Overview Description

The following scope of work is for the final design and fall 2023 construction phase of the Stanford Sierra Camp Generator Building Replacment Project. The final design will bring forward Alternative 2 or 3 as laid out in the Stanford Sierra Camp Generator Building Replacment Alternative Analysis draft TM dated 7/21/2023.

The selected alternative includes a 12-foot by 16-foot single story CMU building on a shallow foundation, a retaining wall, and electrical conduits and equipment to connect the new generator building to the existing Fallen Leaf Lake Pump Stations No. 1, 2 and 3. A conduit connection and conductors only to the nearest station are included in the scope of work.

Design services include the required surveying, structural, architectural, building mechanical and civil. Geotechnical engineering services to support design were included in the Alternative Analysis phase of work.

Task 1Project Management and Coordination

1.1 Project Administration

- Prepare monthly progress reports to be submitted with each invoice. It is assumed that the design phase project duration is 4 months.
- Contract and file structure set up and subconsultant project coordination.
- Track and monitor project team performance against budget and schedule.

1.2 Meetings and Coordination

- Hold weekly evaluation team coordination meetings to review project needs and provide updates to the District Project Manager. For budgeting purposes, a total of 8 virtual meetings of 30-minute duration are assumed.
- Conduct weekly internal coordination meetings during detailed design with WSC design team and subconsultants. For budgeting purposes, a total of 8 virtual meetings of 30-minute duration are assumed.
- Plan and schedule a design review meeting with the District Project Manager and District stakeholders. For budgeting purposes, the meeting is assumed to be held at the District office for a 2-hour duration.

1.3 QA/QC

• Coordinate and conduct quality control reviews of all deliverables prior to submittal. Budget for reviews is included within the appropriate tasks below.

Deliverables: Monthly progress reports and invoices, meeting minutes.

Assumptions: Project duration is 4 months.



Task 2 Final Design

The intent of Task 2 is to confirm assumptions made during alternative evaluation and obtain field data required for detailed design.

2.1 **Utility Research**

 Review available record documents at proposed project site and along conduit alignment(s), incorporate findings into design drawings.

2.2 **Topographic Survey**

- Conduct field survey including location of edge of right-of-way monuments and property corner monuments.
- Prepare topographic basemap including the following items:
 - Roadway right-of-way lines and center lines
 - Utility features (sanitary, storm, water, etc.) including depths to inverts and pipe diameters where obtainable from manholes or catch basins.
 - Road features (pavement extents, utility poles, driveways)
 - Private property features (fences, buildings, eaves, walls, or significant landscaping)
 - Tree locations and diameters
 - Ground elevation contours at every 1-foot vertical
 - Ground Penetrating Radar survey findings, at up to 10 locations.

Deliverables: Topographic survey and surface, in Civil 3D for incorporation into the design drawings, GPR report

2.3 **Draft Plans and Specifications**

- Prepare design plans and specifications for the new generator site, building, retaining wall, and electrical conduit for relocating the Stanford Camp Generator Site outside of the avalanche chute. The preliminary list of drawings is provided as Table 1 attached to this scope of work.
- Update preliminary design phase engineer's opinion of probable construction cost provided in the Alternative Analysis phase of the project. An AACE Level III cost estimate will be provided with the draft plans and specifications.
- Conduct a review meeting with the District to discuss and confirm direction for the final design plans and specifications. Review meeting is assumed to occur at the District Administration building and will be scheduled for up to 2 hours.

Deliverables: Full set of drawings, technical specifications and engineers' opinion of probable construction cost

2.4 Final Plans and Specifications

- Finalize the plans, specifications, and update the engineer's opinion of probable construction cost based on District input and updates to finalize.
- Provide minor engineering related input to District front ends, as necessary.
- **Deliverables:** Full set of drawings, technical specifications and engineers' opinion of probable construction cost and include updated District comments.

Assumptions: (1) All required permits will be applied for by the District. (2) Only minimal front end coordination for technical items will be provided by the design team.

Task 3 Construction Coordination

3.1 Submittal Reviews

 Review shop drawings and other submittals prepared by the Contractor as required in the contract documents and provide review comments within 14 days of receipt.
WSC assumes a total of twenty-four (24) submittals and an additional five (5) resubmittals.

3.2 **RFI Reviews**

• Review and respond to Requests for Information (RFIs) from the Contractor with the goal of providing a response within five days of receipt, depending on the complexity of the RFI. WSC assumes up to seven total (7) RFIs.

3.3 Construction Coordination and Meetings

- Maintain a log to track the status of submittals and RFIs received from the Contractor.
- Up to 2 WSC team members to attend up to 2 onsite meetings during construction.
- WSC Project manager and project engineer to attend 30 minute, virtual weekly construction meetings. Budget assumes up to eight 30 minute meetings. Disciple lead attendance will be on an as needed basis.

Sheet No.	Title/Description	Discipline
1	Title Page, Vicinity Map, & Sheet Index	General
2	Existing Site Plan and General Notes	General
3	Site Demolition Plan and Photographs	Demolition
4	Building Plan Layout with Equipment	Civil
5	Civil Details I	Civil
6	Civil Details II	Civil
7	General Notes	Structural
8	Special Inspection Requirements	Structural
9	Typical Reinforcing Details	Structural
10	Typical Concrete Details	Structural
11	Typical Roof Metal deck and Truss Joist Details	Structural
12	Building Foundation and Roof Plans	Structural
13	Building Sections and Exterior Wall Elevations	Structural
14	Floor Plan	Architectural
15	Ceiling Plan	Architectural
16	Roof Plan	Architectural
17	Exterior Elevations	Architectural
18	Architectural Sections and Details	Architectural
19	General Notes	Electrical
20	Site Plan	Electrical
21	Equipment Layout, Lighting, Grounding, Receptacles	Electrical
22	Single-Line Diagram and Panel Schedule	Electrical
23	Electrical Details	Electrical
24	Control Schematics	Instrumentation
25	Control Panel Layout and Wiring Diagram	Instrumentation

Table 1 – Preliminary Drawing List



Task No. Task Description							wsc							ectrical HDR)		itecture axon)		urvey R.E.Y.)	AL	L FIRMS
		QA/QC Review	Project Manager	Senior Structural Engineer	Project Engineer	CAD Designer	Admin	WSC Labor Hours	WSC abor Fee	Exp	penses	WSC Fee	La	bor Fee	Lab	or Fee	La	bor Fee	т	otal Fee
		Jeffery Lawrence	Robert Natoli	Omid Tavangar																
	Billing rates, \$/hr	\$340	\$295	\$255	\$210	\$180	\$155													
1	Project Management																			
1.1	Project Administration		12		4		4	20	\$ 5,000	\$	100	\$ 5,100							\$	5,100
1.2	Meetings and Coordination	2	24		24	·	8	58	\$ 14,040	\$	300	\$ 14,340	\$	5,250					\$	19,590
1.3	QA/QC		2		2			4	\$ 1,010	\$	-	\$ 1,010							\$	1,010
	SUBTOTAL	2	38	0	30	0	12	82	\$ 20,050	\$	400	\$ 20,450	\$	5,250	\$	-	\$	-	\$	25,700
2	Final Design																			
2.1	Utility Research		2		4	4		10	\$ 2,150	\$	-	\$ 2,150							\$	2,150
2.2	Topographic Survey		2		2	2		6	\$ 1,370	\$	-	\$ 1,370					\$	10,500	\$	11,870
2.3	Draft Drawings & Specifications	6	16	70	50	100	8	250	\$ 54,350	\$	1,100	\$ 55,450	\$	23,100	\$	10,500			\$	89,050
2.4	Final Drawings & Specifications	6	12	55	30	50	8	161	\$ 36,145	\$	700	\$ 36,845	\$	15,750	\$	6,300			\$	58,895
	SUBTOTAL	12	32	125	86	156	16	427	\$ 94,015	\$	1,800	\$ 95,815	\$	38,850	\$	16,800	\$	10,500	\$	161,965
3	Construction Coordination										·	·						·		
3.1	Submittal Reviews		8	8	48			64	\$ 14,480	\$	300	\$ 14,780	\$	3,150	\$	2,100			\$	20,030
3.2	RFI Reviews		7	4	14			25	\$ 6,025	\$	100	\$ 6,125	\$	3,150					\$	9,275
3.3	Construction Coordination and Meetings		16	4	16			36	\$ 9,100	\$	200	\$ 9,300	\$	1,575	\$	1,050			\$	11,925
	SUBTOTAL	0	31	16	78	0	0	125	\$ 29,605	\$	600	\$ 30,205	\$	7,875	\$	3,150	\$	-	\$	41,230
	COLUMN TOTALS	14	101	141	194	156	28	634	\$ 143,670	\$	2.800	\$ 146,470	\$	51,975	\$	19,950	\$	10,500	\$	228,895

10% mark-up on direct expenses; 5% mark-up for sub-contracted services

Standard mileage rate \$0.625 per mile (or current Federal Mileage Reimbursement Rate)

Rates are subject to revision as of January 1 each year.

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Stanford Sierra Camp Generator Building Replacement Project 2023 Classifications and Rates

	Hourly	Hourly Rate				
Engineers / Project Managers / Planners / Hydrogeolo	ogists					
Engineering Intern	\$	125.00				
Assistant	\$	140.00				
Staff I	\$	150.00				
Staff II	\$	160.00				
Staff III	\$	170.00				
Associate I	\$	180.00				
Associate II	\$	190.00				
Associate III	\$	210.00				
Senior I	\$	230.00				
Senior II	\$	240.00				
Senior III	\$	250.00				
Principal I	\$	275.00				
Principal II	\$	295.00				
Principal III	\$	340.00				
Senior Structural Engineer	\$	255.00				
CAD / Design Services						
Technician/Designer I	\$	145.00				
Technician/Designer II	\$	165.00				
Technician/Designer III	\$	180.00				
Inspection Services						
Inspector I	\$	150.00				
Inspector II	\$	160.00				
Inspector III	\$	185.00				
Inspector (Prevailing Wage)	\$	190.00				
Adminstrative Services						
Administration/Clerical I	\$	135.00				
Administration/Clerical II	\$	145.00				
Administration/Clerical III	\$	155.00				

Other Expenses

10% mark-up on direct expenses; 5% mark-up for sub-contracted services Standard mileage rate \$0.65 per mile (or current Federal Mileage Reimbursement Rate) Rates are subject to revision as of January 1 each year.

D	0	Task Mode	Task Name	Duration	Start	Finish	Aug '23 Sep '23 Oct '23 16 23 30 6 13 20 27 3 10 17 24 1
1			Permanent Generator Procurement	20 days	Thu 7/13/23	Wed 8/9/23	
2		- ,	Specification submittal	15 days	Thu 7/13/23	Wed 8/2/23	
3			Delivery	0 days	Wed 8/2/23	Wed 8/2/23	8/2
4			Installation	5 days	Thu 8/3/23	Wed 8/9/23	
5		-,	Final Site Selection	10 days	Fri 7/21/23	Thu 8/3/23	hh
6		-,	TM Review	5 days	Fri 7/21/23	Thu 7/27/23	
7		-,	Agreement with Stanford	5 days	Fri 7/28/23	Thu 8/3/23	
8		-5	Notice to Proceed with Selected Alternative	0 days	Thu 8/3/23	Thu 8/3/23	8/3
9		-,	Liberty Power to Selected Site	60 days	Fri 8/4/23	Thu 10/26/23	
10		- ,	Site Investigations	31 days	Fri 8/4/23	Fri 9/15/23	I I I I I I I I I I I I I I I I I I I
11		-,	Potholing (by District)	1 day	Fri 8/4/23	Fri 8/4/23	
12		-,	Topographic survey & GPR	17 days	Fri 8/4/23	Mon 8/28/23	
13		-,	Fieldwork	2 days	Fri 8/4/23	Mon 8/7/23	
14		-,	Survey data processing	5 days	Tue 8/8/23	Mon 8/14/23	
15			GPR data processing	15 days	Tue 8/8/23	Mon 8/28/23	
16			Geotechnical investigation	31 days	Fri 8/4/23	Fri 9/15/23	1
17				1 day	Fri 8/4/23	Fri 8/4/23	
18			Lab analysis	10 days	Mon 8/7/23	Fri 8/18/23	
19		-,	Draft report	5 days	Mon 8/21/23	Fri 8/25/23	
20			Review	5 days	Mon 8/28/23	Fri 9/1/23	
21			Final report	10 days	Mon 9/4/23	Fri 9/15/23	
22			Design	51 days	Fri 8/4/23	Fri 10/13/23	
23			Electrical & Istrumentation	40 days	Fri 8/4/23	Thu 9/28/23	
24			Draft Submittal	20 days	Fri 8/4/23	Thu 8/31/23	
25			Review	10 days	Fri 9/1/23	Thu 9/14/23	
26			Final Submittal	10 days	Fri 9/15/23	Thu 9/28/23	
27			Civil	30 days	Fri 8/4/23	Thu 9/14/23	
28			Draft Submittal	20 days	Fri 8/4/23	Thu 8/31/23	
29			Review	5 days	Fri 9/1/23	Thu 9/7/23	
30	_		Final Submittal	5 days	Fri 9/8/23	Thu 9/14/23	
31			Structural	20 days	Mon 8/21/23	Fri 9/15/23	
32				10 days	Mon 8/21/23	Fri 9/1/23	
33		-,	Review	, 5 days	Mon 9/4/23	Fri 9/8/23	
34		-,	Final Submittal	5 days	Mon 9/11/23	Fri 9/15/23	
35	-		Architectural	20 days	Mon 9/18/23	Fri 10/13/23	
36	-			10 days	Mon 9/18/23	Fri 9/29/23	
37	-	-,	Review	5 days	Mon 10/2/23	Fri 10/6/23	
38		-,	Final Submittal	5 days	Mon 10/9/23	Fri 10/13/23	
39	-	-,	Construction	57 days	Fri 9/15/23	Tue 12/5/23	
40	-	-,	Site Construction	56 days	Mon 9/18/23	Tue 12/5/23	
41	-	-,	Site Prep/Mobization	5 days	Mon 9/18/23	Fri 9/22/23	
42	-	-,	Foundation/Retaining Wall	17 days	Mon 9/25/23	Tue 10/17/23	

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43		-,	Excavation	5 days	Mon 9/25/23	Fri 9/29/23				i i					-	<u></u>
44			Formwork	7 days	Mon 10/2/23	Tue 10/10/23									,	
45			Concete pour	5 days	Wed 10/11/23	Tue 10/17/23										
46			Building	29 days	Wed 10/25/23	Tue 12/5/23										
47			CMU Walls	10 days	Wed 10/25/23	Tue 11/7/23										
48		-,	Roof	5 days	Wed 11/8/23	Tue 11/14/23										
49		-,	Finishes	6 days	Wed 11/15/23	Wed 11/22/23										
50		-,	Electrical Installation	10 days	Wed 11/15/23	Tue 11/28/23										
51		*	Move Generator to Alt. 4 site	0 days	Tue 12/5/23	Tue 12/5/23										
52		-,	Trench Construction	15 days	Fri 9/15/23	Thu 10/5/23								ľ		_
53		-,	Excavation, installation, backfill	10 days	Fri 9/15/23	Thu 9/28/23										
54			Road rehabilitation (repaving)	5 days	Fri 9/29/23	Thu 10/5/23										

