

AGENDA

**ENGINEERING COMMITTEE MEETING
LEUCADIA WASTEWATER DISTRICT**

Tuesday, June 4, 2024 – 9:00 a.m.
1960 La Costa Avenue, Carlsbad, CA 92009

1. **Call to Order**
2. **Roll Call**
3. **Public Comment**
4. **Diana Pump Station Final Design Services**
Authorize the General Manager to execute Amendment No. 1 to Task Order No. 5 to the Engineering Design Services Agreement with Water Works Engineers for final design services for the Diana Pump Station Upgrade Project in an amount not to exceed \$121,351.
(Pages 2-19)
5. **Information Items**
6. **Directors' Comments**
7. **General Manager's Comments**
8. **Adjournment**

MEMORANDUM

DATE: May 30, 2024
TO: Engineering Committee
FROM: Paul J. Bushee, General Manager 
SUBJECT: Diana Pump Station Upgrade Project – Final Design Services

RECOMMENDATION:

Staff requests that the Engineering Committee recommend that the Board of Directors:

1. Authorize the General Manager to execute Amendment No. 1 to Task Order No. 5 to the Engineering Design Services Agreement with Water Works Engineers for final design services for the Diana Pump Station Upgrade Project in an amount not to exceed \$121,351.
2. Discuss and take other action as appropriate.

BACKGROUND:**Tactical Goal: Infrastructure & Technology / Diana Pump Station Upgrade**

The Asset Management Plan (AMP) is one of three Leucadia Wastewater District (District) cornerstone documents and is typically updated every 5 years. One of the primary functions of the AMP is to identify Capital Improvement Program projects that are necessary to keep the District's infrastructure in good working order with the overall goal of replacing infrastructure before a failure occurs.

The 2019 AMP Update recommended that the District complete a Pump Station Condition Assessment in order to identify necessary pump station improvements within the next 5 years. In March 2020, Infrastructure Engineering Corporation (IEC) completed the District's 2019 Pump Station Condition Assessment. IEC was the District's previous as needed design engineer. IEC's assessment of the Diana Pump Station (Diana P. S.) included a recommendation for a new dedicated site not located in the public right of way that would allow the relocation of the existing electrical equipment and allow the installation of an onsite permanent emergency generator. Although the existing electrical equipment is in good condition, it does not meet the District's operational standards and is located on a SDGE power pole which is prone to vehicular strikes and vandalism.

DISCUSSION:

In October 2023, Water Works Engineers (Water Works) was issued a task order to conduct the Preliminary Design Report (PDR) for the Diana P. S. Project in order to establish the scope and parameters of the project's final design. In January 2024, Water Works completed the PDR which supported IEC's recommendation that the District acquire a new easement for the electrical equipment and generator. Staff and Water Works will provide a detailed overview at the upcoming meeting. The PDR is available for review upon request.

Since the easement has now been attained, the District can now proceed with the final project design.

Correspondingly, staff requested a proposal from Water Works. Staff has negotiated the scope of work and believes it meets the objectives of the project. The proposal had been attached for your review and includes all design related services through project bidding.

Water Work's proposed fee for design services is \$121,351 which includes services to support project design, such as structural engineering design services. The preliminary construction cost estimate for this project is \$1.091M, therefore, the proposed design fee represents a soft cost loading of 11.1% of construction. This fee is well within industry standards and, based on the complexity of the project, staff believes it is fair and reasonable.

FISCAL IMPACT:

The Fiscal Year 2024 Capital Budget includes a carryover of \$516K which will cover the Diana P. S. Project design. Therefore, the budget contains sufficient funds to complete the project design and commence construction. Staff plans to request additional funding for this project as part of the Fiscal Year 2026 Budget process to complete all project work.

ier:PJB

Attachment

Mr. Ian Riffel
Leucadia Wastewater District
1960 La Costa Avenue
Carlsbad, CA 92009

5/13/2024

RE: Engineering Services Proposal for Diana Pump Station Rehabilitation Project

Dear Mr. Riffel,

Water Works Engineers (Water Works) is pleased to submit to Leucadia Wastewater District (District) a proposal for Amendment No. 1 for Final Design Engineering Services to Task Order No. 5 Diana Pump Station Rehabilitation Project.

In January 2024, Water Works Engineers submitted a final Preliminary Design Report (PDR) for the pump station rehabilitation. Major improvements listed in the PDR include electrical equipment a new standby generator to be relocated to the new permanent easement site abutting Diana Street, procured in April 2024.

The attached Scope of Services describes the specific tasks and deliverables that Water Works will perform for this Project based on the recommendations from the PDR along with recent discussions and clarifications from the District. Please contact me at 619-833-6955 should you have any questions or need further information.

Sincerely,

Tim Lewis, PE
Project Manager



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619-919-3880 (Cell)
timl@wwengineers.com / www.wwengineers.com

Scope of Engineering Services

Water Works Engineers, LLC. and Leucadia Wastewater District

Amendment No 1 for the Final Design of Diana Pump Station Rehabilitation Project Task Order No. 5

This Scope of Engineering Services is issued by Leucadia Wastewater District (herein referred to as CLIENT or District) and accepted by Water Works Engineers LLC (herein referred to as ENGINEER) pursuant to the mutual promises, covenants, and conditions contained in the most current As Needed Engineering Design Services Agreement between Leucadia Wastewater District and Water Works Engineers LLC.


Project Description

The project description and specifics are defined in the following table:

Location	Corner of Diana Street and HWY-101 in Encinitas (33° 4'0.53"N, 117°18'12.07"W).
Facilities	Existing Diana Pump Station within City of Encinitas Right of Way
Project Objectives	<ol style="list-style-type: none"> 1. Demolition of existing electrical equipment 2. Installation of new electrical equipment and standby generator in relocated location off of the road in new permanent easement
Existing Documentation	<ol style="list-style-type: none"> 1. Preliminary Design Report (WWE, Jan 2024) 2. As-builts and easement information
Project Background	<ol style="list-style-type: none"> 1. 1963 Original Construction of Smith and Loveless Package Lift Station. 2. 1998 Retrofit 3. 2010 Replacement with duplex submersible circular precast wetwell style pump station 4. 2019 Pump Condition Assessment Report identified complete rehabilitation is recommended 5. 2020 minor pump and electrical upgrades 6. 2023 District engaged Water Works for the preliminary design of the pump station rehabilitation
Major Improvements	<p>Per the Preliminary Design Report (WWE, Jan 2024):</p> <p><u>Major General/Structural/Civil Site Work:</u></p> <ul style="list-style-type: none"> • Demolition • New concrete pavement and restored pavement • Sidewalk, curb, and gutter • Bypass pumping • Retaining wall • Screened privacy fencing

	<p><u>Major Electrical, Instrumentation, and Controls</u></p> <ul style="list-style-type: none"> • Diesel Generator • Conduits • Pump replacement • SDGE power meter relocation • SDGE transformer conductor extension to relocated meter
<p>Project Constraints, Design and Sequencing Considerations</p>	<p>Diana Pump Station is an atypical and highly constrained pump station that is entirely located within a public right of way and road.</p> <ul style="list-style-type: none"> • The roadway is narrow, and abuts a driveway and parking for numerous businesses, residences, and a multi-residential complex. • There are many utilities within the roadway and any trenching and excavation work will likely require special detailing. • Significant consideration is required to sequence the work in such a manner to reduce temporary construction impacts to local and through traffic. • The design is highly dependent on favorable and responsive design review information from the City of Encinitas and SDGE that will require very proactive communications and coordination. • Given this pump station project is highly visible and will likely generate strong interest from the Public (and the City of Encinitas), the District should expect to receive many enquiries and comments during the design effort to minimize noise impacts, aesthetics modifications, permanent access, and temporary construction impacts. It is highly recommended that the District be very proactive with public outreach. • All electrical equipment will be relocated and replaced in the new permanent easement. This new location is a very tight and compact site and will require special detailing and design considerations to accommodate: <ul style="list-style-type: none"> ○ 5' AT&T easement that cuts through the site ○ Required min clearances for electrical equipment and maintenance access. Water Works expects very proactive communication with manufacturers will be required. ○ Slide gate ○ HOA pedestrian access gate ○ Privacy screening with noise dampening features ○ Special structural detailing for the electrical panel shade structure ○ Slim retaining walls on two or three sides that must not encroach past the permanent easement ○ Drainage modifications away from the HOA parking lot and into Diana St right of way. • Water Works anticipates significant design effort will be required to optimize the layout of the pump station electrical site to these design constraints and to accommodate likely multiple rounds of SDGE review comments.



Opinion of Probable Construction Cost			Title: Diana Pump Station Rehabilitation Project		
			Computed By: TL		
			Date: 4/16/2024		
	30% Design Opinion of Probable Construction Cost (OPCC)				
	Item		Quantity	Unit	Unit Cost
	General / Structural / Civil Site Work				
					\$112,440
	Mechanical Piping and Valves				
					\$0
	Equipment				
					\$145,440
	Electrical, Instrumentation, Controls				
					\$540,000
	Construction Subtotal				\$797,880
	Recommended Contingencies				
Contingency (Project Risk & Market & Bidding Environment)		20%	\$159,576		
Total				\$958,000	
Mid Point Project Cost Escalation (CY23 to CY26 Dollars)*				\$133,000	
OPCC (CY26 dollars)				\$1,091,000	
* Rounded up to nearest \$1,000. CY23 Base \$ and 4% annualized escalation is compounded until the anticipated mid-point date of construction assuming 6/1/25 to 5/31/27 construction period					

Project Background Figures

Pictures and figures describing the location of the project and the likely improvements are depicted below.

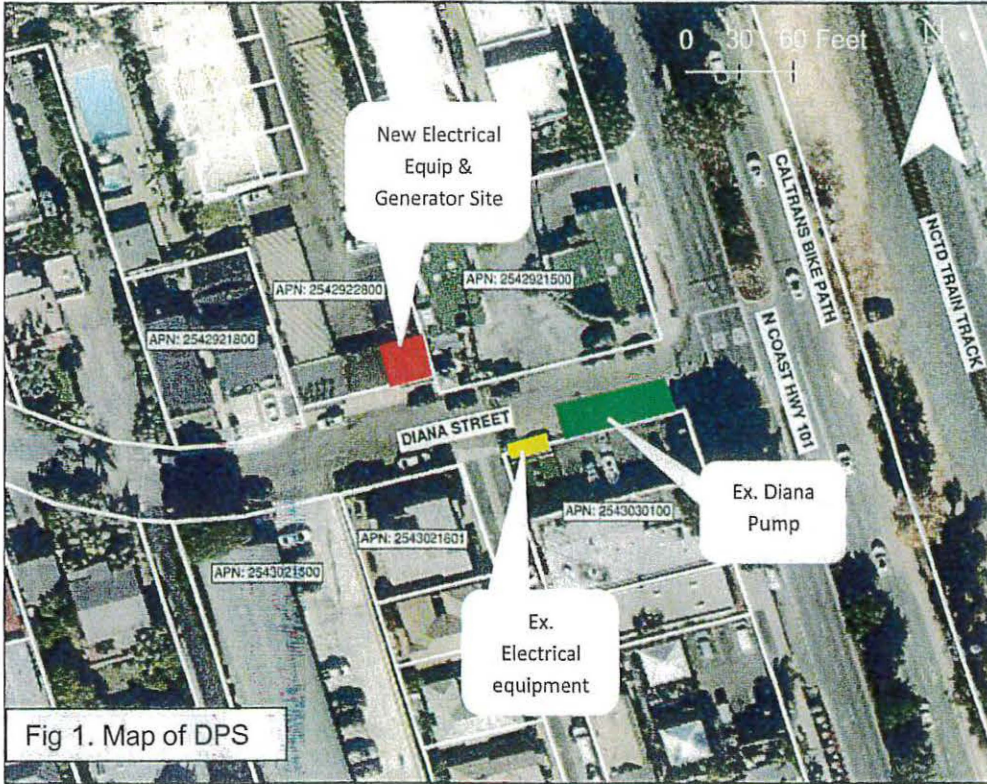


Fig 1. Map of DPS

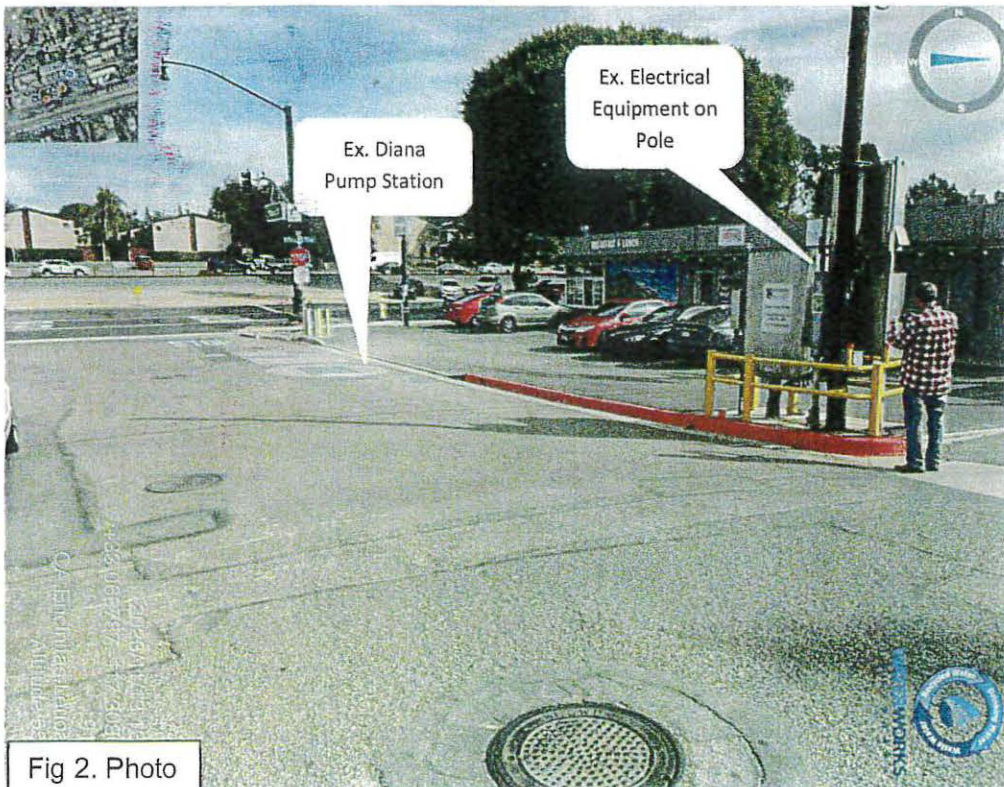


Fig 2. Photo

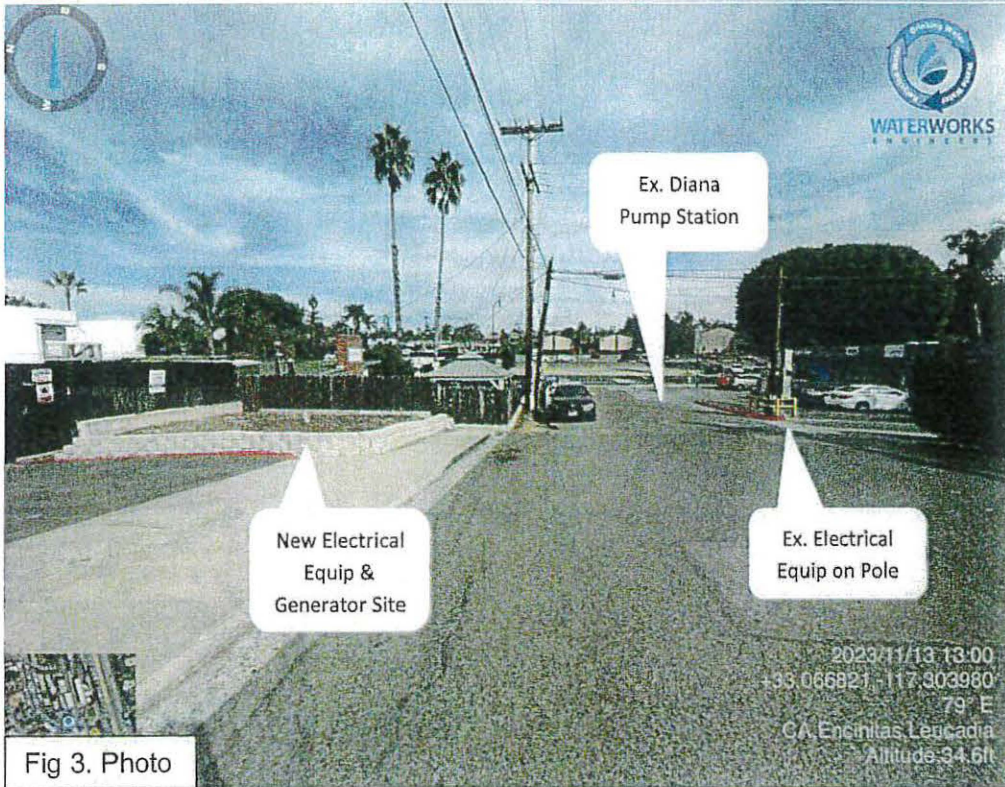


Fig 3. Photo



Fig 4. Example screened pump station site (LWD Encinitas Estates)

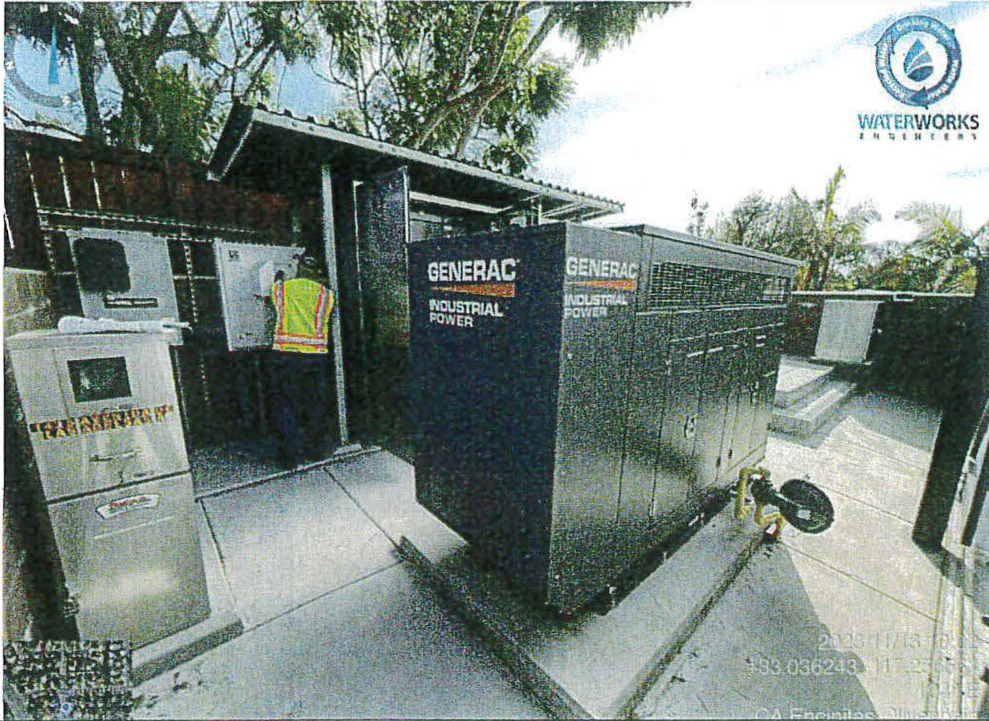


Fig 4. Example improvements within pump station site (LWD Encinitas Estates)

Scope of Services

ENGINEER will provide engineering design services to meet the Project objectives. Services will be split into the following tasks.

Subtasks	Title
3	Final Design
4	As-Needed Permit and Outreach Support Allowance

Subtask 3: Final Design

Under this subtask ENGINEER shall conduct Project Management and Administration, and Final Design services for the improvements listed in the attached Project Preliminary Design Report (Water Works Engineers, January 2024).

3.1 Project Management and Administration

ENGINEER shall monitor and track the project budget and schedule to ensure that all deadlines are met and that the project budget is not exceeded. ENGINEER will coordinate with the project team to address items such as project schedule, project budget, and current issues of concern. ENGINEER shall also monitor progress and coordinate the activities being performed by all sub-consultants associated with the project and submit monthly progress reports to the CLIENT.

- 1) Project Communication and Control
 - a) Coordination of all project team activities
 - b) Communication of project progress and issues to CLIENT staff
 - c) Project schedule maintenance and control of project tasks to keep project schedule on track
 - d) Cost tracking of all engineering activities and active cost control of fees.
- 2) Quality Assurance/Quality Control
 - a) Plan and implement Quality Assurance/ Quality Control Policy with the entire project team
 - b) Ensure QA/QC procedures are being followed at each step in the design process

Meetings	<ul style="list-style-type: none"> • Project Kickoff Meeting (in-person and onsite at RVPS)
Deliverables	<ul style="list-style-type: none"> • Kickoff Meeting Notes (via email) • Monthly Progress Reports (via email)

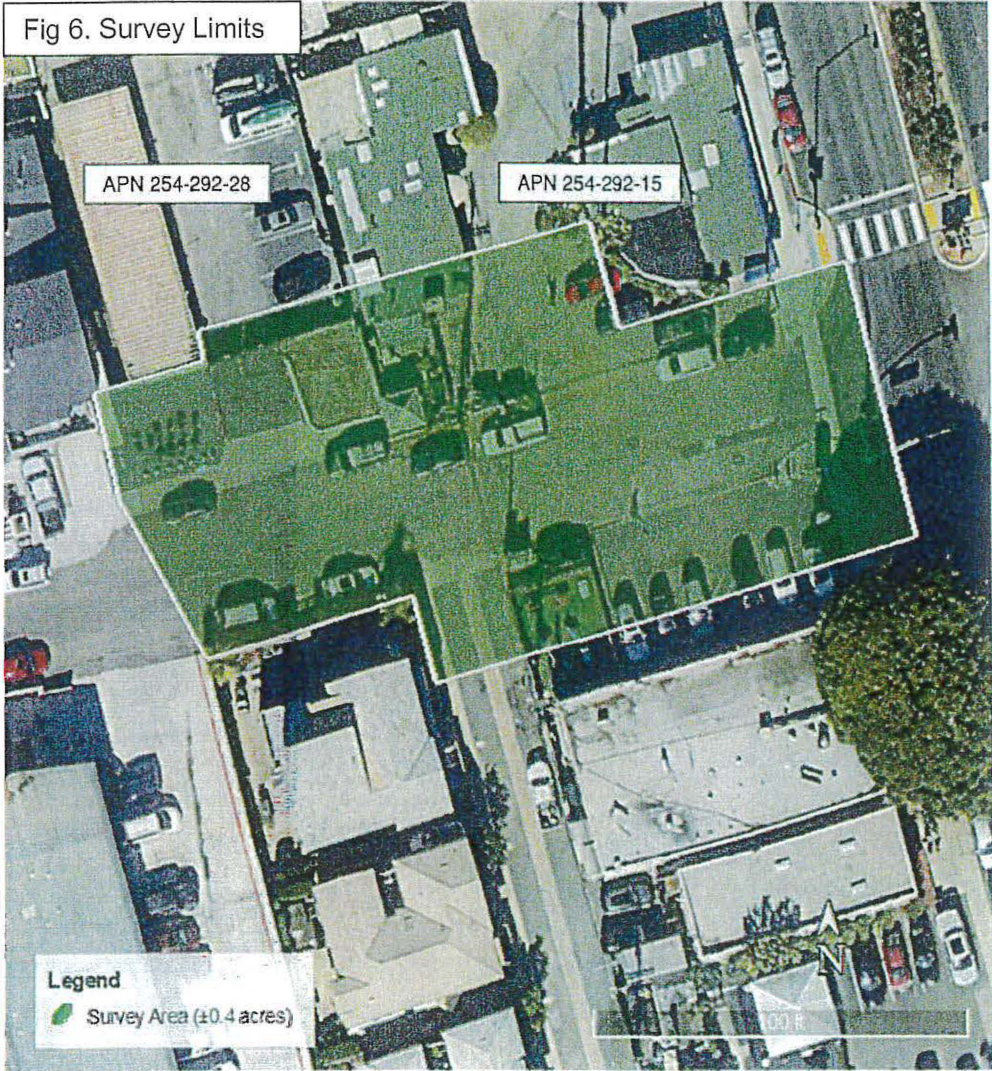
3.2 Surveying Services

Water Works subconsultant CALVADA will perform field surveying and provide a topographical survey with the following elements listed below, to the limits in Figure 6.

- Survey Control: NAVD 88 & NAD 83
- Survey Observations: 25' grid, 1'ft contour intervals, and spot features/elevations
- Utilities: Existing utilities above ground or at grade, flow line inverts of SS/SD utilities, and any existing 811 USA marks.
- 2x Plat and Legals for any Temporary Construction Easement Required



Fig 6. Survey Limits



3.3-3.7 Final Design

ENGINEER shall produce 60%, 90%, 100%, and Bid Document level plans, technical specifications, and cost estimates (PS&E) for the Diana Pump Station rehabilitation. The basis of design for the Project shall be the attached final Preliminary Design Report (WWE January 2024) assuming no structural and mechanical improvements are necessary to the existing pump station aside from rehabilitating or replacing the pumps as is.

The anticipated sheet list by major deliverable is depicted below.

Sheet List	Major Deliverable			
	60%	90%	100%	Bid Docs ¹
Title Sheet	X	X	X	X
General Notes		X	X	X
General Designations		X	X	X

Civil Legend	X	X	X	X
Mechanical Legend		X	X	X
Structural Notes		X	X	X
Structural Notes 2		X	X	X
Architectural Notes		X	X	X
Demo	X	X	X	X
Civil Site	X	X	X	X
Conceptual Bypass Plan	X	X	X	X
Civil Details 1		X	X	X
Civil Details 2		X	X	X
Structural Mechanical Plan	X	X	X	X
Structural Mechanical Section	X	X	X	X
Shade Structure Structural Mechanical & Architectural Plan		X	X	X
Electrical Standard Symbols/Abbreviations		X	X	X
Electrical Notes		X	X	X
Electrical Site Plan	X	X	X	X
One Line Diagram/Elevations	X	X	X	X
PLC Block Diagram	X	X	X	X
Schematic	X	X	X	X
Electrical Details		X	X	X
Wet Well Plan		X	X	X
RTU Panel Sheets	X	X	X	X
Standard Details		X	X	X

¹Changes between 100% and Bid Docs should be minor and limited to clarifications to existing notes and reflect final changes that may be necessitated by permitting or easement procurement requirements that arrive later during the design.

Meetings	<ul style="list-style-type: none"> • 60% Design Review Meeting (in-person) • 90% Design Review Meeting (in-person) • 100% Design Review Meeting (virtual)
Deliverables	<ul style="list-style-type: none"> • 60% PS&E (Elec. pdf & 5x hard copies plans only 11x17) • 90% PS&E (Elec. pdf & 5x hard copies plans only 11x17) • 100% PS&E (Elec. pdf & 5x hard copies plans only 11x17) • Bid Documents PS&E (Elec. pdf)

4. As-Needed Permit and Outreach Support Allowance

Water Works anticipates that moderate as-needed effort associated with outreach, coordination, permits, and applications with project stakeholders may be necessary for the successful execution of the project in parallel with final design services described in Task 3. It is assumed

that the District will serve as the primary point of contact and Water Works will provide technical support where required and participate in discussions, meetings, produce figures and calculations, fill out permit forms, and amend construction documents as required. The estimated number of hours associated with these potential coordination and outreach items are listed below. Given the fluctuating and unquantifiable nature associated with this as-needed work, an allowance amount has been included in the cost proposal and will be billed against on a time and material basis to provide services under this subtask.

San Diego Gas and Electric (SDGE) (assume 40 hours)

Early engagement with and continued responsiveness from SDGE is paramount to the project and is what governs and drives the design and project schedule. It is recommended the District engage SDGE and submit a planning application in April 2024 given lead times may be 1-2 months for customer service. During final design efforts, significant design coordination will be required for the following items:

- Meter service relocation application
- Transformer service application. The current approach that SDGE will permit is unknown, but may be one of the three options below:
 - Option 1: Reuse existing transformer and SDGE extend new overhead conductors across street to an existing joint pole, into a conduit, and into the relocated site. This is the preferred approach.
 - Option 2: Reuse existing transformer and SDGE extend conductors below ground using existing pump station power pole and across the street via conduits and into the relocated site. This is not preferred, as existing power pole may be at risk of vehicular strike.
 - Option 3: SDGE may require a new transformer from the joint pole adjacent to the relocated electrical pump station site. This is the least preferred option, as it will use up valuable footprint for the electrical pump station site.

Water Works has assigned minimal time in this subtask for Local Residents/Businesses/HOA and the City of Encinitas. It is assumed that any additional as-needed support requested by the District would be covered under a future amendment or an increase to the Task 4 allowance.

City of Encinitas (8 hours)

The existing pump station is located in Diana Street (City of Encinitas) right-of-way. Water Works assumes that LWD is a public utility and does not operate under a franchise agreement and is not subject to City of Encinitas Engineering Development Manual Section 2.205 that would require a utility construction permit and development application and "major" right-of-way construction permit. It is assumed that traffic control plans and encroachment permits will be deferred to the Contractor. Work within the roadway would be relatively minor and would entail demolition and installation of conduits. For the work outside of the right of way, it is assumed that the District is exempt from permitting and is not subject to setback requirements, grading requirements, building permits, impervious surface and drainage requirements, erosion and sediment control plans, etc..

Local Residents, Businesses, and HOA (8 hours)

The limited size of the electrical equipment site within the permanent easement limits necessitates the District utilize its standard electrical panel design (see Preliminary Design Reports) that will likely extend above the screened fence and may introduce visual modifications for local residents, businesses, and the HOA. Given the District has examples of Encinitas Estates (and other pump stations), it is anticipated that the District will utilize those locations as examples for the public and will not require simulations and renderings. In addition, it is anticipated that the standby generator may introduce noise during emergency use that local residents are unaccustomed to, but the generator will be critically silenced and it is assumed that a noise study is not needed, consistent with other District pump station sites. The site will be raised from existing grade nominally and very limited modifications to drainage or existing retaining walls will occur, and site will likely match existing conditions with back 2/3rds draining into the driveway and parking lot, and front 1/3rd draining towards the road. It is assumed that no structural modifications to existing walls will be required.

Meetings	<ul style="list-style-type: none"> Virtual (1 hour assumed) or In-Person (3 hours including driving time assumed) on an as-needed basis when requested by the District
Deliverables	<ul style="list-style-type: none"> Calculations, Documents, Figures, and Email communications on an as-needed basis when requested by the District

ASSUMPTIONS

The following assumptions have been made in the development of this Scope of Services. Additional Task Orders would be required to perform any of the work which is not listed in this scope or has been specifically identified as out of scope in the assumptions below:

- CLIENT review periods of submittals: 10-working days
- Not in Scope:
 - Geotechnical Design and/or Field Services
 - It is assumed that any geotechnical information and special design considerations or subsurface preparation requirements (such as groundwater levels, dewatering needs, OSHA soil type classification, etc.) can be attained or interpolated from the original design documents and will not require new geotechnical design investigation nor geotechnical field services. Water Works has only reviewed District-provided gravity main and forcemain plan and profiles and pump station record drawings, and these documents do not currently list geotechnical design considerations.
 - Front Ends & Division “00” Documents (Bidding Requirements, Contract Forms, and Conditions of the Contract)
 - Easement (permanent and temporary construction) Procurement
 - It is assumed that the District will provide correspondence, offer, negotiation and escrow services to draft, finalize, and execute new easements and Water Works Engineers will provide draft/final Plats and Legals only.

- Stakeholder engagement
 - It assumed that the District will lead communication efforts for engaging project stakeholders, and Water Works will assist as needed under Subtask 4.
- Bidding Support & Engineering Services During Construction
 - It is assumed that will be covered in a future amendment.
- Environmental Engineering Services and/or Studies (CEQA)
 - The work entails replacing in place equipment, and relocation of electrical equipment to an abutting site that is currently part of a paved driveway. Trenching and excavation will be very limited, and all disturbances to surface features in a built environment (no native ground, landscaping, trees, or sensitive biological resources) and is not located in the City's sensitive overlays. Consequently, Water Works assumes Class 1 Categorical Exemption and District as lead agency – Although not legally required, the District is recommended to consider producing a Notice of Exemption (NOE) at its discretion to reduce schedule impact risks associated with a public legal challenge to the assumed Class 1 Categorical Exemption.
- APCD permit by District with support from WWE as needed and requested to be added to Task 4.
- Pre-procurement of key electrical equipment
- It is assumed that this project is exempt from California Coastal Commission Coast Development Permit requirements.
- Traffic Control Plans
- Water Quality Analysis and/or Testing
- Potholing
- Funding Procurement Assistance and/or Investigation
- SWPPP (all SWPPP requirements will be met by the Contractor)

SCHEDULE

Estimated Design Schedule ¹	
Description	Estimated Date
SDGE: District engage SDGE with application (WWE to support as needed) and get in project queue which will likely take 1-2 months	April, 2024
Notice to Proceed (signed Agreement)	June 12th, 2024
60% PS&E (assumes SDGE planning/design input has been provided)	November 14th, 2024
90% PS&E (Assumes City of Encinitas planning/design input and initial public outreach comments has been provided)	January 20 th , 2025

100% PS&E (Assumes final City of Encinitas and SDGE planning/design review comments has been provided)	February 20 th , 2025
Bid Docs PS&E	March 30 th , 2025
Construction (18-24 months)	Start: Summer 2025 End: Spring-Summer 2027

¹ Dates provided herein are preliminary, assume a 10-day District review period, and can be expedited or extended as needed to meet Client needs. Additional review time from SDGE and City of Encinitas may be required Work that moves into a different calendar year is subject to rate increase, per Payment section below.

² Detailed schedule after Notice to Proceed can be provided after stakeholder outreach and permit approach is confirmed and coordinated with District and SDGE queue is determined.

PAYMENT

Payment will be on a Time and Expense basis and invoiced in accordance with the Hourly Wage Rates in the following table, per the most current As Needed Engineering Services Agreement. Subtask 3 will be subject to a Not-To-Exceed amount. Subtask 4 is an allowance that is not subject to a Not-To-Exceed amount, and Water Works will notify the District when the budget and hourly assumptions reaches 80% expenditure and the District will provide direction to Water Works.

Hourly Rates and Fees

Billing Categories				
Classification	Title	2023	2024	2025
AA1	Administrative Assistant	\$81.37	\$83.81	\$86.33
AA2	Senior Administrative Assistant	\$114.33	\$117.76	\$121.29
E0	Engineering Assistant	\$114.33	\$117.76	\$121.29
E1	Staff Engineer	\$143.17	\$147.47	\$151.89
E2	Associate Engineer	\$175.10	\$180.35	\$185.76
E3	Project Engineer	\$196.73	\$202.63	\$208.71
E4	Senior PE / Project Manager	\$227.63	\$234.46	\$241.49
E5	Principal Engineer	\$263.68	\$271.59	\$279.74
I1	Field Inspector	\$153.47	\$158.07	\$162.82
I2	Senior Inspector	\$172.01	\$177.17	\$182.49
I3	Supervising Inspector	\$190.55	\$196.27	\$202.15
T1	CADD Tech 1 (Drafter/Jr. Technician)	\$96.82	\$99.72	\$102.72
T2	CADD Tech 2 (Designer/Sr. Technician)	\$129.78	\$133.67	\$137.68
T3	CADD Tech 3 (Senior Designer)	\$157.59	\$162.32	\$167.19

Notes:

1. A markup of 10% will be applied to all project related Direct Costs and Expenses
2. An additional premium of 25% will be added to the above rates for Expert Witness and Testimony Services.
3. Rate effective through December 31st of each respective year, a 3% increase will be added for any services performed in each year thereafter, pursuant to the Master Engineering Services Agreement

Total Budget for each subtask will be as follows and is detailed in Attachment 2.

Subtask	Title	Budget
3	Final Design	\$110,839
3.1	<i>Project Management and Administration</i>	\$3,178
3.2	<i>Surveying</i>	\$12,815
3.3	<i>60% Design</i>	\$37,690
3.5	<i>90% Design</i>	\$30,543
3.6	<i>100% Design</i>	\$17,729
3.7	<i>Bid Documents</i>	\$8,883
4	As-Needed Permit and Outreach Support Allowance	\$10,512
	Project Total Budget	\$121,351

ATTACHMENTS

Attached to this Scope for reference are the following:

1	Fee Basis Spreadsheet
2	