _____

TITLE: _____ **DATE:** _____

SCHNABEL ENGINEERING, LLC
STANDARD CONTRACT TERMS AND CONDITIONS

1. DEFINITIONS
   - 1.1 Schnabel Engineering, LLC, the "Engineer," agrees to provide Professional Services, as delineated in the attached Proposal. "Engineer" means Engineer and its employees, and subcontractors.
   - 1.2 The "Client" is the other party to this "Agreement."
   - 1.3 The "Contractor" is the responsible party providing construction for the subject Project.
2. ENTIRE AGREEMENT, SCOPE OF WORK
   - 2.1 The Agreement between Engineer and Client consists of the Proposal, these Standard Contract Terms and Conditions, and any other exhibits or attachments referenced in the Proposal. Together these elements will constitute the entire Agreement, superseding all prior written or oral negotiations, statements, representations, correspondence, and/or agreements. The Services to be provided by Engineer pursuant to this Agreement are described in the attached Proposal and include the Scope of Work. Both Client and Engineer must mutually acknowledge any changes to this Agreement in writing. All work performed by Engineer on or relating to the Project is subject to the terms and limitations of this Agreement.
   - 2.2 If work is performed, but the parties do not reach agreement concerning modifications to the Scope of Work or compensation, then the terms and conditions of this Agreement apply to such work. Disputes concerning modifications to Scope of Work or compensation shall be resolved pursuant to Article 12, "Dispute Resolution."
3. STANDARD OF CARE, DISCLAIMER OF WARRANTIES
   - 3.1 Engineer will strive to perform Services under this Agreement in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation and no warranty or guarantee, either express or implied, is included or intended by this Agreement.
4. SITE ACCESS, SITE CONDITIONS, SAMPLES
   - 4.1 Client will provide rights of entry and access for Engineer to perform its Services.
   - 4.2 Engineer will take reasonable precautions to avoid damage or injury to subterranean structures or utilities in the prosecution of his work. Client agrees to advise Engineer of known or suspected underground features in the area of the work, and Engineer will not be responsible for damage to below grade features not brought to its attention, or incorrectly shown on plans provided.
   - 4.3 Client shall promptly pay and be responsible for the removal and lawful disposal of contaminated samples and cuttings, and hazardous substances, unless other arrangements are mutually agreed in writing.
5. OWNERSHIP OF DOCUMENTS, RESTRICTIONS ON REUSE
   - 5.1 All documents, including opinions, conclusions, certificates, reports, drawings and specifications and other documents, prepared or furnished by Engineer and Engineer's independent professional consultants pursuant to this Agreement (collectively "Documents") are instruments of Service. Engineer retains all ownership and property interests in the Documents, including all common law, statutory and other reserved rights, including copyrights, whether or not the Project is completed. Client may make and retain copies of them for information and reference in connection with the use and occupancy of the Project; however, such copies are not intended or represented to be suitable for reuse by others, and may not be used on other projects or for additions to this Project outside the Scope of the Work.
   - 5.2 At Client's request, client may negotiate with Engineer to acquire ownership of Documents for a mutually agreed amount. If Client acquires ownership of Documents prepared by Engineer, Client agrees: a) that any subsequent reuse or modification of them by Client or any party obtaining them through Client will be at Client's sole risk and without liability to Engineer, and b) client will defend, indemnify and hold harmless Engineer from and against any claims, damages, and liabilities arising from or related to any use, reuse or modification of Documents by Client or any party obtaining them through Client. Client agrees that Engineer may retain copies of all documents for its files.
   - 5.3 Electronic communications and CADD data transferred by Email, websites or computer disks (collectively "E-Data") are provided only as an accommodation by Engineer for the benefit of Client. Signed paper prints of documents constitute the contract deliverables. Client assumes the risk that E-Data may differ from the paper deliverables. Client agrees to indemnify and hold harmless Engineer from and against claims, damages, and liabilities for defects or inappropriate use of E-Data created or transmitted by Engineer.
6. THIRD PARTY RELIANCE UPON DOCUMENTS
   - 6.1 Engineer's performance of the Services, as set forth in this Agreement, is intended solely and exclusively for the Client's benefit and use. No party may claim under this Agreement as a third party beneficiary. Client agrees not to distribute, publish or otherwise disseminate Engineer's Documents, without first obtaining Engineer's prior written consent.
   - 6.2 No third party may rely upon Engineer's Documents including, but not limited to, opinions, conclusions, certificates, reports, drawings and specifications unless Engineer has agreed to such reliance in advance and in writing.

SCHNABEL ENGINEERING, LLC
STANDARD CONTRACT TERMS AND CONDITIONS

7. ASSIGNMENT, SUBCONTRACTING
   - 7.1 Neither Client nor Engineer may delegate, assign, sublet, or transfer all or any part of this Agreement, including its duties or interest in this Agreement without the written consent of the other party.
   - 7.2 Notwithstanding Section 7.1, Engineer may subcontract subsurface exploration, testing, and other supplemental services and assign accounts receivable as security for financial obligations without notification or consent of Client.
8. TERMINATION, SUSPENSION
   - 8.1 Either party upon 7 days' written notice may terminate this Agreement for convenience or material breach of Agreement. In the event of termination for convenience or material breach of Agreement, Engineer shall be paid for Services performed to the termination date, plus reasonable termination expenses.
9. ALLOCATION OF RISK
   - 9.1 Engineer's total cumulative liability to Client (including, but not limited to, attorneys' fees and costs awarded under this Agreement) irrespective of the form of action in which such liability is asserted by Client or others, shall not exceed the total compensation received by Engineer under this Agreement or $25,000, whichever is less. Upon Client's written request, Engineer may negotiate an increase to this limitation in exchange for an additional agreed consideration for the increased limit.
   - 9.2 Client and Engineer agree to limit each's liability to the other in the following respects: Neither party will have liability to the other for any special, consequential, incidental, exemplary, or penal losses or damages including but not limited to losses, damages or claims related to the unavailability of the other party's property or facility, shutdowns or service interruptions, loss of use, lost profits or revenue, inventory or use, charges or cost of capital or claims of the other party's customer.
   - 9.3 The limitations of liability of this Agreement shall survive the expiration or termination of this Agreement.
10. INDEMNIFICATION
   - 10.1 Indemnification of Client. Subject to the provisions and limitations of this Agreement, Engineer agrees to indemnify and hold harmless Client, its shareholders, officers, directors, employees, and agents from and against any and all claims, suits, liabilities, damages, expenses (including without limitation reasonable attorney's fees and costs of defense) or other losses (collectively "Losses") to the extent caused by Engineer's negligent performance of its Services under this Agreement.
   - 10.2 Indemnification of Engineer. Subject to the provisions and limitations of this Agreement, Client agrees to indemnify and hold harmless Engineer from and against any and all Losses to the extent caused by the negligence of Client, its employees, agents and contractors. In addition, except to the extent caused by Engineer's sole negligence, Client expressly agrees to defend, indemnify and hold harmless Engineer Entities from and against any and all Losses arising from or related to the existence, disposal, release, discharge, treatment or transportation of Hazardous Materials, or the exposure of any person to Hazardous Materials, or the degradation of the environment due to the presence, discharge, disposal, release of or exposure to Hazardous Material.
11. INVOICES, PAYMENTS
   - 11.1 Payment is due without retainage upon presentation of invoice and is past due thirty (30) days from invoice date, and will not be contingent upon receipt of funds from third parties. Client agrees to pay a service charge of one and one-half percent (1-1/2%) per month or fraction thereof on past due payments under this Agreement.
   - 11.2 It is further agreed that in the event a lien or suit is filed to enforce overdue payments under this Agreement, Engineer will be reimbursed by Client for all costs of such lien or suit and reasonable Attorney's fees in addition to accrued service charges, where the court of appropriate jurisdiction enters a finding in favor of Engineer.
12. DISPUTE RESOLUTION
   - 12.1 Claims, disputes, and other matters in controversy between Engineer and Client caused by or any way related to this Agreement will be submitted to non-binding mediation as a condition precedent to litigation. The cost for mediation including the mediator's fees, reproduction of documents, and miscellaneous out-of-pocket expenses will be borne equally by each party to this Agreement.
   - 12.2 The law of the Commonwealth of Virginia will govern the validity of these terms, their interpretation and performance. Client and Engineer agree that venue for any litigation will be in the courts of the Commonwealth of Virginia and Engineer and Client both hereby waive any right to initiate any action in, or remove any action to, any other jurisdiction.
13. SEVERABILITY
   - 13.1 This Agreement reflects the entire agreement of the parties with respect to its terms and supersedes all prior agreements, whether written or oral. If any portion of this Agreement is void or voidable, such portion will be deemed stricken and the Agreement reformed to as closely approximate the stricken portions as the law allows.

Schnabel ENGINEERING

TUNNEL BUSINESS UNIT – DESIGN

SCHEDULE OF FEES FOR PERSONNEL

Effective January 1, 2025

Senior Consultant	$350.00/hr
Principal	$325.00/hr
Senior Associate	$295.00/hr
Associate	$265.00/hr
Senior Engineer / Senior Scientist	$230.00/hr
Project Engineer / Senior Scientist	$205.00/hr
Senior Staff Engineer / Senior Staff Scientist	$180.00/hr
Staff Engineer / Staff Scientist	$160.00/hr
CADD Technician III	$190.00/hr
CADD Technician II	$160.00/hr
CADD Technician I	$130.00/hr
Technician I / Engineering Intern	$120.00/hr
Project Coordinator	$120.00/hr
Administrative / Clerical	$105.00/hr

NOTES:

1. Personnel fees will be based upon the actual hours charged times the appropriate hourly rate.

2. Travel by auto to and from jobs will be charged at the current IRS prevailing rate, plus a 15% markup. Travel by air or rail, lodging and meal expense for personnel on travel status will be billed at cost plus a 15% markup.

3. Subcontracts for subsurface explorations, bulldozers, surveys, etc., and other non-labor project expenses are marked up 15% to cover the cost of handling, insurance and overhead.

4. Overtime for senior staff, staff and technician level personnel is time for work on Saturday, Sunday, and national holidays, time in excess of 8 hours per day, and time between the hours of 7:00 P.M. and 7:00 A.M. A surcharge of 1.5 times the above hourly rates is added for overtime.

5. Time spent during depositions, hearings, and in court is charged at 1.5 times the regular hourly rate.

6. These fees are subject to change on January 1, 2026.

Phaidra Campbell, PE

SENIOR ASSOCIATE

Expertise
Tunnel Engineering, Geologic Mapping and Exploration, Support of Excavation Design, Trenchless Design

Education
Bachelor of Science, Civil Engineering, California Polytechnic State University

Registrations
Professional Engineer / CA, HI, ID, PA

Affiliations
Engineers Without Borders
SME

Years with Schnabel/Total
8/17

Phaidra Campbell has worked on a broad range of geotechnical and civil engineering projects. She has experience in geotechnical and structural engineering with an emphasis in underground construction. She has participated in feasibility studies, value engineering studies, design, and evaluation for numerous excavation, tunnel, and trenchless design projects. She has a strong background in geotechnical investigations, geotechnical database organization, ground characterization, geologic mapping, rock and soil stabilizations, tunnel liner design, pipeline design, protection of structures analysis, construction management, construction observation and inspection. She was part of the team who was a recipient of the ACEC Engineering Excellence 2019, Grand Conceptor Award for the Kaneohe/Kailua Wastewater Conveyance Project.

City and County of Honolulu, Waimalu Relief Trunk Sewer (2024-Ongoing)

Project Manager for the planning and design phases of the proposed Waimalu Relief Trunk Sewer from Aiea Stream to the existing Waimalu Wastewater Pump Station, constructed by both trenchless methods such as microtunneling and pipe jacking and open cut excavations. The new Waimalu Relief Sewer is planned to replace the existing 10,830-foot long Waimalu Trunk Gravity Sewer which is part of the Honouliuli Sewer Basin for the City and County of Honolulu. The Waimalu Relief Sewer project will increase the collection system's capacity to accommodate future growth, including transit-oriented development (TOD), projected wet weather flows, and reduce the potential for sewage spills within the tributary basin. As part of the Planning and Design team, JCK Underground and subconsultants are providing environmental and engineering services.

TxDOT I-35 Capital Expressway Drainage Tunnels / Austin, TX (2024)

Senior Engineer. This $740M project consists of the design of two new stormwater tunnels to capture drainage from the proposed lowered I-35 highway through downtown Austin. The 22-foot drainage tunnels range from 15,000 to 18,000 lf in length, constructed primarily in hard rock with precast segmental concrete liners, and terminate at a 140 MGD pump station. As a subconsultant to the design team, Schnabel Engineering (JCK) is responsible for the tunnel and shaft design, interdisciplinary coordination with the drainage and highway design teams, constructability reviews, geotechnical baseline report development, cost estimating, and risk management. Phaidra has been involved with evaluating the geotechnical instrumentation and settlement design.

Metropolitan Water District (MWD), Sepulveda Feeder Pump Stations Value Engineering / Los Angeles, CA (2024)

Geotechnical Subject Matter Expert. This was a weeklong value engineering study for the Sepulveda Pump Station Project for MWD, which was their first progressive design build contract. The project consists of demolishing large steel reservoirs on top at the top of slope and installing a smaller concrete reservoir in its place along with piping and a potential pipe system installed using trenchless methods. Phaidra was involved in reviewing the background reports of the site and assessing the geotechnical site conditions for slope stability, ground improvement construction and specifications, shoring

Phaidra Campbell, PE

SENIOR ASSOCIATE

for roadway widening for access to the site, and providing insight to contract practices for progressive design build contracts.

City and County of Honolulu, Pearl City – Waipahu Trunk Sewer Project / Waipahu, HI (2023-Ongoing)

Project Manager for the planning and design phases of a proposed new gravity sewer line (GST) from the existing Pearl City Wastewater Pump Station (WWPS) to the vicinity of the existing Waipahu WWPS, constructed by trenchless methods such as microtunneling. The 12,000-foot new gravity sewer line will replace the existing dual force main system to increase system capacity to accommodate future growth (including transient-orientated development and projected wet weather flows), provide ease of maintenance and operations, and eliminate the existing Pearl City WWPS.

As part of the Planning and Design team, JCK Underground and subconsultants are providing environmental and engineering services to the City and County of Honolulu. The project work started in 2022, and tasks have included identification of site-specific historical, geological, and environmental characteristics; developing and comparing GST alignment and design alternatives, including siting of the Waipahu WWPS; subsurface investigations; and conducting land surveying. Phaidra has been a key player in creating and reviewing all the tasks to date and is the project manager.

Portland General Electric (PGE), Pelton-Round Butte Aeration / Madras, OR (2023-2024)

Tunnel Inspector. FERC approved field tunnel engineer to observe and direct the exploration Phase 1 drilling, grouting, and excavation of existing concrete within the Round Butte Spillway. The grouting program consisted of cementitious and chemical grouting with the goal to reduce the water flow into the spillway in preparation for excavation of the aerator. The excavation consisted of removing existing concrete lining and placing ground support to prevent instabilities during the preparation and installation of the new concrete aerator.

Massachusetts Water Resources Authority Metropolitan Tunnel Redundancy Program / Boston, MA (2019-Ongoing)

Project Engineer providing program review services for the Metropolitan Tunnel Redundancy Program (MTRP). The program's main goal is to provide a redundant tunnel system in and around the metropolitan Boston area for water transmission. The proposed tunnel system consists of northern and southern tunnels that connect to existing water transmission tunnels and are 14.5 miles in length, 10 feet in diameter, 200 to 500 feet deep, and excavated in rock. In addition, there will be surface connections and intermediate connection points to other existing MWRA facilities along the alignment. The cost of the program is up to $2B and is planned to begin construction in 2026 and be in service by 2037. JCK Underground is the Program Support Services Consultant and is under prime contract with MWRA to provide general consulting, design submittal reviews, value engineering, risk management support, constructability reviews, cost estimating, scheduling, evaluation, and staff augmentation for the Program. Phaidra led development of the GIS compilation of the existing and historical boring data into one database and assisted in compiling the program-wide geologic GIS database.

DC Water Clean Rivers Project / Washington, DC (2022)

Structural Designer. Phaidra is performing structural engineering analysis on geotechnical subsurface structures for the Potomac River Tunnel (PRT) project, which is part of the $2.7B DC Water Long Term Control Plan to abate combined sewer overflows to the Anacostia and Potomac Rivers. The Long Term Control Plan consists of a total 18 miles of soft

Phaidra Campbell, PE

SENIOR ASSOCIATE

ground and rock tunnel system that will store and convey combined sewer flows to DC Water's Blue Plains Advanced Wastewater Treatment Plant. The tunnel contracts involve 15- to 23-foot diameter, 100- to 170-foot-deep tunnels, numerous near surface facilities, multiple combined sewer connections using microtunneling, and 22 shafts that range in diameter from 20 to 132 feet. Responsibilities included the structural design of PRT facilities, in particular at the existing JBAB facility, which include several deep shafts and numerous near surface structures; design for durability of permanent structures to meet the 100-year design life; and producing bid documents for DB teams.

Alexandria Renew Enterprises RiverRenew Program / Alexandria, VA (2018-2022)

Senior Project Engineer for underground facilities on this combined sewer overflow abatement program which ranges in cost between $370M to $550M. This Program will divert, store, and convey sewer flow from four outfalls to pumping facilities and wet weather treatment located at AlexRenew's existing Water Resources Recovery Facility. Key underground elements of the program include an 11,400-foot-long, 12-foot diameter soft ground tunnel at a depth of 120 to 160 feet, with four deep shafts ranging in diameter from 35 to 65 feet; a 2,550-foot-long, 6-foot diameter near surface sewer; and associated near surface diversion structures which may be built using trenchless methods. The program will be constructed in historic Alexandria and involves a number of mitigation measures required to protect its valuable resources and stakeholder concerns. Phaidra is responsible for protection of structures, geotechnical instrumentation, and geotechnical investigation and baselining.

Silicon Valley Clean Water Regional Environmental Sewer Conveyance Upgrade Program / Redwood City, CA (2018-2023)

Program Advisor - Geotechnical/Tunneling. Phaidra provided guidance to SVCW throughout their progressive design-build process for the Gravity Pipeline sewer tunnel project during Stage 1 and 2 Design (60% design level) and construction. Technical, commercial, and constructability advice was provided for the shafts, tunnels, microtunnels, Earth Pressure Balance Tunnel Boring Machine design, protection of structures, segmental tunnel linings, geotechnical investigation and instrumentation/monitoring systems, construction sequence and schedule. During the successful Stage 2 negotiations for both the Gravity Pipeline and Front of Plant (receiving lift station), she performed critical cost and schedule verifications. In addition to providing intermittent onsite observations, she continued to provide review services to the client during construction, helping to resolve complex issues associated with protection of structures and shaft/tunnel construction. This project is in the San Francisco Bay Area and includes 3.3 miles of 15-foot diameter pipeline, 20 to 60 feet deep, extending from Bair Island to the new Receiving Lift Station at the wastewater treatment plant. The project also includes the design and construction of shafts, drop facilities, ventilation, odor control facilities, and a second pass 11-foot diameter fiber reinforced glass carrier pipe. Cost: $224M

Blue Lake Expansion Project / City and Borough of Sitka, AK (2014-2015) *

Project Field Engineer/Inspector for this hydroelectric dam project which included raising the height of an existing concrete arch dam by 83 feet to an ultimate height of 225 feet and constructing a new intake structure, intake tunnel, gate shaft, adit tunnel, surge shaft, and powerhouse. The dam raise work included construction of a drainage tunnel in the left abutment to relieve groundwater pressures and improve rock block stability. The Owner is the City and Borough of Sitka, Alaska. Phaidra provided onsite direction and inspection of the dam foundation grouting, contraction joint grouting, and micropile installation operations, while also compiling detailed record keeping of these critical operations and general

Phaidra Campbell, PE

SENIOR ASSOCIATE

coordination with the drilling/grouting subcontractor.

Caltrain Electrification Project / San Francisco, CA (2014-2015) *

Project Engineer/Tunnel Inspector for this project which included providing adequate clearance inside four existing Caltrain/Union Pacific Railroad (UPRR) Tunnels in South San Francisco for electrification of the commuter rail line from San Jose to San Francisco. Remediation with the tunnel liner was necessary to achieve the required clearances. Phaidra performed a visual condition assessment of the tunnel liners supplemented with a program of drilled probes to determine the thickness of grout and/or voids behind the liners, and the nature of the soil or bedrock beyond in order to evaluate the performance of a notched tunnel liner. She also compiled the 60% design set which included drawings, specs, and the geotechnical baseline report for the project. Structural analyses of the liners were performed to determine the type and extent of reinforcement required to achieve the needed tunnel clearances.

City of Honolulu Kaneohe/Kailua Sewer Tunnel / Kaneohe, HI (2015-2018) *

Lead Project Engineer responsible for the Contract Document preparation and design calculations for the tunnel project, which consists of a 16,500-foot-long conveyance/storage tunnel excavated by a 13-foot diameter main beam TBM, up to 600 feet deep. Designed three shafts which included 35- and 90-foot diameter slurry wall shafts and a 280-foot-deep central shaft. Phaidra was also the designer of the 10-foot inside diameter FRP conveyance pipe installed along the tunnel alignment. In addition, she was responsible for the design of the tunnel initial support through rock and soft ground areas that required ground improvement using jet grouting methods. She provided owner support during construction operations for slurry wall installation, curtain grouting, tunnel excavation, and jet grouting.

Victor Valley Wastewater Reclamation Authority Upper Narrows Pipeline Replacement Project / Victorville, CA (2015-2016) *

Project Engineer. Phaidra performed the initial support design for the rock/soil interface within a sequential excavation section of the tunnel where the microtunnel and tunnel boring machines (TBM) met. The TBM tunnel was 7 feet in diameter and had a length of 1,300 feet. She also performed calculations for steel pipe buckling due to groundwater and soil loading and construction operations.

Silicon Valley Clean Water Bair Island Force Main Replacement Project / Redwood City, CA (2014-2015) *

Project Engineer/Field Engineer. This new 48-inch-diameter sewer force main replaced an existing main that was prone to leaks. The crossings of Redwood Creek and existing sloughs were made by microtunneling a 60-inch diameter steel casing using four drives, varying from about 500 to 1,000 feet in length. Five shafts were constructed along the tunnel alignment, acting as both receiving and jacking shafts for microtunneling operations and permanent manhole locations. Phaidra was responsible for the design of the five shafts, which utilized the following construction methods: reinforced and unreinforced secant piles, and sheet piles with internal walers and struts. She was also responsible for periodic onsite field inspection during installation and excavation.

San Francisco Public Utilities Commission North Shore to Channel Force Main Replacement Project / San Francisco, CA (2014-2015) *

Project Engineer/Field Engineer. A portion of the existing Northshore to Channel Force Main was relocated using open cut

Phaidra Campbell, PE

SENIOR ASSOCIATE

construction or trenchless methods. Phaidra was responsible for the design of the open cut shoring which utilized reinforced jet grout columns. In addition, she provided field engineering support during the installation of the jet grout columns and during excavation. This project included working in an extremely urbanized area with multiple traffic restrictions, existing utilities and obstructions, small and restricted staging areas, and cable car proximity.

Seattle City Light Gorge Dam 2nd Tunnel / Newhalem, WA (2013-2015) *

Project Engineer/Tunnel Inspector for final design services to Seattle City Light for the design of a new 11,000-foot-long hydropower tunnel through hard rock connecting to Gorge Dam, a 300-foot-tall concrete arched dam. Along with performing the tunnel inspection on the existing Gorge tunnel, she oversaw the design and prepared phased drawing sets, design reports, technical specifications, technical memorandums, monitored geologic information, and assisted in project management. The project included an unlined, 22-foot diameter tunnel between Gorge Powerhouse and the intake at Gorge Dam bored with a main beam TBM and drill-and-blast excavation operations. The new tunnel connects to the existing tunnel at the Dam location and then parallels the existing tunnel and reconnects downstream. The function of this project was to increase generating efficiency by allowing for more capacity and reducing head loss. The project was advanced to final design but construction was put on hold until a later date.

Sound Transit North Link Transit Tunnel / Seattle, WA (2010-2012) *

Project Engineer involved with assisting the geologic interpretation and subsurface conditions for the final design of the North Link Transit Tunnel, and assisted with TBM construction staging and scheduling plans at the proposed Brooklyn Station, Roosevelt Station, and North Portal. She helped set up and continue the use of the gINT geotechnical investigation database. This project involved Sound Transit's Link Light Rail north extension of University Link from the University of Washington Station in the city of Seattle, terminating at the Northgate Transit Center. The project consists of twin-bore soft ground tunnels, 21.5-foot ID and 3.4 miles long; two below-grade stations; and elevated guideway tracks and an elevated station located in in densely populated, urban environments. The project took place in an area with complex subsurface and groundwater in a region that is characterized as moderate to high seismic risk, necessitating a carefully planned ground investigation and survey program.

King County Central Waterfront Transmission Line Relocation Project / Seattle, WA (2010-2011) *

Project Engineer/Field Engineer. Assisted in shoring design, dewatering design, and water level monitoring for the utility relocation work for the Central Waterfront Transmission Line Relocation Project which was the first step toward the removal of the Alaskan Way Viaduct and SR-99 Tunnel construction. Phiadra provided ongoing dewatering engineering/ construction management services as pumping took place in the field and the office.

Sound Transit Everett Sounder Transit Station Pedestrian Overpass / Everett, WA (2008) *

Field Engineer. Provided geotechnical and field engineering services to Wilder Construction and Sound Transit for the foundation design of the pedestrian overpass at the Everett Station. The design included drilling auger cast piles which extended into competent ground. Phaidra's responsibilities included field engineering services during the installation of auger cast piles and determining the adequate depth.

Rick Smith, PE

PRINCIPAL

Expertise
Underground Structures, Geotechnical Baseline Reports, Risk Assessment, Ground Characterization, Support of Excavation, Deep Foundations, Slope Stability, Trenchless

Education
Master of Science, Geotechnical Engineering, Virginia Polytechnic Institute and State University

Bachelor of Science, Civil Engineering, University of Washington

Registrations
Professional Engineer / ID, WA

Certifications
BNSF Contractor Orientation Course
E-Railsafe System

Affiliations
AREMA, ASCE, DFI

Years with Schnabel/Total
1/37

With 37 years of experience in geotechnical engineering, Rick Smith has led numerous high-profile tunnels and underground structures. His extensive expertise encompasses geotechnical infrastructure for underground structures, excavation support and retaining walls, support of excavation, deep foundations, embankments on soft ground and subsurface characterization. He has experience with large-diameter tunnels for vehicles, heavy rail, light rail, water, wastewater, and combined sewer overflows. He has experience with various trenchless technologies including microtunnels, open-face digger shields, pilot tube technology, horizontal directional drills, auger borings, pipe ramming for water distribution and wastewater collection.

Rick has demonstrated exceptional leadership in several of Seattle's largest tunnel projects, including the Brightwater Conveyance System for King County, the University Link and Northgate Link Extensions for Sound Transit, and the Ship Canal Water Quality Project for the city of Seattle. His leadership has been instrumental in guiding multidisciplinary teams to successful project completion, ensuring technical excellence and adherence to project timelines and budgets.

PRIOR EXPERIENCE

Northeast Ohio Regional Sewer District Shoreline Storage Tunnel (SST) / Cleveland, OH (2018–2021)

Rick led the geotechnical engineering program to support the final design of the project. He organized and implemented a geotechnical investigation program to characterize the ground along the tunnel alignment, and determined design parameters for design of tunnels, shafts, and support of excavations. Rick prepared the Geotechnical Baseline Report and specifications for geotechnical instrumentation and ground improvement, among others. The Shoreline Storage Tunnel (SST) project is part of the Northeast Ohio Regional Sewer District's Long-term Control Plan to control and reduce combined sewer overflows (CSOs) to Lake Erie and its tributary streams. SST is NEORSD's first major soft-ground tunnel constructed in an urban environment. The project will include 14,600 lf of 23-foot diameter CSO storage tunnel; three shafts varying from 75 to 125 feet deep; near-surface sewers ranging from 48 to 150 inches in diameter; multiple near-surface sewer diversion and gate control structures; manhole and other ancillary structures; and existing regulator modifications.

BNSF Railway Company Sandpoint Junction II Bridges / Sandpoint, ID (2014–2021)

Project Manager. Rick led a team of geotechnical engineers to provide design and construction recommendations to BNSF for driven pile foundations at the sites of three new bridges. These bridges are part of a project to add a second mainline track near Sandpoint, Idaho. Services included geotechnical field explorations, interpretation of ground conditions, and geotechnical engineering analyses to estimate capacity and embedment of 36-inch diameter driven piles. The project also included design of 500 feet of new embankment constructed over soft soil. During construction, Rick supervised the

Rick Smith, PE

PRINCIPAL

geotechnical aspects of construction management. His team was responsible for monitoring the installation of wick drains and placement of embankments, responding to RFIs and submittals, monitoring the installation of driven pile foundations, ensuring that construction was in accordance with design documents, oversight of the pile testing program, daily field reports, and evaluating field changes as necessary.

Melbourne Water Hobsons Bay Main Sewer – Detail Design / Victoria, Australia (2021-2022)

Rick supervised the work associated with the Construction Impacts Assessment Report for a 670-meter-long tunnel and shafts and designed the geotechnical instrumentation and monitoring for the project. The Hobsons Bay project is a sewer duplication project 25 m (82 feet) below the Yarra River in Melbourne through alluvial geology. Rick provided temporary works design for the shafts on both the East and West side of the Yarra River and provided pipejack temporary works for the launch shaft. The project included a mined temporary supported tunnel (30m long) in treated ground for a sewer pipe between the upstream connection and siphon inlet shafts.

City of Portland Water Bureau, Facilities Pipeline Project / Portland, OR (2020 - Ongoing)

Rick prepared the project's Geotechnical Baseline Report. The project includes design of one mile of large-diameter (72-inch, conduit) steel raw water pipelines, connecting interties, and associated appurtenances and structures that will support a separate water filtration facility project. In addition to traditional open cut installation, the project includes trenchless crossings, dual 1,200-foot-long tunnels, and a 230-foot-deep, 30-foot diameter shaft.

Rainier Valley Wet Weather Storage Facility / Seattle, WA (2014–2019)

Geotechnical and Trenchless Lead. Rick's team developed and implemented a field exploration program at the Bayview and Hanford sites, completed geotechnical engineering calculations for temporary excavation support, foundation support, and settlement. His team prepared the geotechnical-related plans and specifications for the project.

The Hanford site includes construction of a 0.36-million-gallon underground storage tank, changes to the existing Hanford Diversion Structure, and construction of a new 36-inch pipe sewer between the two using both trenchless and open-cut methods. The Bayview site includes construction of a siphon inlet structure, siphon discharge structure, and 48-inch carrier pipe (siphon) to connect two existing pipelines using trenchless methods. The project site is in a dense urban environment, and as part of the design services, Rick's team also evaluated the impacts of the dewatering and construction on adjacent structures and utilities.

North Texas Municipal Water District Buffalo Creek Interceptor Tunnel / Wylie, TX (2022)

The North Texas Municipal Water District is constructing a 72-inch-diameter (1,830 mm) gravity interceptor tunnel to accommodate additional capacity in the interceptor system. The 10,000-foot (3,084 m) alignment, conveying a total of 75 MGD (284MLD), consists of five separate microtunnel drives, six shafts, and geotechnical instrumentation. Rick prepared the project's Geotechnical Baseline Report. He assisted the team delivering the design plans and specifications, cost estimating, risk and geotechnical review and support, bid support, and engineering support during construction.

Second Narrows Water Supply Tunnel Final Design / Vancouver, BC (2017–2018)

The Second Narrows Water Supply Tunnel will be a precast segmentally lined, 5.4 m (18-foot) ID, 1.1-km (0.6-mile) long

Rick Smith, PE

PRINCIPAL

tunnel bored through soil, mixed face conditions and sedimentary rock under Burrard Inlet. Two deep shafts, located in the District of North Vancouver and the City of Burnaby respectively, connect the tunnel to the surface. Rick provided technical oversight of various aspects of the project, including subsurface characterization, construction methods, geotechnical design parameters for tunnel lining design and shaft design, prepared specification sections for geotechnical instrumentation and monitoring, shaft construction, tunnel excavation and lining. He also prepared the project's Geotechnical Baseline Report. He supervised field staff providing design services during construction for the project.

Seattle Public Utilities Ship Canal Water Quality Project - Tunnel Storage / Seattle, WA (2015–2024)

Geotechnical Engineering Lead for this 2.7-mile-long tunnel adjacent to the Lake Washington Ship Canal. He managed the geotechnical exploration program, including permitting and coordination with public outreach. He led the geotechnical design and construction considerations for tunnels, underground adits, and protection of Ballard and the Aurora Bridges. Rick is also responsible for the geotechnical risk assessment and preparation of the project's Geotechnical Baseline Report. The main components of the project include the 29.2 MG offline storage tunnel, with an effective 18-foot 10-inch ID; five deep drop shafts to divert local combined flows into the tunnel; a 120-foot-deep Tunnel Effluent Pump station (TEPS), associated conveyance facilities, and a 600-foot-long, 94-inch internal diameter, curved microtunnel which crosses beneath the Lake Washington Ship Canal.

FortisBC Energy, Inc. / Eagle Mountain Woodfibre Gas Pipeline – DEF / Squamish, British Columbia (2016)

Rick supervised preparation of the project's Geotechnical Baseline Report. The tunnel will be about 20,000 feet (6 km) in length: 6,000 feet (1.8 km) in soft ground; the remaining in hard rock. Rick led the geotechnical engineering effort for the project, including tasks as subsurface characterization with geophysical explorations, numerical modeling to estimate seismic deformations, geotechnical design parameters for shafts and tunnel, prepared the geotechnical baselined report, construction methodologies, support for stakeholder engagement, support for procurement, risk assessment, and schedule and cost estimating.

DC Water Blue Plains Tunnel / Washington, DC (2009–2018)

Senior Technical Advisor and QC reviewer for the planning and organization of the geotechnical investigation program and helped prioritize do-to lists. The program includes just over 4.6 miles of 26-foot diameter tunnels and four deep shafts ranging between 25 and 132 feet in diameter, and 3- to 10-foot diameter conveyance pipelines constructed by cut-and-cover and trenchless methods.

Puget Sound Energy Lower Baker Dam Debris Boom / Concrete, WA (2018)

Geotechnical Task Lead. Rick led a team that provided geotechnical engineering assessment for the anchored block systems needed for a debris boom replacement located in Lake Shannon upstream of Lower Baker Dam. The new debris boom will be anchored 18 vertical feet above the existing anchor locations, which will keep them above the Probable Maximum Flood (PMF) elevation.

Sound Transit Operations & Maintenance Facility: East / Seattle, WA (2017–2021)

Rick supervised all the geotechnical engineering necessary for the Project. He supervised the geotechnical field investigation, engineering analyses, and report preparation. During construction, Rick supervised the geotechnical work

Rick Smith, PE

PRINCIPAL

onsite, reviewing submittals and responding to RFIs.

Sound Transit University Link Extension, Contract U215, Interstate 5 Undercrossing Pits / Seattle, WA

Rick managed the geotechnical engineering for the U215 Contract which is part of Sound Transit's University Link Extension Project. The U215 contract prepared the I-5 undercrossing for mining with tunnel boring machines. The project involved excavating four large pits, several temporary and permanent large retaining walls, removing portions of four large concrete cylinder pile walls, and backfilling the pits. Rick led a team of geotechnical engineers and three subconsultants during the preliminary and final design, and development of contract documents. The geotechnical team had significant involvement during construction: supervising the installation of the geotechnical instrumentation, daily review of the instrumentation data, and participated in team meetings to resolve issues during construction. During construction, Rick met frequently with WSDOT to review project progress, changes to the design based on field conditions, and to discuss the impacts to I-5.

Sound Transit University Link Extension, Contract U230, Tunnels and Underground Station Excavation / Seattle, WA

Rick's team developed the geotechnical instrumentation program, including inclinometers, settlement points, structure settlement points, utility monitoring points, extensometers, and piezometers. Instrumentation data was reviewed daily by Rick's team, and while the tunnel boring machines were crossing under I-5, the data was reviewed hourly. The U230 contract included excavating the Capitol Hill Station box, bored tunnels to the Pine Street Stub Tunnel, and five cross-passages.

Sound Transit University Link Extension / Seattle, WA (2006–2012)

Geotechnical Lead for the University Link project, which includes 3.15 miles (5 km) of twin-bore tunnel, 22 cross-passages, and two deep stations. In this role, Rick managed geotechnical engineers and five subconsultants. He had oversight of the field explorations, geotechnical interpretation of field data, geotechnical analyses, and reporting. Rick also managed the effort to develop GBRs for the project and provided geotechnical input into the plans and specifications. During construction, he supervised the geotechnical team for special inspections, reviewed contractor's submittals, and claims, and assisted the design team in resolving construction problems.

Sound Transit Northgate Link Extension / Seattle, WA (2010–2019)

Lead Geotechnical Engineer for final design of 4.3 miles (6.9 km) of double-track light rail, which consists of 3.2 miles (5.1 km) of twin bored soft-ground tunnels, and 1.1 miles (1.7 km) of retained cuts, fills, and elevated guideway structures. The project also includes two deep underground transit stations (U District and Roosevelt), one elevated station (Northgate), a portal structure (Maple Leaf Portal), and 20 cross passages. Northgate Link Extension is being constructed in an area characterized by dense, urban neighborhoods and complex subsurface and groundwater conditions. Rick managed the geotechnical engineering for the project, including field explorations, design of temporary and permanent support of the deep excavations for the stations, seismic hazard evaluations, subsurface characterization, geotechnical design and analyses, and preparation of several geotechnical contract documents (specifications and Geotechnical Baseline Reports).

Evergreen Line Rapid Transit Project / Port Moody, British Columbia

Geotechnical Lead for the tunnel portion of the EGRT project. The tunnel is a 33-foot-diameter (10 m) by 1.24-mile (2 km)

Rick Smith, PE

PRINCIPAL

6,560-foot-long tunnel. Rick provided geotechnical input to the initial risk assessment, which resulted in a single bore tunnel thus eliminating the risky cross-passage excavations. Rick managed the geotechnical input into the tunnel liner design, adjacent building and utility impact analyses, and the geotechnical design report. During construction, Rick has provided geotechnical engineering support for the tunneling operations.

During construction, Rick and his team evaluated options for the tunnel invert. A preliminary analysis of the tunnel invert was conducted during design of the tunnel lining, when it was found that an overly stiff tunnel invert could have detrimental impacts on the tunnel lining under seismic loading conditions. It was therefore recommended that the invert backfill be constructed in such a way as to minimize the influence on the tunnel lining. The two options under consideration to achieve this isolation included a low strength concrete backfill with a structural topping slab and a compressible material strip between the segmental lining and the invert backfill (Option 1), and a compacted granular backfill system with a structural topping slab (Option 2). Option 2 was the preferred option due to its cost-effectiveness, ease of construction, and performance.

Brightwater Conveyance / King County, WA (2006–2012)

Rick managed the subsurface characterization studies for the 22 miles of tunnels in north King County and south Snohomish County. The field exploration program included 175 borings along the alignment with an average boring depth of about 350 feet. When completed, up to eight drilling rigs utilizing a variety of drilling methods obtained 60,000 lf of soil core. The conveyance system consists of influent conveyance lines, effluent conveyance lines, a safety relief point, and a marine outfall for the new 54 MGD Brightwater Treatment Plant. Rick led the task of gathering geotechnical data to analyze geotechnical and groundwater conditions to support preliminary design of deep tunnels and shafts and a marine outfall and evaluate potential impacts to groundwater systems and their mitigation for the conveyance tunnels and five deep portals.

North Creek Interceptor Improvements / Bothell, WA (2010–2020)

Project Manager for King County's North Creek Interceptor Improvements project, responsible for the geotechnical and trenchless portions of the project. Rick led the project team through feasibility and alignment studies; evaluated various trenchless construction technologies; completed a subsurface characterization program; published geotechnical design memoranda for various project elements; prepared the GBR; and prepared plans and specifications for trenchless tunnel construction, dewatering, and geotechnical instrumentation. He also provided design services during construction of the project. The project included geotechnical design services for about 6,500 feet of trenchless construction as part of a 15,000-foot-long pipeline. Trenchless construction methods include pipe ramming and tunneling with an open-face digger shield.

Port Mann Water Supply Tunnel – Fraser River Crossing / Vancouver, British Columbia (2006–2015)

Geotechnical Design Lead for this 480-foot (1,006-m) long, 7-foot (2.1-m) ID segmentally lined water tunnel constructed beneath the Fraser River. The project includes two shafts: one 50-foot (15 m) diameter and 200 feet (62 m) deep, and the other 26-foot (8 m) diameter and 220 feet (67 m) deep. He coordinated geotechnical input with the design phase; incorporated geotechnical information into the shaft and tunnel design; and prepared and finalized the GBR. During construction, he provided instrumentation monitoring, submittal review, and technical review of contractor's claims. The tunnel increases Metro Vancouver's capacity to accommodate future growth and improves overall system reliability.

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King County Wastewater Treatment Division Fremont Siphon / Seattle, WA (2010)

Rick provided senior technical oversight for the geotechnical-related portions of the project, including the shafts and the proposed replacement tunnels, and preparation of the Geotechnical Baseline Report, and other construction documents. Fremont Siphon is an existing 14-foot-wide, 340-foot-long, horseshoe-shaped tunnel constructed between 1912 and 1914 under the Lake Washington Ship Canal. The tunnel houses twin 48-inch and 60-inch wastewater pipelines, and a 24-inch water supply pipeline. Rick helped King County Wastewater Treatment Division evaluate alternatives to replace or rehabilitate the existing facilities. The preferred option is to replace the existing twin tunnels with two 60-inch pipelines constructed by microtunneling between shafts located on the north and south sides of the Ship Canal.

City of Portland Bureau of Environmental Services, Portsmouth Force Main / Portland, OR (2006–2008)

Lead Geotechnical Engineer for the design of the Portsmouth Force Main. The Portsmouth Force Main will convey flows from the Swan Island Pump Station to the existing Portsmouth Tunnel. The project is one of the final major elements in the City of Portland's Combined Sewer Overflow (CSO) Program. The project consists of 6,000 feet of open cut pipeline and a 6,000-foot soft ground tunnel. Rick's responsibilities include planning geotechnical characterization, seismic deformation analyses of the pipeline and slopes adjacent to the Willamette River, ground improvement, trenchless design, conventional tunnel design, shaft design, GBR development, cost estimating, and preparation of plans and specifications.

Table Rock New Water Intake / SC

Geotechnical Manager for the preliminary design of the Table Rock New Water Intake Project. He was responsible for the subsurface characterization of the site, working with the engineering team to develop the preliminary construction concept, and completing the preliminary geotechnical design report. The field exploration program consisted of drilling five land borings and four offshore borings from a barge and a seismic refraction survey. The project, currently under construction, includes installing a new intake tower in the reservoir and a 72-inch diameter, 500-foot-long tunnel to convey water to the existing raw water pipeline. The construction concept, developed during preliminary design, consists of installing the lower portion of the intake tower in the dam abutment under full reservoir conditions, tunneling from a downstream launching pit to the new intake, retrieving the tunneling machine, and the completion of the intake structure (i.e., installing gates, screens, and controls).

Elliott West Control Facility / Seattle, WA (2005)

Rick was responsible for the development of geotechnical engineering studies for a part of the Elliott West Control Facility in urban Seattle. He planned and coordinated field exploration and in situ testing and laboratory testing programs, and coordinated the geotechnical design of excavations, foundations, and excavation support. The major design challenge was construction of the excavation system and launching of the TBM for the Denny Way Tunnel. By working closely with the facility designers, Rick developed and designed a feasible, cost-effective solution that, according to the engineer's estimate, was $4 to $6 million. The project involved three design teams, one construction management team, and multiple stakeholders.

BNSF Railway Company West Coast Bridges / Various Locations, WA (2014 - 2021)

Geotechnical Engineer. Rick supervised geotechnical engineers to complete the geotechnical field investigation,

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geotechnical analyses for deep foundations, earth pressures for walls, and preparing geotechnical design reports. His staff provided geotechnical engineering services including a final geotechnical report memorandum, two borings, boring logs, soil parameters for abutment and wingwall design and proposed track shift, geotechnical information from adjacent bridges, and evaluation of existing piers for potential reuse. Bridges 53.5, 66.4, and 81.4 are part of a BNSF replacement project for five bridges in Washington State.

Soil Nail Wall and Hayden Bridge Reservoir / Eugene, OR

Project Manager responsible for supervising the preparation of the plans and specifications for the soil nail wall and provided geotechnical consulting during construction. The 45-foot-high, 500-foot-long soil nail wall was required to facilitate construction of a 10-million-gallon concrete reservoir. The wall was designed for a variety of subsurface conditions from completely weathered rock (a soil-like unit) to fresh, hard basalt. Nail spacing and shotcrete facing was optimized depending on soil or rock unit and wall height.

Central Artery/Tunnel Charles River Crossing / Boston, MA

Project Manager/Project Engineer. Rick oversaw the geotechnical studies for the North Area of the Central Artery/Tunnel project. He was responsible for planning and implementing the field and laboratory exploration programs, which included 300 soil borings, 200 pressure meter tests, 50 cone penetrometer soundings, and cross-hole shear wave tests at three sites. Rick was also responsible for managing engineering studies for deep foundations, transition embankments, and cut-and-cover tunnels. These studies had many unique challenges due to the large number of existing structures, and the heterogeneous nature of the soil and rock conditions across the site. This portion of the CA/T project had almost a mile of below-grade structures requiring some type of excavation support. Subsurface conditions, adjacent structures, and the need to maintain operation of the existing highway system complicated the design of these structures. Because of the variety of design criteria, a variety of excavation support systems were considered, such as soldier pile and lagging, sheet piling, and diaphragm walls. Seismic site characterization studies were completed using the results of the field and laboratory testing programs. The project used artificially generated earthquake records. The liquefaction susceptibility of the granular onsite soils was evaluated based on the methods developed by Seed and Idriss. P-y curves were developed to analyze the lateral behavior of deep foundations. Soil liquefaction and strength loss were incorporated into development of the P-y curves for seismic conditions.

South 180th Street Grade Separation Project / Renton, WA

Project Manager. Rick was responsible for developing foundation and excavation support recommendations for a grade separation project in Renton and Tukwila, Washington. The field exploration program consisted of soil borings and cone penetrometer soundings and was scheduled to minimize traffic delays. Because of the extensive deposits of compressible soils at the site, conventional deep foundations would have settled unacceptably. In addition, the excavation support system would have to be braced or tied-back. Finally, due to the high groundwater levels, temporary and permanent groundwater control were important issues. Rick recommended the use of diaphragm walls to provide both vertical foundation and lateral excavation support. By incorporating a tremie seal (constructed by deep soil mixing) between the diaphragm walls, a watertight excavation could be constructed. Compared with an overpass alternative and separate vertical and lateral support alternatives, the diaphragm wall solution reduced the construction budget 30 to 40 percent and saved several months on the construction schedule. Seismic design considerations included soil liquefaction, strength reduction, and seismic lateral earth pressures. Soil liquefaction was evaluated using the results of the soil borings and the

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cone penetrometer soundings. The effects of liquefaction and strength loss were considered in developing P-y curves for laterally loaded, below-grade structures.

UPRR Great Salt Lake Stability Assessment / Salt Lake City, UT (2010)

Rick managed the geotechnical work for this project, including geotechnical explorations, laboratory testing, and geotechnical instrumentation (settlement points, inclinometers, and piezometers) to monitor the causeway settlement. The inclinometers were installed up to 200 feet deep in very soft clay. The monitoring data was used in geotechnical analyses completed to model the causeway settlement. The results of these analyses were used to develop procedures to monitor the causeway and determine when and where fill would need to be placed to reduce and slow the movement. Built in 1959, the Great Salt Lake Causeway was constructed on a thick, soft clay deposit and has been settling ever since. It is a continuous maintenance problem for UPRR.

BNSF Railway Company Kelso to Martin's Bluff / Kalama, WA (2014–2016)

Geotechnical Lead. Rick provided preliminary geotechnical design services, including development of wall and embankment alternatives to minimize impacts to existing structures and wetlands. Preferred alternatives included over 1,000 feet of soldier pile walls. Rick's staff also provided monitoring services during soil nail wall construction. The work is part of BNSF's project to add 4.5 miles of new track between Kelso and Kalama, Washington. This expansion project will improve freight and passenger train mobility through the heavily travelled corridor linking Portland, Oregon, with Olympia, Tacoma, and Seattle, Washington.

BNSF Railway Company Sumner Staging Yard / Sumner, WA (2018–2021)

Geotechnical Lead. Rick prepared a Geotechnical Criteria Report as well as geotechnical, foundation, and retaining wall specifications and drawings for the project; we will work collaboratively with the prime consultant to produce a Soil Management Plan. The project consists of creating a 10-track staging yard on the west side of the two existing BNSF mainlines between MP 25.2X and MP 27.3X on the Seattle Sub. The 10 tracks will be constructed on an embankment at the same height as the existing 15-foot-high embankment. The first track will be at a 15-foot track center from the mainline; the remainder will be at 21-foot track centers. In addition, the proposed embankment will extend to include an access road on the westernmost edge. A bicycle/pedestrian trail will be relocated to run parallel with the proposed embankment from the southernmost end of the project site until reaching the development limits. The bicycle/pedestrian trail will include a 16-foot-wide paved surface with two feet of flat buffer on either side. It will be constructed on a separate yet connected embankment that extends halfway up the track embankment. This project will require design and construction of embankments and slope protection, culvert extensions, retaining walls for new embankment fill, and a structure (bridge or box culvert) to span a 60-foot tailrace for the entire width of the track yard and bicycle/pedestrian path, 270 feet. There is also a requirement for a soil management plan, characterizing and estimating the quantity of the existing onsite soils and the plan to utilize them on site for the final project configuration.

BNSF Railway Company Washougal Improvement / Washougal, WA (2018)

Rick provided review and technical advice during design and construction of the project. Rick's team completed a geotechnical study provided design recommendations for the Fallbridge West project. The project included construction of 8,650 linear feet of new track between MP 29.70 and 31.39; upgrades to 6,400 lf of existing siding track; and new

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bridges, retaining walls and embankments, in eastern Washington. Rick and his team also provided design services during construction of the project, including pile driving inspection, observing construction of the embankment, and retaining walls.

BNSF Railway Company South Bellingham Siding Extension / Bellingham, WA (2014–2016)

Lead Engineer. Rick provided senior geotechnical oversight for the project, which included construction of new embankments on soft ground and an 800-foot-long soil nail wall to accommodate a siding extension south of Bellingham. Rick provided senior technical review and commentary on all aspects of the project, from the geotechnical site investigation, and design of the embankments and soil nail wall.

USACE Clemson and Hartwell Dams Seismic Evaluation / Clemson, SC

Project Engineer Consultant to the U.S. Army Corps of Engineers (USACE) on the liquefaction evaluation of Clemson and Hartwell dams in South Carolina. During a field exploration program to determine the cause of significant seepage under the dams, a thick deposit of loose silt was encountered. In addition to being a potential cause of the seepage, it was also considered potentially liquefiable. Liquefaction analyses were completed based on the steady-state theory of liquefaction developed by Casagrande and Castro at Harvard University. After the liquefaction analyses were completed, triggering analyses were then completed to determine the earthquake magnitude that would likely cause liquefaction, and to estimate the deformations given an earthquake and liquefaction occurred.

NYPA Long Sault Dike / Massena, NY

Project Engineer. Rick evaluated seismic stability of Long Sault Dike in Massena, New York. Performed soil borings and cross-hole geophysical studies to assist with seismic stability studies for the New York Power Authority. A magnitude 3.5 earthquake happened to occur at the site during the field exploration program, which provided a unique opportunity to observe the effects of an earthquake at the site. The dike is part of the Authority's St. Lawrence Seaway Project and is about 40 feet high and 60,000 feet long. It is founded on medium stiff clay with low residual shear strength. Field and laboratory strength tests were completed to measure peak and residual strengths of the foundation material. Pseudo-static analyses were then completed at six critical sections.

Rex Mine and Mill Tailings Dam / Coeur d'Alene, ID

Geotechnical Task Manager. Rick managed the geotechnical characterization and stability analyses of an existing tailings dam for a mine in the Coeur d'Alene Mining District. Mining and processing operations ceased at the site around 1970, leaving large pile of lead and arsenic contaminated waste. EPA Region X, working with other federal agencies, is leading the effort to limit the environmental impacts of the contaminated mine tailings. The tailings were derived from flotation separation processes and were placed as hydraulic fill. The geotechnical studies for this project included an extensive field investigation with soil borings, cone penetrometer soundings, and seismic refraction surveys. These revealed that the tailings are loose and would be expected to lose strength with large deformations. In addition, liquefaction was possible in scattered, isolated layers within the tailings pile. Static and seismic analyses indicated that the tailings pile was in a state of marginal stability. Several stabilization alternatives were evaluated and presented to stakeholders. Rick supervised the design of the preferred stabilization alternative.

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Broetje Orchards Dam Failure / Prescott, WA

Project Manager. Rick was retained to determine the cause of the dam failure, and to make recommendations to repair the dam. Rick also assisted the owner in preparing the necessary documents for obtaining a license form the Washington State Division of Dam Safety. This dam failed in April 2000, by piping along the outlet works. The dam was constructed of easily erodible sandy silt readily available near the dam.

Tarbela Dam / Pakistan

Project Engineer. Rick planned and implemented a program to assess the liquefaction potential of soils from Tarbela Dam reservoir in Pakistan. The program consisted of performing over 50 high strain triaxial tests on soil collected from the reservoir and performing engineering analysis. Liquefaction analyses were completed based on the steady-state liquefaction theory proposed by Casagrande and Castro. The results of the study were used by the World Bank and the Government of Pakistan to assess the risks due to liquefaction and if mitigation was required.

Washakie Dam Investigation / Washakie, WY

Project Engineer. Rick planned and implemented the field exploration program, which consisted of soil borings, test pits, and geophysical studies to evaluate the construction and foundation materials of the dam, and to locate potential borrow sources. He also completed preliminary geotechnical and hydrologic studies to determine the feasibility of raising the crest of the dam to increase storage capacity of the reservoir. Washakie Dam, located on the Wind River in west central Wyoming, is approximately 90 feet high and about 200 feet long.

Triphammer Pond Dam and Mill Pond Dam Safety Modifications / Hingham, MA

Project Engineer. Rick designed safety modifications for these historic earth dams in eastern Massachusetts. Assisted in planning and implementing a field exploration program and geotechnical, hydrologic, and structural engineering analyses to design new spillways, overtopping protection, and fish ladders and to assess overall stability of the embankments to meet state dam safety regulations.

Evaluation of Railroad Embankment Failure / Wallula, WA

Project Engineer. Rick assisted in developing plans to reduce the soil erosion on the site, thus minimizing the impacts to storm drains and sewers. He also provided preliminary stabilization schemes for consideration. The embankment failure caused a train derailment. Studies for this project included reviewing aerial photographs, evaluating original design reports, site reconnaissance, and laboratory testing.

Garfield Street Landslide / Seattle, WA

Project Manager. Rick completed the initial site reconnaissance, and planned and supervised the field exploration program. The slope was instrumented with inclinometers and piezometers to monitor slope movement and water pressures within the slope. Temporary measures, consisting of buttresses and dewatering wells were installed to maintain the safe operation of the bridge on-ramp. These measures were designed in the field as emergency stabilization measures were being constructed. Engineering analyses were completed to confirm the assumed failure mode of the slide and to evaluate conceptual stabilization measures. Several stabilization schemes were developed and discussed with Seattle Transportation (SEATRAN) and neighboring property owners. Based on these discussions, stability improvements were

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designed and consisted of retaining walls, rock buttresses, trench drains, and a gravity deep well system were selected. The deep wells installed in the emergency stabilization work could be reused in the final stabilization scheme by directionally drilling a gravity drain through the bottom of each well. Construction documents were prepared under Rick's direction, and he provided construction management to SEATRAN. In addition, he assisted with obtaining project funding from various federal agencies. This slide was located on the eastern end of the Magnolia Bridge in Seattle, Washington. Debris flows eventually closed the on-ramp to the bridge in March 1998.

5th Avenue North and North Lynn Street Landslide / Seattle, WA

Project Manager. Rick was responsible for evaluating the causes of the slide and developing permanent remediation solutions. A soldier pile and lagging wall was constructed at the top of the slope (along 5th Avenue) and a "slide debris curtain" was constructed at the toe of the slope. The slide debris curtain consisted of two rows of 24-inch augercast piles at 8-foot spacing. A 6-foot-tall, 24-inch cast-in-place concrete column was constructed on each pile. The intent of the curtain is to dissipate energy of a sliding mass of soil. He concluded that the impact loads would have made a conventional soldier pile and lagging wall unstable. This landslide occurred in March 1997 after a period of heavy precipitation. It occurred near the top of a 200-foot-high slope on the east face of Queen Anne in Seattle, Washington. Slide debris temporarily closed the southbound lanes on Aurora Avenue.

NE 151st Street Landslide / Lake Forest Park, WA

Project Manager. Rick was responsible for slope restoration and stabilization for a large landslide in Lake Forest Park, Washington. A December 1996 landslide filled a ravine with 8,000 cy of slide debris. Work included designing buttresses to support the existing slide debris and berms to restore backyard slopes. A major priority of this project was to minimize excavation of the slide debris. Through slope stability analyses, the amount of excavation was limited to 1,500 cy. The berms and buttresses were constructed of quarry spall, a strong and cost-effective material. Several presentations were made to the homeowner's association regarding the landslide and slope remediation.

SEATRAN Emergency Landslide Evaluation / Seattle, WA

Project Manager for an on-call landslide emergency response contract with Seattle Transportation (SEATRAN). Under this contract, Rick was responsible for providing geotechnical assessments of recent landslides within the City of Seattle. His responsibilities included observing the slide, identifying the cause or causes of the landslide, and evaluating the risks to public facilities of the landslide.

SUBJECT MATTER EXPERT EXPERIENCE

King County (Wastewater Treatment Division) v Frank Collucio Construction Company (2019-2021)

Rick served as the geotechnical subject matter expert for King County. Rick prepared an expert's report summarizing professional opinions and conclusions about the ground conditions and ground behavior for a 72-inch open-face tunnel boring machine. Mr. Smith was deposed in this case. The case was settled in favor of King County before trial. Rick was retained by King County for this work.

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Walsh Construction v King County (Wastewater Treatment Division) (2017)

Rick served as the geotechnical subject matter expert. The project involved construction of installation of a new gravity sewer pipeline by Horizontal Directional Drilling (HDD). During pullback of the HDPE pipeline, the ground around the HDPE pipeline failed causing the HDPE pipeline to collapse. Rick reviewed the project's construction documents and geology, and construction methods. He determined that the cause of the failure was the ground was not sufficiently supported during pullback and failed.

Pump Station 56 – Seattle Public Utilities (2024)

Seattle Public Utilities was constructing a new water line to replace an aging pump station. SPU selected the pilot-tube-guided-auger method to install the water line. During construction, the pilot tube became stuck in the ground. Rick reviewed the project's design documents, construction documents, and construction records, and determined that the pilot tube became stuck in the ground after granular material collapsed around the pilot tube.

PUBLICATIONS

"Geotechnical Instrumentation Monitoring System for Shallow Freeway Tunnel Crossings with EPBMs," presented at the Rapid Excavation and Tunneling Conference, June 2013.

"Pile Fixity: Fact or Fiction," presented to BNSF Railway, June 2012.

"Preparing for TBM Drive in Seattle," published in Deep Foundations, Fall 2010.

"Deep Foundations for a Rail Bridge Replacement," published in Deep Foundations, Fall 2009.

"Irrigation Dam Failure," presented at the Western Regional Dam Safety Conference, Anchorage, AK, June 2001.

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SENIOR ENGINEER

Expertise
Tunnel Engineering, Engineering Geology, Trenchless Technology, Support of Excavation and Shaft Design

Education
Master of Science, Geological Engineering, Colorado School of Mines

Bachelor of Science, Geology, University of Vermont

Registrations
Professional Engineer / VT

Certifications
OSHA: 40-hr HAZWOPER, 10-hr Construction, 8-hr Supervisor

Affiliations
ASCE, UCA of SME

Years with Schnabel/Total
3/10

Ian Donovan has 10 years of experience in geological and geotechnical engineering related to planning, design, and construction of tunnels and shafts, dams, bridges, and buildings. Ian has provided design and construction services for water, wastewater and transportation tunnels in soft ground and hard rock. He has experience in planning and execution of subsurface exploration programs and has assisted in the preparation of geotechnical data and baseline reports for tunneling and trenchless projects. His design experience includes evaluation of tunnel alignment alternatives, development of geotechnical parameters for structural design, ground support for soft ground and hard rock tunnels, seismic evaluations of existing and proposed infrastructure, and trenchless technology. Ian has utilized 2D and 3D finite element and finite difference modeling software to support detailed designs for tunnel, shaft, cavern, and dam projects. He has provided resident engineering and construction phase services for trenchless and tunnel projects utilizing pipe jacking, pipe ramming, and drill and blast methods.

UNDERGROUND PROJECTS – PLANNING AND DESIGN

Massachusetts Water Resources Authority Metropolitan Water Tunnel Program / Boston, MA (2021 - Ongoing)

Senior Engineer. Ian is providing support services to the Massachusetts Water Resources Authority (MWRA) as part of the Program Support Services (PSS) consultant team to develop the Metropolitan Water Tunnel Program (MWTP). The MWTP is a $1.5 billion Capital Improvement Program to provide redundancy to MWRA's existing water conveyance facilities in metropolitan Boston, and is anticipated to include two 200- to 500-foot-deep rock tunnels, 12 feet in diameter, with a total length of ~14 miles. Ian's responsibilities include preparation of a Previous Tunneling Experience Report, development of the program's GIS portal and Program Geology Map, qualitative and quantitative risk management support, geotechnical data management and visualization, review of design submittals, and project management including preparation of invoices and monthly reports, maintenance of budget dashboards, and coordination with subcontractors.

Metro Vancouver Annacis Island Wastewater Treatment Plant Transient Mitigation and Outfall / Vancouver, British Columbia, Canada - MA (2016-2017)

Project Engineer. Ian provided design services for upgrades to the Annacis Island Wastewater Treatment Plant (AIWWTP). Upgrades to the AIWWTP included a new outfall tunnel to convey treated water to a riser structure located in the Fraser River. As part of the project, Ian assisted in the preparation of design memoranda, compiled soil properties for use in structural design, performed shaft and tunnel design using FLAC3D, evaluated tunneling-induced surface settlement effects on nearby structures, evaluated potential for liquefaction, and assisted in the design of the deep foundation system for connection structures and near-surface piping.

Schnabel ENGINEERING

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NYS DEP Kensico-Eastview Connection 2 (KEC-2) Tunnel / Mount Pleasant, NY (2016)

Project/Field Engineer. Ian supported the planning and implementation of the subsurface exploration program for the proposed 2-mile-long rock tunnel connecting the Kensico Reservoir in Mount Pleasant, New York, to the Catskill-Delaware UV Disinfection Facility in Eastview, New York. The tunnel is the centerpiece of the proposed $1.2 billion project and will provide redundancy for existing components of the DEP's water supply system. Ian assisted in the selection of test boring locations, preparation of the driller procurement package, and drilling contract documents, and provided field services during the execution of the drilling program, which included test borings to up to 600 feet below ground surface. He also assisted with the preliminary preparation of the Geotechnical Data Report for the project.

Suffolk County Department of Public Works Bergen Point Wastewater Treatment Plant Outfall Replacement Tunnel / Babylon, NY (2016)

Project Engineer. Ian provided preliminary design support for upgrades to the Bergen Point Wastewater Treatment Plant (BPWWTP), which included a new 10-foot-diameter, 2.6-mile-long outfall to discharge treated effluent into the Atlantic Ocean. Responsibilities included preliminary design of the proposed ground freezing system related to the excavation of the launch shaft, and design of excavation support systems for near-surface piping connections between the shaft and existing treatment plant, including development of finite element models at several critical locations. Ian also assisted in preparation of technical memoranda detailing design recommendations, and the preparation of preliminary design drawings.

GDOT Soap Creek Bridge Utility Relocation / Lincolnton, GA (2016)

Project Engineer. As part of the replacement of the existing bridge over Soap Creek in Lincolnton, Georgia, a drinking water supply main was required to be relocated. The new supply main was proposed to be installed using horizontal directional drilling (HDD) below Soap Creek. As part of the Owner's consultant team for the project, Ian assisted in the design of a feasible alignment for the crossing using hand calculations and 2D finite element modeling software. The selected alignment resulted in a 1,700-foot-long crossing with a minimum cover of 20 feet, using 24-inch fusible PVC piping.

Bogota Water Utility Canoas Wastewater Treatment Plant / Bogota, Colombia (2015-2017)

Project Engineer. Ian provided design services during conceptual and preliminary design of the proposed Canoas Wastewater Treatment Plant (CWWTP). The CWWTP will be capable of handling flows up to 360 mgd and minimizing discharge of untreated wastewater into the Bogota River. Ian provided geotechnical engineering services to support the design of the ground improvement and foundation system for the 16 proposed 50-meter diameter clarifier tanks, to be constructed on soft and organic clays. He also performed 3D finite difference modeling for the conceptual design of a subsurface connection structure and energy-reduction vortex at the intersection of two previously completed rock tunnels. As part of this analysis, Ian evaluated various geologic data to estimate design rock properties for use in the modeling effort, and provided design and construction recommendations to the project owner.

NYC DEP Water Supply Tunnel Leak Stabilization Pilot Study / New York, NY (2015-2016)

Project Engineer. Several of the existing tunnels in the New York City Department of Environmental Protection water supply system are understood to have significant leakages that affect the overall efficiency of the conveyance system. As

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part of the analysis of proposed remediation methods, a pilot study was commissioned to evaluate the potential for stabilization of the leaking tunnels using chemical treatment of the raw water conveyed through the tunnels. In support of this study, Ian performed a review of geological data, design documents, construction records, and existing conditions for 16 tunnels in the system, and developed a ranking system to prioritize the tunnels as potential candidates for chemical stabilization.

Ashghal Mussaimeer Pump Station and Outfall / Doha, Qatar (2015)

Field Engineer. Ian served as an owner's representative in the field during preparation of the 30% design for the proposed Mussaimeer Outfall Tunnel, a 10-km-long tunnel proposed to be constructed in rock 50 meters below the seafloor in Doha, Qatar. The completed tunnel will convey stormwater from the previously constructed onshore collection system to a riser system in the Persian Gulf. During his time on the project, Ian provided field observation of the preliminary subsurface exploration program, which consisted of over 20 deep borings performed from a jack-up barge up to 10 km offshore. He performed field QA/QC of bedrock core classifications; packer, downhole optical/acoustical televiewer, and pressuremeter testing; and borehole grouting. He also reviewed draft data reports prepared by the geotechnical contractor on behalf of the project Owner.

BHP Billiton Spence Mine Marine Works Microtunnel / Antofogasta, Chile (2015)

Project Engineer. To support growth at its Spence Mine in northern Chile, BHP Billiton selected a seawater desalination plant to supply process water to the mine. This project included a 23 mgd reverse osmosis plant, marine works, and a 95-mile-long desalinated water conveyance system which included a 530-meter-long section of microtunnel through rock. For the microtunnel section, Ian prepared estimates of anticipated MTBM advance rates, disc cutter wear, and jacking forces on behalf of the owner during the bid phase of the project, and later used these reports to evaluate the performance of the contractor during construction. He also assisted in the evaluation of bids for the marine works construction, which included proposals for trenchless and open-cut installations of intake piping below the seafloor.

City of Minneapolis Fridley Filter Plant Rehabilitation / Minneapolis, MN (2015)

Project Engineer. As part of upgrades to the Fridley Filter Plant in Minneapolis, a new 48-inch-diameter backwash water conveyance pipe was required to cross beneath an existing ductile iron pipe conduit and a concrete box conduit, both of which were required to remain in service during and following the installation of the new conveyance pipe. Ian provided design recommendations for the hand-mined tunnel, which would be excavated through running, fast-raveling, or squeezing ground. Design recommendations included initial ground support, pre-excavation grouting, and instrumentation and monitoring requirements. Following finalization of the tunnel design, Ian prepared contract specifications and assisted in the preparation of design drawings related to the tunnel crossing.

Village of Oak Lawn Water Transmission Main / Oak Lawn, IL (2014-2017)

Project Engineer. The Oak Lawn Regional Water System stores and distributes treated water from Lake Michigan to 12 communities in the Chicago suburbs. Design and construction of a new 16-mile long, 60-inch diameter looped water transmission main began in 2014 in order to provide redundancy, reliability, and increased capacity for the system to meet its needs for the future. The project includes six tunnel or trenchless crossings through rock and soft ground. Ian's responsibilities related to the tunnel or trenchless sections included review of geotechnical data reports, preparation of

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geotechnical baseline reports, design calculations for horizontal directional drilling (HDD) crossings, and constructability and construction submittal reviews.

UNDERGROUND PROJECTS – CONSTRUCTION

City of Minneapolis Nicollet Mall Utility Upgrades / Minneapolis, MN (2016)

Resident Engineer. Ian served as the onsite resident engineer during the replacement of a sanitary sewer line in downtown Minneapolis. The Nicollet Mall is the tourist and pedestrian center of the city, flanked by multi-story buildings housing retail, restaurant, office, and residential tenants. Persistent backups in the existing sewer line due to increased flows from recent development led the City of Minneapolis (City) to replace the existing brick and clay sewer pipe with new 24-inch-diameter vitrified clay or HDPE pipe installed using open-cut and trenchless (pipe ramming) methods. Ian provided resident engineering services in the field for the duration of the project, working closely with the contractor and the City to ensure successful delivery of the project. Ian's responsibilities included preparation of daily field reports and sketches, performing QA/QC activities, attending weekly construction progress meetings, reviewing construction submittals, and maintaining vibration monitoring and soil testing databases.

City of Lowell Marginal Relief Sewer Replacement / Lowell, MA (2016)

Field Engineer. Ian served as an onsite resident engineer during the trenchless portion of this project, which was constructed to provide an overflow connection between an inadequately sized sewer line and a nearby interceptor to reduce combined sewer surcharges. The trenchless portion of the project consisted of jacking a 48-inch-diameter steel casing beneath an active railway and installing a 24-inch-diameter reinforced concrete carrier pipe inside the casing. Prior to construction, Ian assisted with preparation of specifications and reviewed contracts and submittals. During the construction phase, Ian documented construction activities, tracked installed quantities, and confirmed project compliance with contract documents.

CDOT Twin Tunnels Design and Construction Project / Idaho Springs, CO (2013)

Heading Engineer. To improve safety and reduce congestion along the Interstate 70 Mountain Corridor, the Colorado Department of Transportation initiated a project that included expansion of an existing rock tunnel along the eastbound barrel of the Interstate. The expansion facilitated the addition of a third travel lane and full-width shoulder through the existing tunnel. As heading engineer for the contractor performing the tunneling portion of the project, Ian performed geologic mapping of the tunnel face, assisted in evaluation of ground conditions and tunnel support requirements, performed material takeoffs and tracked pay quantities, coordinated quality control programs, and assisted with blasting and surveying activities. Ian also worked closely with the construction manager during preparation of daily and weekly reports, and provided feedback to the tunnel designer regarding geologic conditions in the tunnel.

GEOTECHNICAL ENGINEERING – REPRESENTATIVE VERMONT PROJECTS

University of Vermont Tarrant Event Center / Burlington, VT (2019-2020)

Senior Project Engineer. Ian provided geotechnical engineering services during design and construction of UVM's Tarrant Event Center, which will be home to the school's basketball programs and provide academic, social and entertainment space. As part of the project, he provided design support for various foundation and excavation support elements,

Ian Donovan, PE

SENIOR ENGINEER

including ductile iron pile and drilled shaft design, submittal review for a soil nail wall supporting an existing structure, and shallow foundation design recommendations. Ian also performed construction observation services during construction of the geotechnical elements of the project.

On-Call Geotechnical Engineering Services / Various Locations, VT (2020-2021)

Senior Project Engineer. Ian served as the senior geotechnical engineer for a 5-year, $10M contract for geotechnical engineering services with the State of Vermont. He provided key support during his firm's pursuit of the work, including preparation of the proposal and qualifications statement, interactions with VTrans during the selection process, and development of the proposed scope of services. Following award, Ian served as the lead geotechnical engineer for various transportation projects across the state of Vermont, including slope stabilization, bridge and culvert design, pavement design and forensic engineering.

Land Development/Redevelopment Projects / Various Locations, VT (2019-2021)

Senior Project Engineer. Ian has provided geotechnical engineering and environmental services for numerous development projects throughout the State of Vermont. His experience includes educational, hospitality, healthcare, and multi-family residential development projects. Ian performed subsurface investigations, prepared geotechnical engineering reports, supported development of design drawings, and provided construction phase services for these projects.

Senior Geotechnical Engineer, Vermont Agency of Transportation / Berlin, VT (2018-2019)

Ian served as the Senior Geotechnical Engineer for the Geotechnical Engineering Section of the Vermont Agency of Transportation (VTrans). During his time with VTrans, Ian prepared engineering calculations and design recommendations for soil and rock slope stabilization, deep and shallow foundation systems for bridges, and earth retaining structures. Ian supervised a staff of 3-5 engineers, managed the workload of the Section, provided detail review of deliverables, and maintained project schedules. He also provided construction phase support to the Section's projects, including submittal reviews, RFI responses, and design changes.

PUBLICATIONS

Donovan, I.P., Santi, P.M. (2017) A probabilistic approach to post-wildfire debris-flow volume modeling, Landslides Vol. 14 No. 4, pp. 1345-1360

Gerald Aspiras, PE

ASSOCIATE ENGINEER

Expertise
Tunnel Engineering, Geotechnical Engineering, Geologic Mapping and Exploration

Education
Master of Science, Geotechnical Engineering, California State Polytechnic University – Pomona

Bachelor of Science, Geological Engineering, University of Arizona

Registrations
Professional Engineer / CA, HI

Certifications
FAA Part 107 Small Unmanned Aircraft Systems (SUAS)

Affiliations
ASCE, CGEA, SME

Years with Schnabel/Total
7/11

Gerald Aspiras has over 10 years of civil, geotechnical, and field engineering experience. His responsibilities have included geotechnical instrumentation, analysis, investigation, and field mapping. He has participated in ground improvement evaluations, design, and inspection of excavation support. In addition, he prepared reports related to feasibility studies, geotechnical baseline reports (GBRs), and forensic engineering for litigation support. Gerald has worked with clients in the Middle East and the US to supervise construction and geotechnical materials testing. He is also known for his excellent communication skills and working well in a multi-disciplinary environment.

Waimalu Trunk Sewers Rehabilitation/Replacement Project / Honolulu, HI (Ongoing)

Associate Engineer. Responsible for the planning and design phases of the proposed Waimalu Relief Trunk Sewer from Aiea Stream to the existing Waimalu Wastewater Pump Station, constructed by both trenchless methods such as microtunneling and pipe jacking and open cut excavations. The new Waimalu Relief Sewer is planned to replace the existing 10,830-foot long Waimalu Trunk Gravity Sewer which is part of the Honouliuli Sewer Basin for the City and County of Honolulu. The Waimalu Relief Sewer project will increase the collection system's capacity to accommodate future growth, including transit-oriented development (TOD), projected wet weather flows, and reduce the potential for sewage spills within the tributary basin. As part of the planning and design team, JCK Underground (a Schnabel Engineering Company) and subconsultants are providing environmental and engineering services.

Pearl City-Waipahu Trunk Sewer Project (Leeward Tunnel) / Honolulu, HI (Ongoing)

Associate Engineer. Responsible for the planning and design phases of a proposed new gravity sewer line from the existing Pearl City Wastewater Pump Station (WWPS) to the vicinity of the existing Waipahu WWPS, constructed by trenchless methods such as microtunneling. The 12,000-foot new gravity sewer line will replace the existing dual force central system to increase system capacity to accommodate future growth (including transient-orientated-development and projected wet weather flows), provide ease of maintenance and operations, and eliminate the existing Pearl City WWPS. As part of the Planning and Design team, JCK Underground (a Schnabel Engineering Company) and subconsultants provide environmental and engineering services. The project started in 2022, and the tasks have included identifying site-specific historical, geological, and environmental characteristics; developing and comparing GST alignment and design alternatives, including siting of the Waipahu WWPS; planning the subsurface investigation; and conducting land surveying. Gerald was integral in creating the GIS project-wide database.

Amtrak Frederick Douglass Tunnel, B&P Replacement Program / Baltimore, MD (Ongoing)

Associate Engineer. Gerald supports the estimating team by conducting constructability reviews and developing Independent Cost Estimates for both Package A and the 90% design. Highlights of Package A include two 2-mile-long tunnels with 26-foot ID segmental lining, excavated with 29-foot pressurized face TBMs; and eleven 24 x 24-foot cross passages excavated using SEM and D&B methods. Also included in the scope is a 30-foot diameter intermediate vent

Gerald Aspiras, PE

ASSOCIATE ENGINEER

shaft, a 617-foot-long x 28-foot-high x 35-foot-wide plenum tunnel, and a large underground chamber 45 feet wide x 60 feet high x 192 feet long that intersects the tunnel.

New Bullards Bar Dam Comprehensive Assessment, Yuba County, CA (2024)

Senior Engineer. Gerald conducted tunnel inspection services for the Lohman Ridge and Camptonville Tunnels, both hard rock water diversion tunnels owned and operated by the Yuba County Water Agency (YCWA). YCWA engaged Schnabel Engineering to perform inspections and reporting in compliance with Part 12D Federal Energy Regulatory Commission (FERC) regulations. The scope of work included developing a tunnel and safety plan, performing visual inspections, conducting Lidar scans, and preparing a final report summarizing tunnel conditions and observations. Gerald played a key role in planning the inspection operations and coordinating subcontractors throughout the inspection process.

TxDOT I-35 Capital Expressway (CapEx) Drainage Tunnels, Austin, TX (2024)

Senior Engineer. This $740M project consists of the design of two new stormwater tunnels that will capture drainage from the proposed lowered I-35 highway through downtown Austin. The 22-foot drainage tunnels range from 15,000 to 18,000 lf in length, constructed primarily in hard rock with precast segmental concrete liners, and terminate at a 140 MGD pump station. As a subconsultant to the design team, Schnabel Engineering is responsible for the tunnel and shaft design, interdisciplinary coordination with the drainage design team and proposed highway design team, constructability reviews, geotechnical baseline report development, cost estimating, and risk management. The project also included an innovative contracting approach to allow contractors to provide confidential inquiries, feedback, and propose alternative concepts. Gerald has been involved with evaluating the geotechnical instrumentation and settlement design.

Santa Clara Valley Transportation Authority's (VTA) BART Silicon Valley Phase II Extension (BSV II) / Santa Clara Valley, CA (2021)

Senior Engineer and Project Estimator. Gerald provided support for an independent cost estimate for Contract Package 2 (CP2), tunnel and trackwork, of BSV II project. CP2 is comprised of 4.7 miles of large diameter, single bore subway tunnel with side-by-side and stacked configurations of the trackwork. The work includes the bored tunnel, mainline trackwork, portals, two mid-tunnel facilities, three stations, adits, compensation grouting, multiple turnouts, geotechnical instrumentation and monitoring, tie-ins with other contract packages, and other general work. Gerald provided support for determining the cost estimate utilizing GIS systems, staging layouts, and material estimation. The work product includes grouping the costs into both work breakdown structure and FTA SSC categories, provided in a searchable format, and generating a cost estimate narrative.

Santa Clara Valley Water District Anderson Dam Tunnel Project / Morgan Hill, CA (Ongoing)

Senior Engineer and Geotechnical/Tunnel Inspector. This $161M, 3-year project involves constructing a 1,730-foot tunnel with low-level and high-level outlets to control reservoir levels for the Anderson Dam Seismic Retrofit. The tunnel, excavated through weak rock, requires sequential excavation and significant pre-support, primarily using mechanical methods with provisions for blasting. Gerald provided intermittent field geotechnical and tunnel inspection and participated in dredging operations, classifying materials, monitoring excavation, and coordinating offsite sample testing.

Gerald Aspiras, PE

ASSOCIATE ENGINEER

Alexandria Renew Enterprises RiverRenew Program / Alexandria, VA (Ongoing)

Senior Engineer. Gerald is providing geotechnical engineering services for a new Combined Sewer Overflow (CSO) abatement facility including performing settlement analysis for the tunnel and shafts that is expected during construction. The facilities include a 11,400-foot, 12-foot diameter soft ground tunnel at a depth of 120 to 160 feet with four deep shafts ranging in diameter from 35 to 65 feet; a 2,550-foot-long, 6-foot diameter near surface sewer; and associated near surface diversion structures. The $550M RiverRenew Program will eliminate sanitary sewer overflows (SSOs) and virtually eliminate CSOs into the Potomac River.

San Francisco Public Utilities Commission Flood Resilience Project Support / San Francisco, CA (2022)

Senior Engineer. Gerald prepared alternative alignments and methods for a feasibility study to construct a large diameter drainage pipe in a congested mixed-use area within the city limits of San Francisco. The means and methods included either trenchless micro-tunneling (MTBM) in mixed ground conditions or open cut along a busy thoroughfare. Support services also included cost comparisons and constructability reviews of the procurement documents. The drainage pipe is expected to be 10 feet in diameter and 5,800 to 8,200 feet long.

LA Metro Westside Purple Line 1 / Los Angeles, CA (2022)

Senior Engineer. Gerald worked with the tunnel design team to provide onsite geotechnical information and evaluation during construction. The Purple Line project is an underground tunnel rail extension onto a previous rail line that provides a high-capacity, high-speed, and dependable alternative for commuters. Los Angeles Metro's Purple Extension Section 1 project is the first of three sections along the new 9.1-mile corridor. Section 1 extends the subway 3.92 miles starting at the existing Wilshire/Western station and ending in Beverly Hills. Section 1 consists of three new stations constructed along the alignment: Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega, as well as a retrieval shaft at Wilshire/Western. The project consists of a twin tunnel with two earth pressure balanced tunnel boring machines (TBM), 23-foot diameter. The total estimated construction cost for the project is more than $1.6 billion and is scheduled for completion in 2023. Gerald's responsibilities included preparing weekly reports summarizing instrumentation data with interpretation, including producing graphics of strut loads vs. inclinometer movement during staged de-strutting of support of excavation structures; graphing settlement points against theoretical Gaussian Curves; and assessing structural cracks on Right of Entry buildings using pre-construction surveys. He also monitored the performance of critical utilities using traditional survey and CCTV inspections; correlated geotechnical reports with instrument movement; organized Management Action Team meetings when alarm/alert levels are breached; assured contractors met approved specifications and contingency plans; extracted a multitude of data from the instrumentation database management system; and performed detailed analysis. Additional tasks included reviewing contractor submittals and RFIs related to tunnels and instrumentation, providing construction observation and documentation on tunnel/station construction and ground improvement, and coordinating with contractors, subcontractors, and support staff.

Demos Development, Malibu Landslide Investigation / Los Angeles, CA (2018) *

Project Engineer. Performed geotechnical studies on an active landslide located by the Pacific Coast Highway 1 and Sunset Boulevard from Tramanto to Castellamare Drive. The study consisted of: gathering geotechnical reports; logging deep soil borings up to 100 feet; geologic field mapping; performing engineering study on laboratory data using gINT; applying Roc-science suite to analyze geotechnical data for both static and seismic conditions; extracting Lidar from aerial

Gerald Aspiras, PE

ASSOCIATE ENGINEER

photogrammetry collected by drone flights and Local City Bureau; overlaying topographical contours from different types of resources such as ArcGIS and AutoCAD Civil 3D; and providing comprehensive engineering recommendations. In addition, Gerald monitored the landslide using geotechnical instrumentation such as inclinometers, multipoint extensometers, observation wells, and tiltmeters on the existing support of excavations.

Multi-Family, Commercial, and Luxury Residential Construction / Irvine, CA (2017) *

Staff Engineer. Gerald was involved with all phases of engineering, construction, and coordination for both office and field work for various clients. His responsibilities included earthwork and support of excavation observations for suburbia tract and hillside development, subsurface investigations, forensic and litigation studies, material testing and inspections, and general geotechnical consulting services. Selected Clients include Pepperdine University, Etco Homes, City of Malibu, and The Irvine Company. Gerald worked with multiple Project Managers to execute standardized proposal preparations, adjusting fee schedules and pre-geotechnical background study. He also reviewed comments from the City Bureau and Public Agencies across Southern California, and worked with celebrity clients and architects to facilitate geotechnical services on their existing or newly developed multi-million-dollar residences.

Advanced Construction Technology Services / Doha, Qatar (2013) *

Department Head of Material Testing Laboratory. Gerald initially started as a laboratory engineer performing field and laboratory testing, organized daily tasks for technicians, and provided monthly training courses as part of the QA/QC program. After three years he was promoted to run the department, managing both laboratory and field technicians conducting physical, mechanical, and chemical materials testing. Suite of tests for both rock and soil were typically performed during the preliminary geotechnical phase, receiving bulk soil samples and core boxes from international clients, testing in accordance with either American Standards (ASTM) or British Standards (BS). The typical rock tests performed are as follows: Unconfined Compressive Strength (UCS), Elastic Moduli, Soundness, Tensile Strength, Point Load Index, Los Angeles Abrasion Test, Rock Porosity, Cerchar Abrasivity Index (CAI), Mohs Hardness, and Ultrasonic Pulse Velocity. The typical soil tests performed are as follows: Sieve Analysis, Hydrometer, Atterberg Test, Proctor Compaction, Direct Shear, Uniaxial Compressive Strength, California Bearing Ratio, Specific Gravity, and Soundness. In-situ tests were also performed such as Nuclear Gauge Test, Sand Cone Test, In situ CBR Test, and Dynamic Cone Penetration Test. A suite of asphalt testing conducted mainly to provide clients optimum mix designs for their project included: Core Extraction, Binder Content by Ignition Method, Bulk Specific Gravity, and Theoretical Maximum Specific Gravity.

Gerald was selected as part of the team of experts of local laboratory agencies to create the first Asphalt Testing Standards for the Government of Qatar's Transportation Agency (ASHGHAL). As part of the Government's accredited laboratory, Gerald was also involved in performing QA/QC for different laboratories around Middle East, provide third party results for disputed tests, oversee accredited tests in accordance with International Organization for Standardization (ISO) standards, and contributed annual reports for the latest research in testing standards. As part of ACTS's upkeep on their internal organization standards and goals, Gerald also enhanced operations logistically to optimize efficiency, productivity and quality and reliability. Gerald led the team in building excellent customer relations to provide solutions toward their project development goals, and researched market demands for construction services, material testing methods, and site applications.

IRJ ENGINEERS INC.
MECHANICAL & ELECTRICAL ENGINEERS
P. O. Box 1463, VENTURA, CALIFORNIA 93002
Jack V. Ivers (805) 701-8940 Steve Romofsky (805) 218-5345 Jill E. Johnson (805) 701-8714

OFFICERS
JACK V. IVERS, P.E.
STEVEN ROMOFSKY, P.E.
JILL E. JOHNSON, P.E.

January 8, 2026

Mr. Nick Panofsky
MNS Engineers, Inc.
201 N. Calle Cesar Chavez
Santa Barbara, California 93103

Re: Pajaro/Sunny Mesa Community Services District (PSMCSD)
Pajaro-Sunny Mesa-Springfield Consolidation (PSMS)
Construction Documents and Bidding/Construction Support Proposal

Dear Nick:

We propose to render professional Electrical Consulting Engineering services in connection with the PSMCSD/PSMS Consolidation project. You are expected to furnish us with full information as to your requirements for this project and also to make available all pertinent existing data. If the project continues for more than one year because of reasons beyond our control, our compensation will be subject to an equitable adjustment.

This proposal remains open for acceptance until February 9, 2026.

Our Basic Services will consist of preparing Construction Documents and providing Bidding Support for this project. This project is described in the 30% Design drawings that we prepared in August of 2025, and is further described in this proposal. Our scope of work is as set forth below:

I. We will prepare Phase I Construction Documents, consisting of drawings and specifications, that reflect the following work:

A. Pajaro Well #1 Treatment

1. Removal of the existing exterior mounted utility service industrial control panel. A new 480Y/277V, 3-phase, 4-wire, 200A meter/main enclosure mounted on the exterior of the new electrical/chemical building. The existing 260A, 3-pole automatic transfer switch will be relocated to the electrical room. A new motor control center will be provided to serve the existing well pump, the new iron-manganese treatment system, new recycle pump, new solids metering pump, 480V-120/240V, 1-phase transformer and panel board for 120V power.
2. Coordination with the electric utility company to relocate/replace existing service lateral to the new meter/main location.
3. The existing standby generator will be reconnected the automatic transfer switch.
4. Branch-circuit connection to a new skid-mounted iron-manganese treatment system at an integral control panel. Field connections to motor-actuated valves and instruments will be indicated, if required.

5. New LED luminaires and convenience receptacles within the new building.
6. Branch-circuit connections to a new recycle pump and a new solids metering pump, specified by others. We will show control connections between these two pumps and the iron-manganese treatment system control panel.
7. New controls for the existing well pump including the interface with the new iron-manganese treatment system.
8. Power and signal connections to new valves, instruments, and equipment specified by others.
9. Branch-circuit and signal connections to a SCADA control panel designed by others.
10. Branch-circuit and signal connections to the existing hydropneumatic tank control panel.
11. Branch circuit connections to heating and ventilation equipment.

B. Pajaro Tank Site
1. Branch-circuit and signal connections to a new flow meter specified by others.

C. Transmission Booster Pump Station
1. New electrical utility service to a 480Y/277V meter/main enclosure. New distribution panelboard to serve the new package booster pump station, new 480/120/240 V mini-power center for 120V loads, and existing loads associated with Well 1 and Well 2.
2. Relocation and reconnection of the existing standby diesel generator.
3. Branch-circuit connections to the new package pump station.
4. Site lighting standards with LED sources.
5. Branch-circuit and signal connections to a SCADA control panel designed by others.

D. Sunny Mesa Tank Site
1. Branch-circuit connections to new SCADA system components specified by others.

E. We will provide drawings and specification sections in PDF format, and an opinion of probable construction cost for the electrical installation at the 60%, 90% and 100% milestones.

II. We will provide Phase I Bidding and Construction Support for this project. Bidding Support will consist of answering of bidder questions and providing addenda material, if required. Construction Support will consist of submittal review, coordination with the Contractor by telephone, preparing responses to RFIs, reviewing construction photographs provided by MNS, site visits during the construction period, and incorporating contractor prepared record drawing information into the electrical and mechanical drawings. Submittal review shall be limited to an initial submittal and one resubmittal. The site visits will be at intervals appropriate to the various stages of construction, as we deem necessary, in order to observe the progress of the Contractor's work. We have included one visit to Pajaro Well #1 and Transmission Booster Station in a single day, and one individual visit each for Pajaro Well #1 and Transmission Booster Station.

III. We will prepare Phase II Construction Documents, consisting of drawings and specifications, that reflect the following work:

A. Bluff/Jensen Pump Station
   1. New 480Y/277V, 3-phase, 4-wire electrical utility service with meter/main enclosure.
   2. New legally-required standby diesel generator, including automatic transfer switch and weather-resistant acoustic enclosure.
   3. New 480V, 3-phase, 3-wire motor control center to serve two duty pump motors, two high flow pump motors, hydropneumatic tank compressor, and a transformer/panelboard for 120V loads.
   4. New LED luminaires and convenience receptacles within the electrical and chlorine buildings.
   5. New exterior lighting standards with LED light sources.
   6. Electrical branch-circuit and control connections to instruments specified by others.
   7. Motor controls for the duty pumps and the high flow pumps, based on the water level in the hydropneumatic tank.
   8. Single-point, branch-circuit connections to mixing equipment at the new tank.
   9. Branch-circuit and signal connections to a SCADA control panel designed by others.
   10. Branch-circuit connections to heating and ventilation equipment designed by others.
   11. Branch-circuit connections to diesel fuel tank system components designed by others.

B. We will provide drawings and specification sections in PDF format, and an opinion of probable construction cost for the electrical installation at the 60%, 90% and 100% milestones.

IV. We will assist you in consultations with appropriate authorities and provide technical criteria, written descriptions, and design data for your use in filing applications for permits with or obtaining approvals of such governmental authorities having jurisdiction to review or approve the final design of this project.

This proposal is based on the following assumptions and requirements:

I. Any SCADA system design, if required, is provided by others.

II. The existing electrical installations are code compliant based on the codes in effect at the time the equipment was installed.

III. Preparation of process and instrumentation drawings, if required, is by others.

IV. Preparation of the general conditions portion of the specifications, coordination of the bidding, contractor selection, and reproduction of the construction documents will be performed by others.

V. Structural design of equipment foundations, supports, and attachments will be performed by others and coordinated through your office. We will provide you with the pertinent information on the equipment we specify to accomplish this task.

VI. We will require electrical voltage and load requirements for equipment that is specified by others and that requires electrical connections to be performed after equipment is delivered to the site.

VII. We will also require drawings showing the proposed installation including the electrical/chlorine building and equipment locations. These drawings shall be in AutoCAD compatible format.

It is necessary that you advise us in writing at an early date if there are budgetary limitations for Total Project Costs or Construction Cost. Such limitations must be acceptable to us. We will endeavor to work within those accepted limitations. We do not guarantee that our opinions regarding construction cost will not differ from negotiated prices or bids. We recommend that an independent cost estimator be employed if you require greater assurance as to probable Construction Cost or if detailed material and labor estimates are required.

You will pay us for our Basic Services on an hourly basis per the enclosed rate schedule with a total not-to-exceed fee of $85,600, with $57,000 for Phase I and $28,600.00 for Phase II. We will invoice you monthly. If the scope of work is modified from that stated herein, we reserve the right to renegotiate this agreement.

Services beyond this scope of work are Additional Services and will be charged on an hourly basis per the enclosed rate schedule. Invoices for Additional Services will include number of hours spent and employee classification. Any Additional Services will be agreed to in writing between the parties prior to the commencement of the additional work.

We would expect to start our services promptly after receipt of an executed agreement. We will endeavor to coordinate delivery of our documents with the project schedule when it is established. If this proposal is acceptable, please provide an agreement for our review.

Thank you for the opportunity to submit this proposal. We look forward to working with you. Please call if you have questions.

Sincerely,

Jill E. Johnson, E15149

Encl: Rate Schedule 2401

IRJ Engineers, Inc.
Mechanical & Electrical Engineers

IRJ Engineers, Inc.
Rate Schedule 2401

Pajaro Sunny Mesa CSD
PSMS Consolidation Phase 1
IRJ Job No. 2501-00
January 8, 2026

The hourly rate schedule is listed below.

Principals	$185.00 per hour
Professional Engineers	$155.00 per hour
Senior Engineering Designers	$125.00 per hour
Engineering Designers/CAD Drafters	$110.00 per hour
Clerical Staff	$ 85.00 per hour

811 El Capitan Way, Suite 240, San Luis Obispo, CA 93401
805.439.2110
BuehlerEngineering.com

~~September 19, 2025~~ January 9, 2026

Nick Panofsky
MNS Engineers, Inc.
811 El Capitan Way, Suite 130
San Luis Obispo, CA 93401
NPanofsky@MNSEngineers.com

Subject: Pajaro Sunny Mesa Springfield Area Regional Consolidation (S23248)
Final Design and Construction
Buehler Project No. 2025-0060
Buehler Proposal No. 25-1376 Revised

Dear Nick,

Thank you for requesting a proposal to provide additional structural engineering services for the subject project. The Project is located in a rural area outside Watsonville, California with no specific address. The Project's funding source has been changed and now is prevented from being procured using a Design Build delivery method. Thus, the Project will be delivered in a traditional Design-Bid-Build method. The following proposal is to complete the design process from the current 30% Design Documentation through the construction phase.

The Project consists of the following:

Pajaro Well No. 1 Site

- New pressure filtration vessel foundation.
- New bolted steel filter backwash tank and anchorage (20,000 gallons).
- New chemical/electrical building (250 SF).
- Housekeeping slabs and equipment anchoring.

Booster Pump Station Site

- Package pumpstation building foundation and anchoring.
- Backup generator and fuel tank.
- Housekeeping slabs and equipment anchoring.

Pajaro Tank Site

- Structural rehabilitation of a 600,000-gallon welded steel tank. Existing tank will need substantial rehabilitation. New roof, ladders, hatches, and likely some internal rehab of the structural dollar plate, column, and shell.

Bluff Jensen Site

- New bolted steel tank foundation and anchorage (125,000 gallons).
- Backup generator and fuel tank.
- 4-pump pump station.
- Hydropneumatics tank.
- New chemical/electrical building (250 SF).
- Housekeeping slabs and equipment anchoring.

For the Pajaro Well No. 1 Site, Booster Pump Station Site, and Pajaro Tank Site, our scope of work will consist of the following:

- Each of the items above will have deliverables in increasing complexity and completeness at the following milestones:
  - 60% Design Documentation PS&E.
  - 90% Design Documentation PS&E.
  - 100% Design Documentation PS&E.
  - Final Design Documentation PS&E.
- Preparation of structural calculations for all aspects of the Project description items above.
- Preparation of structural drawings to include the following:
  - CMU electrical/chlorination building.
  - Roof framing and foundation plans.
  - Architectural drawings including elevations, sections, roof plan, etc.
  - Structural detail sheets.
  - Structural notes/sheet specifications.
  - Structural specification sections (CMU, steel, concrete etc.)
  - Architectural specification sections (roofing and doors).
- Tank Foundations include:
  - Redline markups of MNS drawings for compliance with structural design. Provide details as necessary to complete the structural design requirements.
- Pumps and Hydropneumatics tank include:
  - Structural drawings and details for foundations and anchorage as required for installation of the tank and pumps.
- Review and respond to structural plan review by the authority having jurisdiction (AHJ).
- Construction Administration Support includes:
  - Structural drawings and details for foundations and anchorage as required for installation of tank and pumps.
  - Prepare supplemental drawings and interpretations in response to Requests-for-Clarification by the Contractor or the Owner.
  - Review structural items within Contractor submittals for general conformance with the information given in the contract documents.
  - Visit the site (three total visits anticipated) periodically to observe work and to determine, in general, if the structural portion of the constructed work are in accordance with the contract documents. On the basis of this on-site observation, Buehler Engineering, Inc. (Buehler) shall endeavor to guard the Owner against apparent defects and deficiencies in the permanent work constructed by the Contractor, but shall not guarantee the performance of the Contractor. Buehler shall

not be required to make exhaustive or continuous on-site observations to check the quality or quantity of the construction work and shall not be responsible for construction means, methods, techniques, sequences, procedures, or for any safety precautions in connection with the construction work. Buehler shall not be responsible for the Contractor's failure to execute the work in accordance with the construction contract.
    - Provide support for the design team to resolve structural issues associated with the final punch list.
    - Assist with the preparation of closeout documents required by the Owner for the Project.
    - Prepare structural Record Drawings in PDF format incorporating as-built information as supplied by the Contractor.

For the Bluff Jensen Site our scope of work will consist of the following:

- Each of the items above will have deliverables in increasing complexity and completeness at the following milestones:
    - 60% Design Documentation PS&E.
    - 90% Design Documentation PS&E.
    - 100% Design Documentation PS&E.
    - Final Design Documentation PS&E.
- Preparation of structural calculations for all aspects of the Project description items above.
- Preparation of structural drawings to include the following:
    - CMU electrical/chlorination building.
    - Roof framing and foundation plans.
    - Architectural drawings including elevations, sections, roof plan, etc.
    - Structural detail sheets.
    - Structural notes/sheet specifications.
    - Structural specification sections (CMU, steel, concrete etc.)
    - Architectural specification sections (roofing and doors).
- Tank Foundations include:
    - Redline markups of MNS drawings for compliance with structural design. Provide details as necessary to complete the structural design requirements.
- Pumps and Hydropneumatics tank include:
    - Structural drawings and details for foundations and anchorage as required for installation of the tank and pumps.
- Review and respond to structural plan review by the authority having jurisdiction (AHJ).

Information provided by others:

- Design of all equipment and other non-structural items.
- Geotechnical report will be available during the design process. It is expected that the foundations will be traditional (ring wall, conventional continuous footings) rather than specialized (mat/raft or deep solutions such as caissons).
- Materials testing or verification as needed during the design process.
- Record drawings, dive reports, shop drawings, or access to existing sites, reservoirs and equipment.

- As-built redline documentation.

Items excluded from our scope of work include the following:

- Services outside the generally accepted scope for the practice of structural engineering.
- Soils and/or geotechnical engineering or testing.
- Detailed review of engineering design work completed by others.
- Preparation of demolition drawings, site surveys, or building services surveys.
- Material testing or special inspection services.
- Design revisions, partial or complete, outside the scope of Design Development.
- The review and approval of substitute or alternate materials.
- Site, grading, or civil related design.
- Utilities or the support and housing of utilities located more than five feet outside the building footprint.
- Site and landscape furnishings and relocation of site utilities, including those running within five feet of the building footprint.
- Site shoring or shoring design for any means and methods of the Contractor during excavations.
- Construction cost or scheduling estimating, other than support for quantities for MNS Engineers statement of probable cost.
- Special construction consulting and inspection services.
- Payment of Municipal, Agency, or permit fees.
- Safety supervision.
- Preparation/production of shop drawings.
- Specialty foundation solutions not noted in the geotechnical engineering report if received after structural completion of 50% Schematic Design (i.e. deep foundation or mat/raft foundations).
- Cal-Green, LEED®, or other sustainable consulting outside of that related to the scope of structural engineering.

This proposal modifies the scope and compensation of our previous agreement but does not modify the previously agreed Terms and Conditions or BIM Services.

Pajaro Well No. 1 Site, Booster Pump Station Site, and Pajaro Tank

Our compensation for these services will be on an hourly basis at our hourly rates We estimate our compensation for these services will be $52,000.00. This is an estimate which we will not exceed without first notifying you that we require authorization to increase the estimate.

Bluff Jensen Site

Our compensation for these services will be on an hourly basis at our hourly rates We estimate our compensation for these services will be $22,000.00. This is an estimate which we will not exceed without first notifying you that we require authorization to increase the estimate.

Our hourly rates are as follows:

Senior Principal	$310.00
Principal	$280.00
Senior Professional	$250.00
Professional	$215.00
Designer	$175.00
Senior Technician	$180.00
Technician	$155.00

If you have any questions, please do not hesitate to contact me, otherwise please sign, and return a copy of this proposal as your authorization to proceed with the work and your acceptance of this proposal. If you do not sign the proposal but provide verbal authorization to proceed with the work, it is our understanding that you have accepted this proposal as written.

Sincerely,

Michael Parolini, SE
For Buehler Engineering, Inc.
mparolini@buehlerengineering.com

Accepted:

Nick Panofsky
For MNS Engineers, Inc.

Date

TJC and ASSOCIATES, INC.

Structural Engineering

SCADA

Electrical Engineering

Instrumentation

Controls

Control Systems Programming

Concord Office:
2300 Clayton Road
Suite 1450
Concord, CA 94520
p 925.357.2676

Oakland Office:
1111 Broadway
Suite 300
Oakland, CA 94607
p 510.251.8980

Tampa Office:
501 E Kennedy Blvd
Suite 1400
Tampa, FL 33602
p 813.331.5044

Mailing/Remittance:
TJC and Associates, Inc.
P.O. Box 70304
Oakland, CA 94612

f 800.948.5604

www.tjcaa.com

January 9, 2026

Mr. Nick Panofsky, PE
Vice President – Water Resources
MNS Engineers, Inc.
811 El Capitan Way, Suite 130
San Luis Obispo, CA 93401

Subject: PSMCSD Pajaro - Sunny Mesa – Springfield Area Regional Consolidation Project
Instrumentation and Controls Engineering Services
(TJCAA Project No. 125077)

Nick:

The purpose of this letter is to provide a scope for Instrumentation and Controls (I&C) engineering services as requested by MNS Engineers, Inc. (MNS) for the Pajaro/Sunny Mesa Community Services District (PSMCSD/District) Pajaro - Sunny Mesa – Springfield Area Regional Consolidation Project (Project). This letter summarizes the Scope of Work that will be provided by TJC and Associates, Inc. (TJCAA). Please review, and if acceptable, this letter may serve as the basis for a Scope of Work to be included in an agreement for engineering services.

Project Understanding

MNS has been retained by the District to provide engineering services for the consolidation of three public water systems owned and operated by the District: Pajaro Water System (PWS), Sunny Mesa Water System (SMWS), and Springfield Water System (SWS). Upon consolidation, the three systems will be combined into a single water system, with each service area designated as a separate pressure zone. The consolidated system will utilize existing infrastructure where feasible, along with new facilities to interconnect the systems and provide water service to the North of Moss Landing area.

The project will be delivered in two phases, designed in parallel, with each phase issued as a separate design package. Key project elements necessary to achieve the consolidation for each phase include:

- Phase 1:
  - Construction of an Iron/Manganese Water Treatment Plant at Pajaro Well No. 1.
  - Installation of approximately 12 miles of transmission and distribution pipelines including associated appurtenances such as valves, fire hydrants, blow off valves, air release valves, and water sampling stations.
  - Service connections to 88 existing residences in the North of Moss Landing Area.
  - One Transmission Booster Pump Station.
  - Modifications to the existing PWS facilities, including fill modifications to the storage tanks and rehabilitation of one of the 600,000-gallon storage tanks.

- Abandonment of excess infrastructure in the North of Moss Landing Area.
- Demolition of existing Springfield Mobile Home Park Well and Sunny Mesa Wells No. 1 and No. 2.
- Replacement of water meters in the PWS and SMWS to radio-read meters.

➢ Phase 2:

- Water Storage Facility for the Bluff/Jensen Zone, with Chemical Dosing facilities and a booster pump station to maintain pressure in the Bluff/Jensen Zone.

Bid period assistance and engineering services during construction will be limited to Phase 1 of the project.

To support this effort, MNS has retained TJCAA to provide Instrumentation and Controls (I&C) engineering services during design, bidding, and construction. TJCAA's scope will include preparation of I&C plans, specifications, and construction cost estimates, building upon the SCADA Technical Memorandum (April 8, 2025) and 30% design plans and specifications table of contents (September 2025) previously prepared.

I. Scope of Work

Task 1. Phase 1 Design

Task 1.1. Design Submittals

TJCAA will provide engineering and drafting services necessary to define the elements of the Project that are included within its Scope of Work. Specific elements are defined above in the Project Understanding. Submittals will be provided to MNS in the following packages:

- 60% design package
- 90% design package
- 100% design package
- Final design package

Each design package will incorporate appropriate District comments based on previous submittals and will update presented information consistent with the level of completion for that submittal. Design submittals will include elements defined in the table below.

Deliverables Included in Submittals				
Submittal	Design Drawings[1] (PDF)	Specs[2] (PDF)	Engineer's Opinion of Probable Cost (PDF)	Signed Copies[3] (PDF)
60%	✓[1]		✓	
90%	✓[1]	✓	✓	
100%	✓[1]	✓	✓	
Final	✓[3]	✓	✓	✓
Notes:				

1. Drawings will be provided in half-size (11 x 17) PDF format and delivered via e-mail.
2. Specifications will be provided in 6-digit CSI MasterFormat using MS-Word and delivered via e-mail.
3. Drawings will be provided in full-size (22 x 34) PDF format, electronically stamped and signed and delivered via e-mail.

Task 1.1.1. Anticipated List of Specifications

Instrumentation and Controls:

- *40 61 00 – Process Control Systems General Provisions*
- *40 61 93 – I/O List*
- *40 61 96 – Process Control Descriptions*
- *40 63 00 – Control System Equipment*
- *40 66 43 – Wireless Network Systems*
- *40 67 00 – Control System Equipment Panels and Racks*
- *40 70 00 – Field Instrument Index*
- *40 71 00 – Flow Measurement*
- *40 72 00 – Level Measurement*
- *40 73 00 – Pressure Measurement*
- *40 74 00 – Temperature Measurement*
- *40 75 00 – Process Liquid Analytical Measurement*
- *40 80 00 – Commissioning of Process Control Systems*

*Task 1.1.2. Sheet List***

Instrumentation and Controls

- *I-001 Symbols and Legend - Process & Instrumentation Diagram*
- *I-002 Control and Networking Legend and Abbreviations*
- *I-003 Instrumentation Standard Details*
- *I-004 Loop Diagrams - Process & Instrumentation Diagram*
- *I-005 Control Panel Power Distribution*
- *I-006 Network Communication Diagram*
- *I-007 Panel Elevations*
- *I-201 Pajaro Well No. 1 - Process & Instrumentation Diagram*
- *I-301 Pajaro Tank Water Production - Process & Instrumentation Diagram*
- *I-302 Pajaro Tank Booster Pump - Process & Instrumentation Diagram*
- *I-401 Transmission Booster Pump Station - Process & Instrumentation Diagram*
- *I-601 Sunny Mesa Tank Site - Process & Instrumentation Diagram*
- *I-901 Springfield Water Production - Process & Instrumentation Diagram*
- *I-902 Springfield Booster Pumps - Process & Instrumentation Diagram*

***Sheet list is based on the 30% Plans dated September 2025*

Task 1.2. Project Management

TJCAA will provide Project Management associated with its elements of the project, including but not limited to the following:

- Coordination with MNS throughout the duration of the project as well as Quality Assurance/Quality Control (QA/QC) activities for project deliverables.
- Management of team activities consistent with the direction from MNS to meet

Project schedule and budgets.

Task 1.3. Project Meetings

TJCAA personnel anticipate attending three (3) Project design review meetings. Meetings are assumed to be attended virtually.

TJCAA personnel anticipate participating in three (3) teleconference calls for Project coordination. These calls will be in addition to one-on-one phone calls with members of the design team.

Task 2. Phase 2 Design

Task 2.1. Design Submittals

TJCAA will provide engineering and drafting services necessary to define the elements of the Project that are included within its Scope of Work. Specific elements are defined above in the Project Understanding. Submittals will be provided to MNS in the following packages:

- 60% design package
- 90% design package
- 100% design package
- Final design package

Each design package will incorporate appropriate District comments based on previous submittals and will update presented information consistent with the level of completion for that submittal. Design submittals will include elements defined in the table below.

Deliverables Included in Submittals				
Submittal	Design Drawings[1] (PDF)	Specs[2] (PDF)	Engineer's Opinion of Probable Cost (PDF)	Signed Copies[3] (PDF)
60%	✓[1]		✓	
90%	✓[1]	✓	✓	
100%	✓[1]	✓	✓	
Final	✓[3]	✓	✓	✓

Notes:
4. Drawings will be provided in half-size (11 x 17) PDF format and delivered via e-mail.
5. Specifications will be provided in 6-digit CSI MasterFormat using MS-Word and delivered via e-mail.
6. Drawings will be provided in full-size (22 x 34) PDF format, electronically stamped and signed and delivered via e-mail.

Task 2.1.1. Anticipated List of Specifications

Instrumentation and Controls:

- *40 61 00 – Process Control Systems General Provisions*
- *40 61 93 – I/O List*
- *40 61 96 – Process Control Descriptions*
- *40 63 00 – Control System Equipment*
- *40 66 43 – Wireless Network Systems*

- *40 67 00 – Control System Equipment Panels and Racks*
- *40 70 00 – Field Instrument Index*
- *40 71 00 – Flow Measurement*
- *40 72 00 – Level Measurement*
- *40 73 00 – Pressure Measurement*
- *40 74 00 – Temperature Measurement*
- *40 75 00 – Process Liquid Analytical Measurement*
- *40 80 00 – Commissioning of Process Control Systems*

*Task 2.1.2. Sheet List***

Instrumentation and Controls

- *I-001 Symbols and Legend - Process & Instrumentation Diagram*
- *I-002 Control and Networking Legend and Abbreviations*
- *I-003 Instrumentation Standard Details*
- *I-004 Loop Diagrams - Process & Instrumentation Diagram*
- *I-005 Control Panel Power Distribution*
- *I-006 Network Communication Diagram*
- *I-007 Panel Elevation*
- *I-501 Bluff-Jensen Pump Station and Storage - Process & Instrumentation Diagram*

***Sheet list is based on the 30% Plans dated September 2025*

Task 2.2. Project Management

TJCAA will provide Project Management associated with its elements of the project, including but not limited to the following:

- Coordination with MNS throughout the duration of the project as well as Quality Assurance/Quality Control (QA/QC) activities for project deliverables.
- Management of team activities consistent with the direction from MNS to meet Project schedule and budgets.

Task 2.3. Project Meetings

TJCAA personnel anticipate attending three (3) Project design review meetings. Meetings are assumed to be attended virtually.

TJCAA personnel anticipate participating in three (3) teleconference calls for Project coordination. These calls will be in addition to one-on-one phone calls with members of the design team.

Task 3. Phase 1 Bid Period Assistance

TJCAA engineers will be available to answer questions and clarify issues associated with aspects of the design within its Scope of Work. For budgeting purposes, TJCAA has included one (1) I&C RFI associated with the design elements within its Scope of Work.

A representative of TJCAA is not anticipated to be required at the pre-bid meeting and/or site walk-through. TJCAA does not anticipate any involvement in bid evaluations; however, TJCAA will be available for consultation on an as-needed basis.

Task 4. Phase 1 Engineering Services During Construction (ESDC)

Task 4.1. Construction Meetings

TJCAA personnel do not anticipate attending the pre-construction meeting and subsequent periodic construction meetings. For budgeting purposes, TJCAA has included one (1) I&C observational field visit associated with the design elements within its Scope of Work.

Task 4.2. Requests for Information

TJCAA personnel will provide written answers to Requests for Information (RFIs) including sketches and/or drawing revisions as appropriate. For budgeting purposes, TJCAA has included five (5) I&C RFIs associated with the design elements within its Scope of Work.

Task 4.3. Submittals

TJCAA personnel will review shop drawings and catalog data and other materials that the contractor is required to submit in accordance with Contract Documents. For budgeting purposes, TJCAA has included eight (8) I&C discipline-specific Submittals, with a 35% resubmission rate, within its Scope of Work.

Task 4.4. Construction Change Orders

TJCAA personnel will provide written answers to Construction Change Orders, including sketches and/or drawing revisions as appropriate. For budgeting purposes, TJCAA has included one (1) I&C Change Order associated with the design elements within its Scope of Work.

Task 4.5. Record Drawings

At the completion of the construction phase, TJCAA will incorporate mark-ups provided by MNS into the design drawings to reflect changes made in the field. It is anticipated that one set of clear mark-ups will be provided by MNS and all necessary information for the development of Record Drawings will be included in said mark-ups.

Task 5. SCADA and Telemetry Master Plan (OPTIONAL)

Task 5.1. SCADA Master Plan

As an Optional Task, if authorized by MNS, TJCAA will prepare a SCADA Master Plan in the form of a Technical Memorandum (TM) to establish SCADA design guidelines and feasibility for establishing reliable and secure communications between each site. The TM will include the following:

- Executive Summary
- SCADA Hardware Requirements and Recommendations
- SCADA Software Requirements and Recommendations
- Standard SCADA Control Panel Fabrication Requirements
- Communication and Media
- SCADA and Telemetry design criteria (bullet list)
- Preliminary Control Loop Descriptions

The TM will include computer simulation of a radio path feasibility using unlicensed spread spectrum radios operating in the 900 MHz band. Feasibility of cellular communications at the remote sites will also be reviewed.

Task 5.2. SCADA Radio Path Field Survey (Optional – Allowance)

As an Optional Task, if authorized by MNS, TJCAA and subconsultant will perform a field radio path survey to physically confirm feasibility of radio communications between all sites. Work will include site visits; establishing antennae type (directional or omni-directional), antennae polarization, and antennae pole heights; radio power and frequency requirements; and recommendations for radio installations.

Due to the uncertainty regarding site conditions, communication requirements, and system controls, an allowance figure has been included for this optional task. The allowance amount will be used (if authorized) as the basis for obtaining a quotation from a radio subconsultant. However, the allowance figure will not be exceeded without written approval from the MNS Project Manager. If the allowance figure is larger than required, the excess funds shall not be spent.

II. Assumptions

The Scope of Work detailed above is based on TJCAA's current understanding of the project requirements and is based on the following assumptions.

1. General

- Copies of record drawings of the facilities will be provided to TJCAA for reference.
- Design documents for electrical, civil, mechanical, and other disciplines will be completed by MNS.
- SCADA design will be based on the general design criteria outlined in the PSMS SCADA Final TM prepared by MNS (dated April 8, 2025). Communication scheme will be based on wireless communications; use of fiber optic cables installed with the pipelines is assumed cost prohibitive.
- As outlined in the TM: Control panel hardware and software standards will be based on Allen Bradley current standard offerings; Existing radio communication between the District office and Sunny Mesa Well site and Sunny Mesa Tank site will be reused; Existing cellular communication between the District office and Springfield site will be reused; New radio communication between Pajaro Wells No. 1 and 2, Pajaro Tank site, Transmission Booster Station, Bluff-Jensen pump station and the District office will be provided.
- It is assumed that if Optional Task 5.1 is not authorized, radio or cellular point-to-point communications are feasible between each site and the District's main office. Analysis and design or repeater stations or peer to peer schemes will not be required. Additional effort to establish SCADA and radio system performance is only included as part of Optional Tasks 5.1 and 5.2.
- If Optional Task 5.1 is authorized, TJCAA will develop a system-wide SCADA and Telemetry planning document for interconnecting all sites with a standard hardware, software and communications scheme. Communication feasibility will be determined using computer simulation software. However, simulation software does not guarantee acceptable radio system performance. TJCAA will follow industry standard approaches

to establish feasibility but additional effort during construction may be required. Such additional effort is not included in the TJCAA Scope of Work.

- If Optional Task 5.2 is authorized, radio system performance will be established and will form the basis for the SCADA design strategy.
- P&IDs will be based on the District's tagging approach and applicable ISA standard.
- Drawings will be provided in MNS's standard format, symbols, and legends developed using AutoCAD. 30% I&C drawings will be provided by MNS in ".DWG" format for editing by TJCAA.
- The title block will be provided by MNS in AutoCAD format suitable for use as a Reference File.
- Design will comply with the requirements of the 2025 California Building Code.
- Design fees quoted assume that the design portion of the project will commence and be completed in 2026.
- ESDC fees quoted assume that construction will commence and be completed in 2027.
- District standards and preferences for materials and construction methods are well defined and will be provided to TJCAA engineers for incorporation into the design deliverables.
- Specifications will be based on TJCAA Guide Specifications format and structure based on CSI MasterFormat, 50 Division standard, developed in MS-Word and will be provided to MNS via e-mail.
- Drawings will be provided to MNS in electronic format for publishing and distribution by MNS. Printing costs are not included in this proposal.

2. Items that are NOT included within the Scope of Work

- Cyber Security
- Confirming radio path feasibility, radio path survey, and SCADA planning requirements unless Optional Tasks 5.1 and 5.2 are authorized as described above.
- Bid period assistance and engineering services during construction for the Bluff-Jensen site, Phase 2 of the project.
- In-person attendance at kick-off and progress meetings by TJCAA Engineering Staff during design.
- Engineering services in support of miscellaneous electrical, civil, mechanical, and, piping, etc.
- Assistance with obtaining construction permitting.
- Construction inspections, including but not limited to Special Inspections.
- Supervision of construction.
- Maintaining and/or updating Construction Drawings and documents with changes made during construction.

III. Additional Services

No “Additional Services” are anticipated at this time. Should “Additional Services” be identified, TJCAA will perform such “Additional Services” only if mutually agreed to in writing by MNS and TJCAA.

IV. Schedule

TJCAA will coordinate the design schedule with Client before the start of design. TJCAA has assumed that:

- Design begins and is completed in 2026
- ESDC begins and is completed in 2027

V. Consultant’s Compensation

Based on the above understanding, scope, assumptions, and our conversations and e-mails with MNS, we propose to provide engineering services on a time and materials basis with the following upper limits.

Tasks	Fee
Task 1 – Phase 1 Design	$82,900
Task 2 – Phase 2 Design	$29,700
Task 3 – Phase 1 Bid Period Assistance	$3,900
Task 4 – Phase 1 ESDC	$40,000
Task 5.1 – SCADA Master Plan (Optional)	$30,000
Task 5.2 - SCADA Radio Path Field Survey (Optional – Allowance)	$40,000
TJCAA Total ➔➔	**$226,500**

Unless otherwise noted within this Scope of Work, dollars may be shifted from one task or sub-task without written notification to MNS. TJCAA will invoice services monthly.

TJCAA looks forward to working with MNS Engineers, Inc. on this project. Please feel free to call me at (925) 357-2676 should you have any questions or require any additional information.

Sincerely,

Jacqueline Arama, PE, PMP
President
TJC and Associates, Inc.

file: 125077 - 1.02

February 2, 2026 Project No. 25006-M93-C31

Mr. Randal Egner
MNS Engineers
201 N. Calle Cesar Chavez, Suite 300
Santa Barbara, CA 93103

Subject: **Opinion of Probable Cost**
Post-Report/Construction Phase Observation & Testing Services
PSMCS Regional Water System Consolidation Project
North Monterey County, California

Dear Mr. Egner,

As requested, Pacific Crest Engineering is pleased to respond to your request to prepare an Opinion of Probable Costs (OPC) regarding post-report design level and construction phase testing and inspection services in conjunction with the construction of the PSMCS Regional Water System Consolidation Project in Northern Monterey County, California. As you know, Pacific Crest Engineering prepared a design phase geotechnical investigation report for this project and we look forward to continuing on to the construction phase of the project.

Based on our discussions with MNS Engineers, it is our understanding that the planned improvements will include the following:

- Demolition and site improvements at Iron/Manganese Water Treatment Plant at Pajaro Well No. 1.
- Approximately 21,600 lf of transmission pipeline including associated appurtenances such as valves, fire hydrants, blow off valves, air relief valves, etc.
- Transmission Booster Pump Station including site improvements.
- Modifications to the existing PWS including fill improvements to the PWS storage tanks.
- Supervisory Control and Data Acquisition (SCADA) Platform, and associated instrumentation, communication facilities, and controls at the new and existing facilities.
- Rehabilitation of 600,000-gallon welded steel water storage tank consisting of interior/exterior recoating and appurtenance repair/replacement.
- Destruction of two existing wells in the SMWS.
- Radio read water meter replacements int eh PWS and SMWS.
- Additional 6-inch parallel PVC pipelines on Jensen Road.

This OPC is based upon our understanding of the project scope familiarity with the project, including preparation of a geotechnical report prepared by our firm dated March 28, 2025, and our discussions with you.

SCOPE OF WORK

Based on our discussions with you, it is our understanding that Pacific Crest Engineering will provide post-report design services, construction phase observation and testing, and special inspection services related to soils, aggregate, reinforced concrete, structural masonry, and/or other testing services as required by the project

specifications. Testing will be performed in accordance with the appropriate industry standards and specified ASTM and/or AASHTO test procedures. We anticipate the following scope of services for this project:

Earthwork

- Geotechnical review and consultation during final design and construction phases
- Geotechnical review of grading and foundation plans for conformance with geotechnical recommendations
- Project administration and management
- Attend project meetings and provide consultation and support as needed
- Geotechnical review of material submittals
- Geotechnical consultation and support during earthwork operations
- Observe and perform in-place density testing of engineered fills, subgrade and finished grade, and utility trenches.
- Observe footing excavations for conformance with project plans and specifications
- Perform maximum density laboratory testing of soil and aggregate materials
- Perform additional laboratory testing as required by project specifications
- Prepare daily field reports summarizing the results of daily earthwork observation and testing activities.

Special Inspection/Material Testing Services

- Periodic inspections for steel reinforcement, anchors and bolting
- Provide sampling and testing during placement of structural concrete and non-shrink grout, including slump, air entrainment and temperature tests
- Casting, transporting and laboratory testing of compressive strength concrete and grout specimens
- Perform/coordinate additional testing and inspections as may be required by the project specifications or requested by the Client
- Preparation of daily field reports summarizing the results of our daily observation and testing activities
- Engineering review and technical support
- Prepare and submit results of laboratory testing results

Project Administration, Engineering Analysis and Reports

- Provide technical direction and geotechnical recommendations as requested to address emerging field issues
- Attend weekly project meetings and provide geotechnical consultation and engineering support as requested
- Preparation of reports, letters and progress reports as required, documenting our recommendations, observations and test results
- Project administration and management
- Project coordination and scheduling

Our work scope and estimate of fees as provided herein specifically excludes the following:

- Welding inspection services. We can provide a quote for these services upon request.
- Asphalt coring equipment to obtain core samples for HMA testing and laboratory density testing of asphalt core samples. Relative compaction will be determined using a nuclear gauge and comparing the in-place density with the Theoretical Maximum Density value provided by the supplier or determined in our laboratory.

- Aggregate verification testing of HMA or Class 2 aggregate baserock. We can provide a quote for this service upon request.
- Other specialty laboratory testing or special inspections to verify HMA, AB or concrete material properties. We can provide a quote for these tests upon request.

OPINION OF PROBABLE COSTS

Construction is expected to have a duration of approximately 24 months. We have also assumed the work is to be performed as part of a public works project. This requires compliance with public works laws requiring payment of prevailing wages and maintenance of certified payrolls, among others.

Based upon the information provided by your office, we have developed an estimate of fees based on assumed onsite times. However, the exact services shown and the scope of each task may change in reaction to the project schedule, changes in the design, construction issues, or other issues outside of our control which may occur. This includes weather issues, means and methods for completion of the work chosen by the Contractor, unforeseen site conditions, etc. In conjunction with a varying scope and extent of our services, the fees for our services may be less than or greater than those estimated in this OPC. The Client will only be charged for the actual services performed, of course. **Please note that the durations assumed are based on the 30% DD drawings without the benefit of a detailed construction schedule. The durations assumed in this OPC can very significantly with changes in the design.**

All work will be billed on a time and materials basis in accordance with our 2026 Standard Fee Schedule attached herewith. Subject to variation among items, our Opinion of Probable Costs to perform the testing and inspection described herein is as follows:

OPINION OF PROBABLE COST - POST-REPORT SERVICES (DESIGN PHASE)

PROJECT NAME: **North of Moss Landing Water Consolidation Project**
DATE: February 2, 2026

PREVAILING WAGE PROJECT

CATEGORY/PERSONNEL	HOURS			RATE		TOTAL
Geotechnical Consultation, Meetings, Plan/Submittal Review						
Principal Engineer	16	hours	@	240	$/hour	**$3,840**
Associate Engineer	24	hours	@	225	$/hour	**$5,400**
5% Escalation						**$462**
10% Contingency						**$970**
Total Estimated Fees.....						**$10,672**

OPINION OF PROBABLE COST - CONSTRUCTION PHASE SERVICES

PROJECT NAME: **North of Moss Landing Water Consolidation Project**
DATE: February 2, 2026

PREVAILING WAGE PROJECT

CATEGORY/PERSONNEL				HOURS			RATE		TOTAL
Observation and Testing of Engineered Fill, Subgrade, Finish Grade and Utility Trenches									
Site Grading Observation & Testing	50	days @	4	hours/day	@	160	$/hour		**$32,000**
Utility Trench Testing	120	days @	4	hours/day	@	160	$/hour		**$76,800**
Footing Observations	10	days @	4	hours/day	@	160	$/hour		**$6,400**
Associate Engineer			20	hours	@	225	$/hour		**$4,500**
Field Technician Supervisor			8	hours	@	160	$/hour		**$1,280**
Laboratory Analysis									
Compaction Curves	4	@	340	$/Curve					**$1,360**
AB	2	@	340	$/Curve					**$680**
Special Inspections, Concrete and Masonry									
Reinforcing Steel Inspections	40	hours			@	175	$/hour		**$7,000**
Structural Concrete Placement Inspections	10	days @	4	hours/day	@	160	$/hour		**$6,400**
Pickup/Lab Delivery Charge	20	hours			@	160	$/hour		**$3,200**
Compression Strength Testing	10	sets			@	375	$/ea		**$3,750**
Associate Engineer			8	hours	@	225	$/hour		**$1,800**
Field Technician Supervisor			8	hours	@	160	$/hour		**$1,280**
Project Administration, Reports & Project Coordination									
Principal Engineer			24	hours	@	240	$/hour		**$5,760**
Associate Engineer			24	hours	@	225	$/hour		**$5,400**
Field Technician Supervisor			40	hours	@	160	$/hour		**$6,400**
Clerical/Certified Payroll Reporting			80	hours	@	115	$/hour		**$9,200**
5% Escalation									**$8,201**
10% Contingency									**$18,141**
Total Estimated Fees.....									**$199,552**

We therefore estimate our fees for the services two separate budget items outlined above will not exceed Two-Hundred, Ten Thousand, Two-Hundred, Twenty-Four Dollars, ($210,224.00), unless additional services are requested or the project duration exceeds the assumed time frames. Requested services that exceed the assumed time frames or scope provided herein will be charged in accordance with our current Standard Fee Schedule.

In performing his or her construction observation visits to the jobsite, the Consultant shall have no control over nor responsibility for the Contractor's means, methods, sequence, techniques or procedures in performing the Work. These are solely the responsibilities of the Contractor, who is responsible for complying with all health and safety precautions as required by any regulatory agencies.

We look forward to working with you on this project. Should you have any questions regarding this OPC, we can be reached at (831) 722-9446 or elizabeth@pacengineering.net.

Sincerely,

PACIFIC CREST ENGINEERING INC.

Chris Johnson, PE
Principal Civil Engineer
CE 82630, Expires 9/30/26