NAPA SANITATION DISTRICT
TASK ORDER No. 22
INFLUENT PUMP STATION EXPANSION PROJECT (CIP 4012)
HDR ENGINEERING, INC.

Date: **November 2, 2011**

Issued under Professional Services Agreement dated June 17, 2011.

To: **HDR Engineering, Inc.**

Project Description:

Consultant shall provide condition assessment, predesign, final design, CEQA-Plus environmental documentation, and bidding services for a new influent pump station and/or rehabilitation of the existing influent pump station.

Description of Scope of Services to be performed by Consultant under this Task Order:

See Attachment 'A' - Scope of Services

Description of Services to be Provided by District

See Attachment 'A' - Scope of Services

Deliverables

See Attachment 'A' - Scope of Services

Consultant Project Manager: **Craig A. Olson**

Consultant Quality Control Manager: **Robert B. Williams**

Schedule to Perform Services:

See Attachment 'B' - Project Schedule

Time & Materials Not-to-Exceed Cost Limit: $1,423,345 (includes optional task)

See Attachment 'C' - Budget Summary

APPROVALS:

HDR ENGINEERING, INC.

By:_____ _____

Authorized Representative Date

NAPA SANITATION DISTRICT

By:_____ _____

Authorized Manager Date

NSD Account No.: CIP 4012

ATTACHMENTS:

(1) Attachment 'A' - Scope of Services
(2) Attachment 'B' - Project Schedule
(3) Attachment 'C' - Budget Summary
(4) Attachment 'D' - Rate Schedule

Attachment 'A' – Scope of Services

Napa Sanitation District
Task Order No. 22 - Influent Pump Station Expansion Project (CIP 4012)

The following scope of work involves predesign, final design, and bidding services, as well as California Environmental Quality Act (CEQA-Plus) documentation for a new influent pump station and/or rehabilitation of the existing influent pump station. The pumping capacity of the completed facilities will be 60 million gallons per day (mgd), expandable to 90 mgd.

TASK 1 - PROJECT MANAGEMENT AND QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

Subtask 1.1 - Project Management and Coordination

HDR will provide project management, including managing the schedule and budget, scheduling workload of staff, and coordinating QA/QC efforts. In addition, HDR's project management team will provide in-house coordination of the work progress, and coordination of the subconsultants.

It is anticipated that coordination meetings involving appropriate District and HDR staff will occur approximately once a month. HDR's project manager (Craig Olson) will conduct weekly status telephone calls with the District's project manager (Jennifer Johnson).

Deliverables: *Decision log.*

Subtask 1.2 - Project Management Plan

HDR will develop a Project Management Plan to serve as a communication tool for District and HDR staff (including subconsultants).

Deliverables: *PDF copy of the Project Management Plan.*

Subtask 1.3 - Monthly Invoices and Status Reports

HDR will prepare invoices and progress reports on a monthly basis. The monthly progress reports will summarize budget and schedule status in measurable terms, and will be submitted to the District with the monthly invoices.

Deliverables: *Monthly project status reports and invoices.*

Subtask 1.4 - Subconsultant Agreements and Management

HDR will prepare subconsultant agreements with its subconsultants, and will manage the work of its subconsultants in terms of product, quality, schedule, and budget. It is anticipated that there will be four subconsultants for this project including:

- Vilallobos & Associates (V&A) for structural condition assessment.
- ArcSine Engineering for electrical/instrumentation design.
- Exaro for existing utility potholing.
- Survey subconsultant to be determined.

Subtask 1.5 - QA/QC Program

HDR will institute and maintain a QA/QC program for the work performed on the project. Under HDR's QA/QC program, project deliverables will receive multiple independent reviews by senior-level engineers prior to delivery to the District for review and comment. Individual discipline checkers review their respective elements of the design. The QA/QC reviews include process calculations, drawing/drafting standards, District report and design standards, technical memoranda, and other miscellaneous written documentation. HDR QA/QC team members will evaluate project deliverables for completeness, appropriateness, readability, and accuracy. HDR's project manager will follow-up to assure that the comments from the District and the QA/QC team are incorporated into the deliverables.

QA/QC reviews will be conducted prior to submission of the following documents to the District:

- Draft and final condition assessment report.
- Draft and final geotechnical report.
- Draft and final structural evaluation of existing influent pump station structure technical memorandum.
- Draft and final hydraulic analysis technical memorandum.
- Draft and final pump station alternatives analysis technical memorandum.
- Draft and final predesign report.
- Cultural resources technical memorandum.
- Biological resources technical memorandum.
- Administrative draft initial study.

- Public draft initial study/mitigated negative declaration.
- Final initial study/mitigated negative declaration.
- 50 percent drawings, specifications, and construction cost estimate.
- 90 percent drawings, specifications, and construction cost estimate.
- 100 percent drawings, specifications, and construction cost estimate.
- Conformed documents.

A QC review form is used to document the review process. The review form identifies the design phase and/or design elements reviewed, the disciplines involved, and the reviewers. Review comments in the form of technical memorandum and/or marked drawings and specifications are attached to the review form. Checking lists may also be attached. A QC checklist is used to verify that the appropriate reviews have been completed.

To finalize the QC review process, the QC reviewers are provided with the designer's response to review comments. This may involve revised documents incorporating the review comments or justification as to why the designer disagrees with the review comments. The reviewer is responsible for "back-checking" the documents to verify that comments are appropriately handled. Unresolved issues are brought to the attention of the project manager and/or the District.

Deliverables: *To be incorporated into the deliverables.*

Subtask 1.6 - Board Presentations

HDR will present the project to the Board, as needed, which may include: (1) upon completion of the predesign report; and (2) upon completion of the 90 percent design documents. Our budget assumes up to two Board presentations.

Deliverables: *Presentation handouts and material.*

TASK 2 - PREDESIGN PHASE

Subtask 2.1 - Kick-off Meeting

HDR will meet with District staff to introduce the project team, visit the site to discuss issues with plant staff, collect background information, discuss the District's project goals and objectives, and establish lines of communications. The kick-off meeting will focus on getting the remaining issues on the table, discussing potential alternatives and resolutions, preparing an action plan, and reviewing status of requested information and data, project schedule, and list of participants with their assignments.

Deliverables: *Meeting agenda, minutes, action plan, and schedule.*

Subtask 2.2 - Background Data Review

HDR will review the background information collected and provided by the District, which includes the following:

- "Geotechnical Investigation for Wastewater Treatment Facilities" (Kaldveer Associates).
- "Value Engineering Services" final report for the influent pump station and West Napa Pumping Station (Jacobs, November 2003).
- "Influent Pump Station Draft Pre-Design Report" (Winzler & Kelly, April 2003).
- "Influent Pump Station (IPS) Seismic Study and Replacement" (Winzler & Kelly, May 2009).
- Influent Pump Station drawings (Kaiser Engineers).
- Napa Sanitation District Division 00 and 01 specifications.
- Napa Sanitation District FY 11-12 budget.
- "Sanitary Sewage Outfall Lift Station" drawings.
- "Collection System Master Plan" (Winzler & Kelly, October 2007).
- "Phase 1 Water Recycling Facility Drawings, Volume 3 of 3" (Carollo Engineers).
- "Wastewater Treatment Plant Master Plan" (Brown & Caldwell and Carollo Engineers, April 2011).
- Existing surveying information.
- Existing maintenance records, including conclusions and recommendations contained in previous assessment reports, either in hard copy or electronic format
- Asset inventory for each structure in preparation for the condition assessments.
- Existing influent pump station pump curves.
- Drawings of 54-inch-diameter CMP pipe from Manhole No. 9 to the oxidation ponds.
- Influent sewer plan/profile drawings.
- Oxidation ponds operating elevations (maximum and minimum).
- Administration/corporation yard improvement project.
- County of Napa General Plan and Final Environmental Impact Report (EIR).

Subtask 2.3 - Condition Assessment

HDR team members will perform a detailed analysis to determine whether the existing pump station structure can be salvaged and reused only for pumping dry weather or wet weather flows, to reduce overall project costs.

2.3.1 - Condition Assessment of Structures

HDR team members will conduct a condition assessment of the existing influent pump station. The focus will be on the level of deterioration of the structure as it pertains to corrosion. Confined space entry will be required as part of the condition assessment of the influent pump station. This subtask assumes coordination with District staff to have the structure pumped down (to the extent practical) during the HDR team's visit to the site. HDR's subconsultant, Vilallobos & Associates (V&A), will provide a three-person confined space crew and necessary confined space entry and condition assessment equipment as required to enter the structures for the purpose of conducting a condition assessment. HDR will coordinate this visit with the District's safety officer. V&A will implement Cal/OSHA-required procedures during the confined space entries; however, a separate Health and Safety Plan will not be submitted.

V&A will use the following assessment methods to evaluate the structures during the site visits:

- **Concrete pH Samples:** Collect surface concrete samples, as available, for in-house testing of pH. The pH of concrete can substantiate the levels of concrete corrosion attack prevalent within each structure.
- **Depth of Reinforcing Steel:** Measure the thickness of concrete protecting the reinforcing steel. Sounding testing will be conducted around the perimeter of the structure at the discretion of the evaluator conducting the assessment.
- **Penetration Measurements:** Perform concrete penetration measurements at key locations, as available, to find depth to sound concrete. The concrete penetration tests will be performed by striking the concrete with a handheld chipping hammer and measuring the maximum depth to hard concrete.
- **Sounding:** Conduct sounding testing on the concrete surfaces of the structures. Sounding a surface refers to tapping the structure surfaces with a chipping hammer and listening for discontinuities within the surface. Locations for sounding testing will be conducted around the perimeter of the structure at the discretion of the evaluator conducting the assessment.
- **Ultrasonic Thickness (UT) Testing:** Conduct UT testing of the metallic components of the structures to determine the existing thickness of the metallic components. Metallic components include, but are not limited to,

interior/exterior piping, and mechanical equipment that is easily accessible. V&A's field engineer will obtain pit depth measurements at locations exhibiting excessive corrosion where the UT meter may not produce a reading due to the rough surface. Up to 20 measurements will be recorded per structure.

- **Visual Assessment/Digital Photos:** Visually examine and document the condition of the structures with digital still photographs over the limits of the assessment. Defects such as cracks, spalls, or exposed reinforcing steel will be documented. Visual assessment data is subjective and based upon the evaluator's expertise.
- **Coating Assessment:** Conduct a visual assessment of the interior and exterior structure coatings with notations of defect areas and severity.

2.3.2 - Report Preparation

HDR team members will prepare a report after the condition assessment of the influent pump station has been completed. The report will include photographic documentation of the existing conditions, field data, and necessary graphical and illustrative figures, as required, to present the information gathered during the assessment. Recommendations for rehabilitation will be included and preliminary budgetary repair costs will be included.

Deliverables: *One PDF copy of the draft condition assessment report, and four bound copies and PDF of the final condition assessment report.*

Subtask 2.4 - Geotechnical Investigation and Report

HDR's general scope of exploratory work includes performing three cone penetrometer test (CPT) explorations for site characterization, with limited soil sampling and laboratory testing. All work described below will be performed by a State of California, Registered Civil Engineer and supervised by a State of California, Registered Geotechnical Engineer.

2.4.1 – Exploration and Laboratory Testing

HDR will perform a subsurface exploration program to log three cone penetrometer tests (CPTs) and collect bulk samples for pavement design. The CPTs will be 100 feet deep and be located within the footprint of the proposed influent pump station. The CPTs will be permitted and backfilled with a cement-bentonite mixture in accordance with the Napa County Environmental Health Department guidelines. Bulk samples will be collected for laboratory testing.

Laboratory testing will be completed on bulk samples recovered from the project site. These tests will include, as appropriate:

- Classification and index tests, such as sieve and hydrometer analysis and Atterberg Limits determinations to provide data for classification.

- R-Value tests for pavement design.

2.4. 2 - Data Review/Reduction and Engineering Analyses

A review and reduction of the data collected in the field, as well as historic data from previous investigations, will be performed. Modeling of subsurface profiles will be performed to aid in the foundation design, liquefaction, and pavement design.

2.4.3 - Report Preparation

HDR will prepare a report that includes a summary of the results of the field investigations and laboratory testing, a summary of the engineering analyses performed (including parameter selection), and pertinent geotechnical conclusions and recommendations for the foundation, retaining wall, and pavement design.

Deliverables: *One PDF copy of the draft geotechnical report, and four bound copies and PDF of the final geotechnical report.*

Subtask 2.5 - Structural Evaluation of Existing Influent Pump Station Structure

After completion of the geotechnical report, HDR will perform a detailed structural analysis of the existing influent pump station to determine compliance with the 2010 California Building Code (CBC) and the American Concrete Institute (ACI) 350 code.

If the District elects to bring the structure into compliance with the 2010 CBC or a structural alteration triggers 2010 CBC code compliance, ACI 350 environmental structures code and commentary will be the governing code, per Section 1.1.10 of the ACI 318 building code and commentary.

Deliverables: *One PDF copy of the draft and final technical memoranda.*

Subtask 2.6 - Hydraulic Analysis (Potential to Eliminate Manhole No. 9)

HDR will perform a hydraulic analysis to determine the feasibility and advantages and disadvantages of eliminating Manhole No. 9. This potential change will impact pump sizing for all pump station alternatives identified in Subtask 2.7, including electrical power and standby power requirements.

A technical memorandum will be prepared summarizing the analysis, and will include an operational description of how the system will work. The technical memorandum will be discussed during a review meeting (budgeted under Subtask 2.10) to achieve consensus and direction prior to proceeding with the pump station alternatives analysis (Subtask 2.7).

Deliverables: *One PDF copy of the draft and final technical memoranda.*

Subtask 2.7 - Pump Station Alternatives Analysis

HDR will evaluate the following three alternatives for increasing pumping capacity:

1. A new submersible pump station with self-cleaning, trench-style wetwell, located adjacent to the existing influent pump station. The new influent pump station would be capable of pumping all flows, and will include a new electrical building.
2. A new drypit/wet pit pump station with self-cleaning, trench-style wetwell, located adjacent to the existing influent pump station. The new influent pump station would be capable of providing all flows, and will include a new electrical building.
3. A combination of using the existing influent pump station and adding a new influent pump station adjacent to the existing influent pump station. The existing influent pump station will maintain its existing wetwell configuration. A new electrical building will be added. The following sub-alternatives will be considered:
    a. Reuse the existing influent pump station to pump dry weather flows (flow to headworks) and add a new submersible pump station with self-cleaning, trench-style wetwell to pump wet weather flows (flow to oxidation ponds).
    b. Reuse the existing influent pump station to pump wet weather flows (flow to oxidation ponds) and add a new submersible pump station with self-cleaning, trench-style wetwell to pump dry weather flows (flow to headworks).
    c. Reuse the existing influent pump station to pump dry weather flows (flow to headworks) and add a new drypit/wetpit pump station with self-cleaning, trench-style wetwell to pump wet weather flows (flow to oxidation ponds).
    d. Reuse the existing pump station to pump wet weather flows (flow to oxidation ponds) and add a new drypit/wetpit pump station with self-cleaning, trench-style wetwell to pump dry weather flows (flow to headworks).

(Note: Option 3 will not be considered if it has been determined in Subtask 2.3 and Subtask 2.5 that rehabilitation of the existing influent pump station is not a viable option).

A technical memorandum will be prepared summarizing the alternatives analysis, which will include the advantages and disadvantages, reliability, redundancy, energy consumption, comparative life-cycle cost (including operations and maintenance [O&M]), and preliminary

layout of each alternative for review and comment by District staff, and discussion during a workshop (budgeted under Subtask 2.10).

Deliverables: *One PDF copy of the draft and final technical memoranda.*

Subtask 2.8 - Site Visits

HDR will coordinate site visits to up to three existing pump stations that utilize trench-style, self-cleaning wetwells. It is assumed that site visits will be limited to within 100 miles of District facilities. It is also assumed that all site visits will be completed in one day.

Subtask 2.9 - Predesign Report

HDR will prepare a predesign report for the selected pump station alternative. The report will include the following:

- Design criteria and process schematics.
- Preliminary site layout figure showing project location.
- Preliminary pump station and electrical building layout, including preliminary plans and sections.
- Hydraulic calculations, including preliminary pump selection.
- Identification of selected major equipment.
- Electrical and control data (See Subtask 3.3).
- Preliminary project schedule.
- Preliminary sheet list.
- Preliminary specifications list.
- Planning-level estimate of probable construction cost.
- Preliminary construction sequencing.
- Project constraints.

Deliverables: *One PDF copy of the draft predesign report for review and comment by District staff, and four bound copies and PDF of the final predesign report after incorporation of District comments on the draft report.*

Subtask 2.10 - Predesign Review Meetings/Workshops

Review meetings/workshops will be held after District review of the following:

- Draft condition assessment report, draft geotechnical report, draft hydraulic analysis technical memorandum, and draft structural analysis technical memorandum to determine if existing influent pump station can be rehabilitated.
- Draft pump station alternatives analysis technical memorandum to select the pump station alternatives to be evaluated.
- Draft predesign report to review and ratify the pump station alternative to be designed.

Deliverables: *Meeting agenda and minutes, and decision log updates.*

TASK 3 - FINAL DESIGN PHASE

Subtask 3.1 - Surveying

HDR's surveying subconsultant will prepare a topographic base map for the project site. The base map will utilize 1929 vertical datum. The survey will be completed using ground (field) survey.

Field surveys will be conducted to provide site and utility information. Surveys will consist of site topo, structure locations, doorways, and utilities. The field survey and data reduction will take approximately two weeks from the notice to proceed, weather permitting.

Deliverables: *AutoCAD base map suitable for design.*

Subtask 3.2 - Potholing

HDR's subconsultant, Exaro, will vacuum excavate up to 12 pothole locations, to be conducted within two working days to confirm underground utilities per the furnished drawings. They will backfill with native materials and repair asphalt with cold permanent patch. They will obtain all permits. It is assumed that removal of USA markings is not included, native backfill and cold permanent patch will be allowed by the District, and that excavation will stop if the Exaro crew encounter the water table and possible feel for utilities.

Subtask 3.3 - Instrumentation/Controls, SCADA, and Electrical

Instrumentation/controls, supervisory control and data acquisition (SCADA), and electrical improvements will generally include the following:

- Evaluation of electric power feed and standby power for the influent pump station itself. Design of the selected alternative, including 12.47 kV and lower voltage systems.
- Station instrumentation and controls, including redundancies and backup systems.

- Expansion of the District's valve network to valves/gates associated with this facility, and/or implementation of hardwired interfaces with these devices.
- Definition of how the station is to operate, for use by the District's programmer in configuring the programmable logic controller (PLC)/SCADA systems and ultimately by the District as part of its reference documentation.
    - HDR's subconsultant, WorkSmart, will perform a review of the programming effort.
- Integration of the new influent pump station PLC with the plant control network.
- Extension of the plant supervisory network to the influent pump station, and implementing a SCADA workstation at the site.
- Development of a construction sequencing approach, including definition of intermediate configurations to assure operability throughout the construction process.

The following are additional assumptions about the instrumentation/controls, SCADA, and electrical requirements for the project:

- **Interconnection:** HDR's subconsultant, ArcSine, has performed field investigations and documented much of the plant interconnection at PLC panels, and also networks plant-wide. In the course of the work, ArcSine has discovered that electric power raceways, vaults, and interconnection do not match and line up with existing record drawings. This scope includes ArcSine's team of engineers investigating applicable vaults and raceways, documenting where raceways are available, and preparing butterfly drawings. This work is in support of the documents to bid and construct this project. While the effort will not investigate the details of all existing circuits, the resulting drawings will show conductors and raceways which are part of this project, as well as those which are neighboring and otherwise touched. Thus the drawing set will comprise a starting point, to systematically move the electrical documentation package towards completeness.
- **Electrical Loads:** The April 2011 Treatment Plant Master Plan notes that electrical capacities of portions of the plant are in question. The master plan looked at electric current averages plant-wide, and also connected load based on drawings. The April 2011 Treatment Plant Master Plan's general conclusions are that, plant-wide, overall ampacities appear adequate, but on an item-of-equipment basis, many unknowns exist.

  Presently, plant automatic controls shed selected loads on loss of commercial power. The District is planning to implement real-time monitoring of selected items of electrical equipment, which will significantly improve the quality of the plant-wide load information.

  This project will include the following:

- Design of a connection to the 12kV system in the vicinity of the influent pump station, 12kV to 480-volt substation dedicated to the influent pump station, and 480-volt downstream systems.
- Design of manual transfer switch and portable generation connection.
- Allowance for physical space and underground raceways where applicable to accommodate a future permanent generator dedicated to the influent pump station.
- Confirmation that the plant PG&E service, and the 12kV overhead system is adequate to serve the plant as-is, plus influent pump station electrical load increase.

- **Short-Circuit/Coordination/Arc Flash:** This scope includes specifying the studies noted to be furnished by the construction contractor.
- **Valve Networks (PakScan):** PakScan Network 1 (in the vicinity of the existing influent pump station), can be extended to accommodate this project. Replacement controllers to be installed under SCADA Phase IV will be sized to accommodate influent pump station valves.
- **Control and Supervisory Networks:** The contract documents will reflect the detail needed to extend/modify networks in a low-risk manner. The control (PLC) network is available at the existing influent pump station, and will be extended to the new PLC location. The supervisory (SCADA) network is not available at the station, but will be made available by using spare fibers and patching in at the communications room.
- **Control Architecture:** This scope assumes primary PLC control, using District standard components, with redundant instrumentation and hardwired backup controls. A full "view" of the station will be available from the plant control room, as well as elsewhere onsite and offsite through remote connections, will allow staff to effectively monitor the station under all circumstances.

The following activities are included under this subtask:

3.3.1 Electrical Technical Memorandum

ArcSine will provide an electrical technical memorandum that will briefly summarize present and projected future plant-wide loads. This technical memorandum will evaluate the influent pump station electrical requirements/loads, and will highlight the electrical differences among the pump station alternatives identified in Subtask 2.7. The technical memorandum will assume that a portable generator connection will be provided, and that the project will also include provisions for a future permanent standby generator dedicated to the influent pump station and located at the influent pump station. This project will not address plant-wide load issues or the adequacy of existing generation system to support existing or future plant loads.

Depending on site layout, the existing 12kV overhead line may need to be rerouted, and/or be placed partially underground. The technical memorandum will address this subject.

Deliverables: *One PDF copy of the draft and final technical memoranda for incorporation into the predesign report.*

3.3.2 Instrumentation/Controls/SCADA

ArcSine will provide an instrumentation/controls/SCADA technical memorandum that will briefly describe the proposed architectures for the following:

- Control architecture.
- PLC plus hardwired.
- Redundant instrumentation.
- Control network.
- Supervisory network.
- Valve network.

Deliverables: *One PDF copy of the draft and final technical memoranda for incorporation into the predesign report.*

Subtask 3.4 - Contract Documents

HDR's team will provide final design services (preparation of bidding documents, including plans and specifications) for expansion of the influent pump station to 60 mgd, expandable to 90 mgd. The project will include the following elements:

- New influent pump station including below grade reinforced concrete structure, influent screening, pumps and piping.
- New electrical building including motor control centers (MCCs), instrumentation monitoring/control, and SCADA interface.
- Vactor truck dump area to replace existing.
- Flow meter vault for new pump station discharge flow measurement.
- Modifications to Manhole No. 9 including slide gate.
- All HVAC for new pump station and electrical building.

- Odor control for new pump station.
- Yard piping modifications.
- Site grading and paving.
- Site utilities.
- New 12 KV substation providing electrical service to new facilities.

The design documentation will include the following:

- Drawings will be prepared in AutoCAD. Design plans will be developed utilizing industry standard scales, in English (not metric) engineering units. A preliminary listing of drawings anticipated for the project is shown as Table A-1, which assumes one new pump station adjacent to the existing structure will be built to handle all flows, plus a new electrical building.
- The specifications will be prepared in Construction Specification Institute (CSI) format using Microsoft Word.
- The District will provide Consultant with District standard front-end documents (Division 00 & 01).
- HDR will edit the District-provided Division 00 and 01 front-end documents. Consultant will prepare technical specifications (Division 2 through 16).
- Engineer's opinion of construction cost will be prepared in Microsoft Excel.
- Drawings, specifications, and engineer's estimate of probable construction cost will be submitted to the District for review and approval at the 50, 90, and 100 (final) percent design stages.

TABLE A-1. PRELIMINARY LIST OF DRAWINGS
(Assumes One New Pump Station to Handle All Flows and a New Electrical Building)

No.	Sheet No.	Drawing Description
General		
1	G01	Cover Sheet with Location Maps
2	G02	Sheet List
3	G03	Abbreviations
4	G04	Symbols Legend
5	G05	Process Flow Diagram and Design Criteria
6	G06	Hydraulic Profile
7	G07	Standard Details - Divisions 2 through 4

TABLE A-1. PRELIMINARY LIST OF DRAWINGS *(Assumes One New Pump Station to Handle All Flows and a New Electrical Building)*		
No.	**Sheet No.**	**Drawing Description**
8	G08	Standard Details - Divisions 5 through 14
9	G09	Standard Details - Division 15-1
10	G10	Standard Details - Division 15-2
11	G11	Standard Details - Pipe Supports
12	G12	Miscellaneous Details I
13	G13	Miscellaneous Details II
Civil		
14	C01	Key Site Plan
15	C02	Site Contractors Staging Area, Fencing Plan, and General Notes
16	C03	Site Paving, Grading, and Drainage Plan
17	C04	Site Yard Piping Plan I
18	C05	Site Yard Piping Plan II
19	C06	Site Sections and Details I
20	C07	Site Sections and Details II
21	C08	Yard Piping Profiles I
22	C09	Yard Piping Profiles II
23	C10	Yard Piping Details I
24	C11	Yard Piping Details II
25	C12	Flow Meter Vault Plan Section and Details I
26	C13	Flow Meter Vault Plan Section and Details II
Demolition		
27	X01	Site Demolition Plan
28	X02	Existing Pump Station Demolition Plan I
29	X03	Existing Pump Station Demolition Plan II
30	X04	Existing Pump Station Demolition Sections and Details I
31	X05	Existing Pump Station Demolition Sections and Details II
32	X06	Site Demolition Details I
33	X07	Site Demolition Details I
Architecture		
34	A01	Legends and Symbols
35	A02	Code Plan I
36	A03	Code Plan II
37	A04	Electrical Building Floor Plan

TABLE A-1. PRELIMINARY LIST OF DRAWINGS *(Assumes One New Pump Station to Handle All Flows and a New Electrical Building)*		
No.	**Sheet No.**	**Drawing Description**
38	A05	Electrical Building Roof Plan
39	A06	Building Sections
40	A07	Exterior Elevations
41	A08	Architectural Details I
42	A09	Architectural Details II
43	A10	Architectural Details, Interior Elevations, and Door Schedule
44	A11	Backing Details
Mechanical		
45	M01	Mechanical Details
46	M02	Electrical Building HVAC Plan
47	M03	Electrical Building HVAC Sections and Details
48	M04	Electrical Building Plumbing Plan
49	M05	HVAC Schedules
50	M06	Odor Control Plan
51	M07	Odor Control Section
Structural		
52	S01	Structural General Notes I
53	S02	Structural General Notes II
54	S03	Typical Concrete Details I
55	S04	Typical Concrete Details II
56	S05	Typical Concrete Details III
57	S06	Typical Concrete Wall Details
58	S07	Typical Block Wall Details
59	S08	Typical Grating Details
60	S09	Openings and Penetrations
61	S10	Metal Stair and Railing Details
62	S11	Pump Station Lower Level Plan
63	S12	Pump Station Upper Level Plan
64	S13	Pump Station Sections and Details I
65	S14	Pump Station Sections and Details II
66	S15	Pump Station Sections and Details III
67	S16	Pump Station Sections and Details IV
68	S17	Pump Station Sections and Details V

TABLE A-1. PRELIMINARY LIST OF DRAWINGS *(Assumes One New Pump Station to Handle All Flows and a New Electrical Building)*		
No.	**Sheet No.**	**Drawing Description**
69	S18	Pump Station Sections and Details VI
70	S19	Electrical Building Floor Plan
71	S20	Electrical Building Roof Plan
72	S21	Electrical Building Roof Framing Plan
73	S22	Electrical Building Sections and Details I
74	S23	Electrical Building Sections and Details II
75	S24	Electrical Building Sections and Details III
76	S25	Electrical Building Sections and Details IV
77	S26	Miscellaneous Details
78	S27	Manhole No. 9 Modifications
Process		
79	P01	Pump Station Lower Level Plan
80	P02	Pump Station Upper Level Plan
81	P03	Pump Station Section and Details I
82	P04	Pump Station Section and Details II
83	P05	Pump Station Section and Details III
84	P06	Pump Station Section and Details IV
85	P07	Manhole No. 9 Modifications
86	P08	Manhole No. 9 Modifications Sections and Details
Electrical		
87	E01	Legend
88	E02	Details – 1
89	E03	Details – 2
90	E04	Details – 3
91	E05	Details – 4
92	E06	One-Line Diagram, Existing – 1
93	E07	One-Line Diagram, Existing – 2
94	E08	One-Line Diagram, Existing – 3
95	E09	One-Line Diagram, Final – 1
96	E10	One-Line Diagram, Final – 2
97	E11	One-Line Diagram, Final – 3
98	E12	One-Line Diagram, Sequencing – 1
99	E13	One-Line Diagram, Sequencing – 2

TABLE A-1. PRELIMINARY LIST OF DRAWINGS *(Assumes One New Pump Station to Handle All Flows and a New Electrical Building)*		
No.	**Sheet No.**	**Drawing Description**
100	E14	One-Line Diagram, Sequencing – 3
101	E15	Switchgear Networking
102	E16	Control Diagrams – 1
103	E17	Control Diagrams – 2
104	E18	Control Diagrams – 3
105	E19	Area Plan – 1
106	E20	Area Plan – 2
107	E21	Building Plan, Electrical – 1
108	E22	Building Plan, Electrical – 2
109	E23	Building Plan, Electrical – 3
110	E24	Building Plan, Lighting – 1
111	E25	Building Plan, Lighting – 2
112	E26	Building Plan, Lighting – 3
113	E27	SB-1 Area Plan (if needed)
114	E28	Schedules – 1
115	E29	Schedules – 2
116	E30	Elevations – 1
117	E31	Elevations – 2
118	E32	Elevations – 3
Instrumentation		
119	I01	Legend
120	I02	Typical Loop Diagram
121	I03	Block Diagrams
122	I04	Valve Network Diagram
123	I05	Network Diagram – 1
124	I06	Network Diagram – 2
125	I07	Schedules
126	I08	Details – 1
127	I09	Details – 2
128	I10	Details – 3
129	I11	Control Panel Elevations and Details – 1
130	I12	Control Panel Elevations and Details – 2
131	I13	Control Diagrams – 1

TABLE A-1. PRELIMINARY LIST OF DRAWINGS *(Assumes One New Pump Station to Handle All Flows and a New Electrical Building)*		
No.	**Sheet No.**	**Drawing Description**
132	I14	Control Diagrams – 2
133	I15	P&ID – 1
134	I16	P&ID – 2
135	I17	P&ID – 3
136	I18	P&ID – 4
137	I19	P&ID – 5
138	I20	P&ID – 6

Deliverables: *Four half-size (11" x 17") sets of drawings, four bound copies of the technical specifications, and four copies of engineer's opinion of construction cost for review by District personnel at the 50 and 90 percent design stages. One stamped and signed reproducible original set of half-size and full-size (22" x 34") 100 percent drawings, technical specifications, and engineer's opinion of construction cost. One CD containing electronic files (PDF, AutoCAD, and Word) of the final design documents.*

Subtask 3.5 - Design Review Meetings

HDR will meet with District staff to discuss comments on 50 and 90 percent design submittals. A review comments log will be kept to ensure design comments are incorporated. Design review comments will be encouraged and welcome from the District's engineering and operations personnel.

Deliverables: *Meeting agenda and minutes.*

TASK 4 - BIDDING PHASE

The following services will be provided by HDR during the bidding phase of this project.

Subtask 4.1 - Perform Job Walk and Attend Prebid Conference

HDR will perform a job walk and attend the prebid conference to answer contractor questions.

Subtask 4.2 - Respond to Contractor Questions and Prepare Addenda

The District will receive contractor written and faxed questions during the bidding period, and will forward to HDR. Up to two addenda to the contract documents will be prepared for distribution to each plan and specification holder.

Subtask 4.3 - Conformed Documents

HDR will incorporate the addenda into the bid set, and provide a "conformed" set of construction documents for reproduction and distribution by the District.

Deliverables: *One original copy of the construction specifications and full-size drawings, and CD containing electronic files of the construction contract documents.*

Subtask 4.4 - Recommendation for Award

HDR will assist the District by providing input in the awarding of the contract.

TASK 5 - CEQA-PLUS DOCUMENTATION

HDR will prepare a CEQA Initial Study for the project, leading to either a Mitigated Negative Declaration or an EIR. It is anticipated that the project will have temporary, construction-related impacts (e.g., air quality, biological resources, cultural resources, etc.) and minimal permanent, operational-related impacts (e.g., air quality) that can be qualitatively shown to be below established significance thresholds through the incorporation of avoidance and mitigation measures. The budget for this task assumes preparation of a Mitigated Negative Declaration.

HDR understands that the District may seek support from the State Revolving Funds Loan (SRF) program to construct the proposed project. The SRF program is partially funded by the U.S. Environmental Protection Agency (USEPA) and subject to federal environmental regulations, including the Endangered Species Act, National Historic Preservation Act, and General Conformity Rule for the Clean Air Act, among others. Instead of the National Environmental Policy Act (NEPA), the USEPA has chosen to use the CEQA as the compliance base for California's SRF program, in addition to compliance with Endangered Species Act, National Historic Preservation Act, and Clean Air Act. Collectively, the State Water Resources Control Board (SWRCB) calls these requirements "CEQA-Plus". Additional federal regulations also may apply, such as federal permits for Clean Water Act (Section 404/401), which are beyond the bounds of this scope.

Subtask 5.1 - Project Description

A project description will be prepared for the purposes of the environmental analysis that meets CEQA requirements. An accurate project description shall be prepared and agreed to prior to initiating environmental analyses; this essential step can result in significant schedule and cost savings. Having to redo analyses due to new significant project information and changes in details, such as location, configuration, or new alternative altogether, can lead to significant time delays and additional costs. HDR assumes that the project will be determined to be non growth-inducing during the project description development phase (a growth inducing project would trigger the need to prepare an EIR). HDR will review the County of Napa General Plan

(and associated EIR) and consult with County of Napa staff to determine if the proposed project was previously considered as part of the General Plan analysis.

As required by CEQA, HDR will document and confirm the location and boundaries of the project, provide and confirm a statement of the objectives of the proposed project, and provide a general description of the proposed project's technical, economic, environmental, engineering, and/or construction aspects. The project description will include one or more figures showing the location of the new facilities in relation to the existing facilities, based on existing maps. HDR will submit an electronic copy of the project description to District staff to quickly verify the accuracy of the project description to ensure proper environmental analyses.

Deliverables: *PDF of project description (for environmental document) for review by District.*

Subtask 5.2 - Environmental Review

Following the CEQA-Plus guidelines provided by the SWRCB, HDR will address the following federal environmental issue areas in a preliminary fashion using the *Federal Cross-cutting Environmental Regulations Evaluation Form for Environmental Review and Federal Coordination* form:

- Federal Endangered Species Act (see Subtask 5.3.3).
- National Historic Preservation Act (see Subtask 5.2.1).
- Clean Air Act (see Subtask 5.2.2).
- Farmland Policy Act - Williamson Act lands (assumes no additional technical studies)
- Flood plain management (assumes no additional technical studies).
- Migratory Bird Treaty Act (see Subtask 5.3.3).
- Protection of wetlands (see Subtask 5.3.3).
- Wild and scenic rivers (see Subtask 5.3.3).
- Source water protection (assumes no additional technical studies).

The following activities are included under this subtask:

5.2.1 Cultural Resources

The project will seek federal funding under the CEQA-Plus program, established by the USEPA and implemented through the SWRCB on behalf of the USEPA as USEPA's designated non-federal representative. Because the project will use federal funds and may affect historic properties (i.e., any prehistoric or historic site included in or considered eligible for inclusion in the National Register of Historic Places [NRHP]), it is considered an

undertaking (per 36 CFR 800.16[y]) subject to the authority of federal historic preservation law. In particular, the project is required to comply with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations found in 36 CFR 800, which require federal agencies to take into account the effects of their projects on historic properties.

HDR will prepare an Assessment of Potential Effect (APE) map and a technical memorandum that summarizes the following cultural resources effort for review by the District and subsequent submission to the SWRCB for ultimate submission to the Office of Historical Preservation.

- **Records Search:** Prior to conducting field work, HDR will complete a records search at the Northwest Information Center of the California Historical Resources Information System at Sonoma State University to identify previously-recorded prehistoric and historical sites, historic architecture, ethnographic resources, and previous archaeological investigations that may be documented within the project area.
- **Field Survey.** To identify cultural resources potentially located within the project area, it will be necessary to inspect the project parcel on foot using systematic, parallel, or meandering transects spaced 15 meters apart. Cultural resources discovered within or immediately adjacent to the survey area will be documented according to current professional standards on the appropriate California Department of Parks and Recreation forms (DPR-523). Preparation of one DPR form is assumed. Historical or prehistoric archaeological sites and isolates will be photographed using digital photography, and their locations plotted on the appropriate U.S. Geological Survey (USGS) topographic 7.5-minute quadrangle using a Global Positioning System (GPS) unit. Planimetric site sketch maps will be prepared for each archaeological site encountered that depicts site boundaries, artifact concentrations, features, diagnostic artifacts, areas of disturbance, or other notable items.
- **Preparation of Technical Report of Findings:** HDR will prepare a technical report of findings and determination of effects that will adhere to professional standards outlined in the Office of Historic Preservation guidelines entitled *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (Jackson 1990). The report will include a project description, discussions of the regulatory context and cultural context, including the prehistory, archaeology, ethnography, and history of the project area; methods employed during the study, the results of the records search and field work, and an evaluation for potential listing on the National Register of Historic Places for any historic architecture within the project area over 45 years of age.
- **Native American Consultation:** Under 36 CFR 800.3(f)(2), federal agencies shall make a reasonable and good faith effort to identify Indian tribes that may have religious or other cultural concerns for historic properties within the study area. To accomplish this, the Native American Heritage Commission (NAHC) will be contacted to request a

search of their files for sacred sites that may be documented within or adjacent to the project area, and for a list of tribes or tribal members who may have interests in or information about the project area. The people included on the list will be contacted by telephone and letters.

- **State Historic Preservation Office (SHPO) Consultation:** It is assumed that the SWRCB will conduct any consultation with the SHPO, and that HDR will develop the consultation letters for the SWRCB's use. Communications prepared for the SHPO will follow the SHPO's *Annotated Checklist for Writing SHPO Submittal Letters* (Sharp n.d.).

Deliverables: *PDF of the cultural resources technical memorandum, APE map, and California Department of Parks and Recreation Form.*

5.2.2 Air Conformity Analysis

The project is located in the Bay Area Air Quality Management District (BAAQMD). The BAAQMD is designated a non-attainment for ozone and particulate matter. HDR will prepare a stand-alone air conformity analysis memorandum to meet the requirements of CEQA-Plus. Federal actions may be exempt from conformity determinations if they do not exceed designated de minimis levels. The 40 CFR Part 51.853(b) establishes these de minimis levels for criteria pollutants. If the de minimis thresholds are not exceeded, and the proposed action does not create emissions that constitute more than 10 percent of the air basin's emission budget, a formal conformity analysis is not required. HDR assumes that implementation of the proposed project will result in less than 10 percent of air basin's emission budget (i.e., not requiring a formal conformity analysis).

Deliverables: *PDF of the air conformity analysis memorandum.*

5.2.3 Biological Resources

The project site supports natural resources (i.e., trees, vegetations, etc.) that could provide habitat for sensitive species. HDR will conduct a California Natural Diversity Database records search, and perform a reconnaissance-level investigation of the project site. A biological resource technical memorandum will be prepared for review and comment by District staff.

HDR assumes no federal or state listed species will be identified. A wetland delineation is not part of this scope.

Deliverables: *PDF of the biological resource technical memorandum.*

5.2.4 SWRCB Consultation

The *Federal Cross-Cutting Environmental Regulations Evaluation Form for Environmental Review and Federal* form will be submitted to the SWRCB for review and comment; SWRCB may require additional analysis (i.e., quantification) that is considered beyond the bounds of this scope unless outlined above. The results of the SWRCB review of the environmental review form will be incorporated into the Initial Study for CEQA-Plus compliance.

Up to 55 hours have been budgeted under this subtask for SWRCB consultation and coordination.

Deliverables: *Completed Federal Cross-Cutting Environmental Regulations Evaluation Form for Environmental Review and Federal form.*

Subtask 5.3 - Administrative Draft Initial Study

HDR will prepare an administrative draft Initial Study to determine if the proposed project may have a significant effect on the environment and to what extent. If no significant effects are identified, then the Initial Study would support the adoption of a Mitigated Negative Declaration.

It is assumed that temporary, short-term construction, and/or community disruption impacts (i.e., air quality, biological resources, cultural resources, etc.) can be avoided or mitigated to less-than-significant levels through the incorporation of mitigation measures consisting of construction best management practices and avoidance strategies.

In the event that the Initial Study concludes that the project may have a significant effect on the environment that cannot be avoided or mitigated to a less-than-significant level, an EIR will be needed to meet CEQA requirements. Preparation of an EIR is not included in the proposed budget. A detailed scope of work and budget for the completion of the EIR will be submitted to the District, should an EIR be needed for the project.

Deliverables: *Four bound copies and one CD with electronic files of the Administrative Draft Initial Study.*

Subtask 5.4 - Public Draft Initial Study/Mitigated Negative Declaration

HDR will incorporate client comments on the administrative draft Initial Study and prepare a public draft Initial Study/Mitigated Negative Declaration that will be circulated to the public for the 30-day public review period required by CEQA and submitted to SWRCB for circulation to federal agencies, as mandated by the CEQA-Plus program.

As part of this process, HDR will provide the District with two copies of a screen-check public draft Initial Study/Mitigated Negative Declaration to review to ensure that District comments have been appropriately addressed prior to release of the public draft.

HDR will then provide one unbound camera ready copy of the public draft Initial Study/Mitigated Negative Declaration and Notice of Intent. On behalf of the District, HDR will submit 15 copies to the State Clearinghouse along with a Notice of Completion transmittal form. In addition, HDR will provide eight hard copies to the SWRCB in compliance with the CEQA-Plus program. District staff will be responsible for distribution of the document to other local entities (such as the local public library). It is assumed that the District will file one copy of the Notice of Intent with the County Clerk Recorder and for publication of the Notice of Intent in the appropriate newspaper.

Deliverables: *Four bound copies of the screen check public draft Initial Study/Mitigated Negative Declaration for review by District staff; one unbound camera ready copy and one CD with electronic files of the public draft Initial Study/Mitigated Negative Declaration, Notice of Intent, and 23 bound copies of the public draft Initial Study/Mitigated Negative Declaration.*

Subtask 5.5 - Final Initial Study/Mitigated Negative Declaration

Upon completion of the 30-day public review period, HDR will assist District staff in considering comments received (including those from federal agencies). An administrative final Initial Study/Mitigated Negative Declaration document will be prepared that will specifically address the comments received on the public draft Initial Study/Mitigated Negative Declaration. Requested revisions from federal/state/local agencies or interested parties resulting in the need for additional data collection, analysis, and/or quantification is beyond the bounds of this scope.

On behalf of the District, HDR will then, based on comments, prepare the final Initial Study/Mitigated Negative Declaration document for the District's consideration for approval of the project. HDR also will prepare the required Mitigation Monitoring and Reporting Program (MMRP).

Assuming that the project is approved by the District and SWRCB, HDR will prepare a Notice of Determination for appropriate signature, and will distribute the Notice of Determination to the SWRCB, State Clearinghouse, and the County Clerk Recorder. The California Department of Fish and Game filing fee must accompany the Notice of Determination. The District will be responsible for paying any and all filing fees.

Deliverables: *One PDF copy of the administrative Final Initial Study/Mitigated Negative Declaration, four bound copies and one electronic copy (in PDF format) of the final Initial Study/Mitigated Negative Declaration, MMRP, and Notice of Determination.*

Subtask 5.6 - Environmental Document Review Meetings

HDR will meet with District staff prior after District review of the project description, administrative draft initial study, and public draft initial study/mitigated negative declaration. Up to three meetings are budgeted under this subtask.

Deliverables: *Meeting agenda and minutes.*

TASK 6 - EXISTING PUMP STATION REHABILITATION DESIGN (OPTIONAL)

If requested by the District, HDR will design rehabilitation improvements for the existing pump station. This would include minimal structural modifications, removing existing electrical equipment from the upper floor, and replacing the mechanical equipment. Additional drawings and specifications will be added to the contract documents. Up to 36 additional drawings are anticipated, which include the following:

1. G14 Construction Sequencing Plan I
2. G15 Construction Sequencing Plan II
3. C14 Flow Splitter Box Plans
4. C15 Flow Splitter Box Sections and Details
5. A12 Existing Pump Station Elevations
6. A13 Existing Pump Station Details I
7. A14 Existing Pump Station Details II
8. M08 Existing Pump Station HVAC Plan
9. M09 Existing Pump Station HVAC Sections and Details
10. M10 HVAC Schedule II
11. S28 Existing Pump Station Modifications Plan I
12. S29 Existing Pump Station Modifications Plan II
13. S30 Existing Pump Station Modifications Sections and Details I
14. S33 Coating Plan
15. S34 Coating Section
16. S35 Coating Details
17. S31 Existing Pump Station Modifications Sections and Details II
18. S32 Existing Pump Station Modifications Sections and Details III
19. P09 Existing Pump Station Modifications Plan - Lower Level
20. P10 Existing Pump Station Modifications Plan - Upper Level
21. P11 Existing Pump Station Modifications Plan Sections and Details I
22. P12 Existing Pump Station Modifications Plan Sections and Details II
23. P13 Existing Pump Station Modifications Plan Sections and Details III
24. P14 Existing Pump Station Modifications Details IV
25. P15 Existing Pump Station Modifications Details V
26. E33 Details – 5
27. E34 One-Line Diagram, Final – 4

28. E35 Control Diagrams – 4
29. E36 Existing Building Plan, Electrical Demolition – 1
30. E37 Existing Building Plan, Electrical Demolition – 2
31. E38 Existing Building Plan, Electrical Improvement – 1
32. E39 Existing Building Plan, Electrical Improvement – 2
33. E40 Existing Building Plan, Lighting – 4
34. E41 Existing Building Plan, Lighting – 5
35. E42 Elevations – 4
36. I21 Details – 4

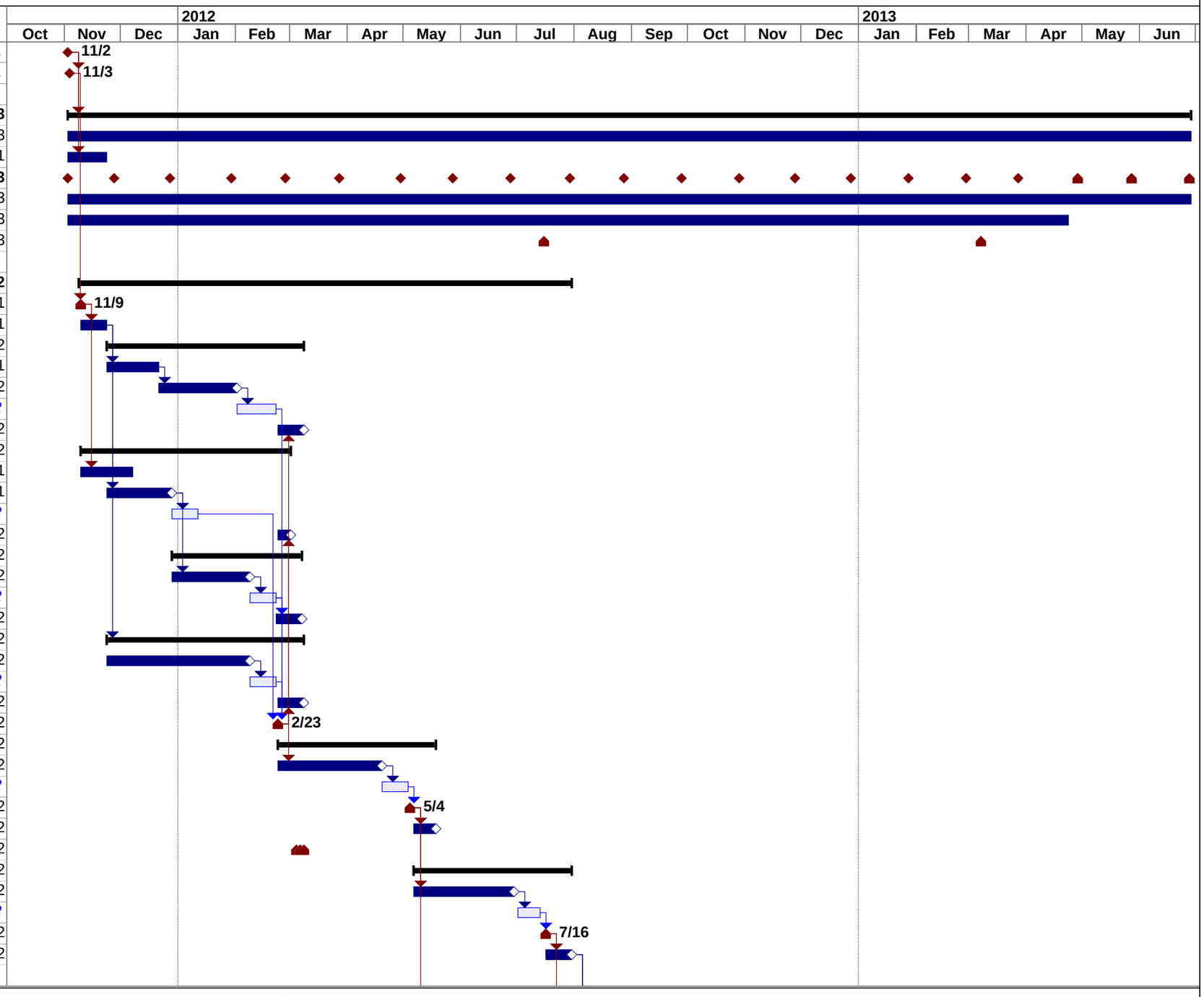
Items Not Included in Scope of Work

The following items are not included in the scope of work at this time:

- Environmental permitting. HDR will alert the District of what permits may be required for the project during the Initial Study process, which may include Clean Water Act Sections 404/401, and California Department of Fish and Game Streambed Alteration Agreement (Section 1600). Permitting should be submitted to the applicable regulatory agency upon completion of CEQA-Plus documentation. HDR can provide the District with permitting support services if requested, including preparation of permit applications and agency consultation.
- Preparation of an EIR.
- Funding assistance.
- Construction phase services - It is assumed this service can be provided as an amendment to this project. HDR can provide a scope of work and budget estimate at the 90 percent design stage for construction phase services.
- Project advertisement and distribution of drawings and specifications.
- Plant-wide electrical and standby power evaluation.
- Evaluation or design of approaches that prove/rely on standby power from SB-1, and/or loadshedding.
- Evaluation/design SB-1/MSB improved interlocking, redundancies.
- Design of 12kV substation to support the combined influent pump station and administration building/corporation yard and electrical loads.
- Design of standby power to support administration building/corporation yard, in addition to influent pump station.

Attachment 'B' - Project Schedule

Task Name	Start	Finish
Board Approval (First/Third Wednesdays)	*11/2/11*	*11/2/11*
Consultant Notice to Proceed	*11/3/11*	*11/3/11*
Task 1 - Project Management and QA/QC	**11/3/11**	**6/28/13**
Project Management and Coordination	11/3/11	6/28/13
Project Management Plan	11/3/11	11/23/11
Monthly Invoices and Status Reports	**11/3/11**	**6/28/13**
Subconsultant Agreements and Management	11/3/11	6/28/13
QA/QC Program	11/3/11	4/23/13
Board Presentations (First/Third Wednesdays)	7/16/12	3/8/13
Task 2 - Predesign Phase	**11/9/11**	**7/30/12**
Kick-off Meeting	11/9/11	11/9/11
Background Data Review	11/10/11	11/23/11
Condition Assessment	11/24/11	3/8/12
Condition Assessment of Structures	11/24/11	12/21/11
Draft Report	12/22/11	2/1/12
District Review	*2/2/12*	*2/22/12*
Final Report	2/24/12	3/8/12
Geotechnical Investigation and Report	11/10/11	3/1/12
Field Work	11/10/11	12/7/11
Draft Report	11/24/11	12/28/11
District Review	*12/29/11*	*1/11/12*
Final Report	2/24/12	3/1/12
Structural Evaluation of Existing Influent Pump Station S	12/29/11	3/7/12
Draft Technical Memorandum	12/29/11	2/8/12
District Review	*2/9/12*	*2/22/12*
Final Technical Memorandum	2/23/12	3/7/12
Hydraulic Analysis	11/24/11	3/8/12
Draft Technical Memorandum	11/24/11	2/8/12
District Review	*2/9/12*	*2/22/12*
Final Technical Memorandum	2/24/12	3/8/12
Review Meeting/Workshop	2/23/12	2/23/12
Pump Station Alternatives Analysis	2/24/12	5/18/12
Draft Technical Memorandum	2/24/12	4/19/12
District Review	*4/20/12*	*5/3/12*
Review Meeting/Workshop	5/4/12	5/4/12
Final Technical Memorandum	5/7/12	5/18/12
Site Visits	3/5/12	3/9/12
Predesign Report	5/7/12	7/30/12
Draft Report	5/7/12	6/29/12
District Review	*7/2/12*	*7/13/12*
Review Meeting/Workshop	7/16/12	7/16/12
Final Report	7/17/12	7/30/12

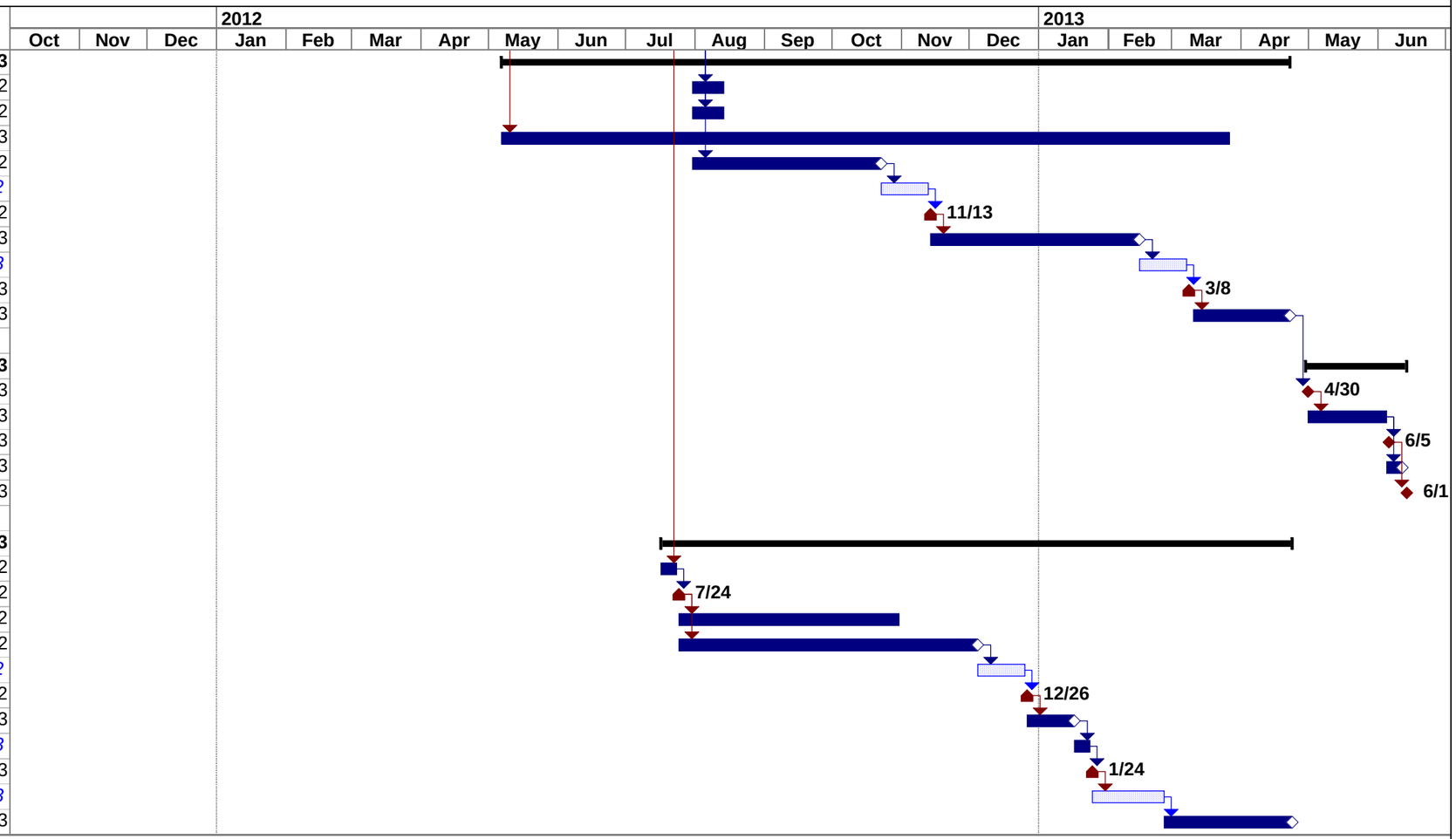


Napa Sanitation District
Influent Pump Station Expansion Project (CIP 4012)

Task | Milestone | Summary | Meetings/Workshops | Review Period

Attachment 'B' - Project Schedule

Task Name	Start	Finish
Task 3 - Final Design Phase	**5/7/12**	**4/22/13**
Surveying	7/31/12	8/13/12
Potholing	7/31/12	8/13/12
Instrumentation/Controls, SCADA, and Electrical	5/7/12	3/26/13
50% Design Submittal	7/31/12	10/22/12
District Review	*10/23/12*	*11/12/12*
50% Design Review Meeting	11/13/12	11/13/12
90% Design Submittal	11/14/12	2/14/13
District Review	*2/15/13*	*3/7/13*
90% Design Review Meeting	3/8/13	3/8/13
100% Design Submittal	3/11/13	4/22/13
Task 4 - Bidding Phase	**4/30/13**	**6/13/13**
Job Walk / Prebid Conference	4/30/13	4/30/13
Bid Period	5/1/13	6/4/13
Bid Opening	6/5/13	6/5/13
Conformed Documents	6/5/13	6/11/13
Recommendation for Award	6/13/13	6/13/13
Task 5 - CEQA-Plus Documentation	**7/17/12**	**4/23/13**
Project Description	7/17/12	7/23/12
Review Meeting	7/24/12	7/24/12
Environmental Review	7/25/12	10/30/12
Administrative Draft Initial Study	7/25/12	12/4/12
District Review	*12/5/12*	*12/25/12*
Review Meeting	12/26/12	12/26/12
Public Draft Initial Study/Mitigated Negative Declaration	12/27/12	1/16/13
District Review	*1/17/13*	*1/23/13*
Review Meeting	1/24/13	1/24/13
Public Review	*1/25/13*	*2/25/13*
Final Initial Study/Mitigated Negative Declaration	2/26/13	4/23/13



Napa Sanitation District
Influent Pump Station Expansion Project (CIP 4012)

Task | Milestone | Summary | Meetings/Workshops | Review Period

Attachment 'C' - Budget Summary

Napa Sanitation District

Influent Pump Station Expansion Project (CIP 4012)

Task		Labor													Expenses		Total ($)
		Principal and QA/QC *(Williams/ Reardon)*	Project Manager *(Olson, Hunt)*	Senior Project Engineer/ Mechanical *(Kontonickas)*	Staff Engineers *(Natoli)*	Architect *(Battrick)*	Structural Engineer *(Tavangar/ Schneider)*	CEQA *(Edgerton/ Fisher)*	Geotech *(Trumbull/ Brown)*	CAD Tech *(Down/ Van Meurs)*	Project Controller *(Melton)*	Project Coordinator *(Boyle)*	Total HDR Labor Hours	Total HDR Labor Cost	Total Expenses	Sub w/5% Markup	
2011/2012 Rates		**$ 255**	**$ 248**	**$ 190**	**$ 135**	**$ 160**	**$ 155**	**$ 160**	**$ 195**	**$ 140**	**$ 124**	**$ 88**					
Task 1 - Project Management and Quality Assurance/Quality Control (QA/QC)																	
1.1	Project Management and Coordination		80		16							16	112	$23,504	$2,350	$2,394	$28,249
1.2	Project Management Plan		12	8	16							16	52	$8,160	$816	$0	$8,976
1.3	Monthly Invoices and Status Reports		8		8						40	16	72	$9,674	$967	$4,339	$14,980
1.4	Subconsultant Agreements and Management		16		24						4	8	52	$8,532	$853	$0	$9,385
1.5	QA/QC Program	160										8	168	$41,523	$4,152	$0	$45,675
1.6	Board Presentations (up to 2)		12									8	20	$3,699	$370	$0	$4,069
	Subtotal Task 1	**160**	**128**	**8**	**64**	**0**	**0**	**0**	**0**	**0**	**44**	**72**	**476**	**$95,093**	**$9,509**	**$6,733**	**$111,335**
Task 2 - Predesign Phase																	
2.1	Kick-off Meeting		12	6								4	22	$4,477	$448	$1,197	$6,122
2.2	Background Data Review		12	16	16		4			4			52	$9,495	$950	$3,110	$13,555
2.3	Condition Assessment		16	8	16		8					8	56	$9,801	$980	$26,642	$37,423
2.4	Geotechnical Investigation and Report		8	8					155	10		14	195	$32,632	$3,263	$6,930	$42,825
2.5	Structural Evaluation of Existing Influent Pump Station Structure		16		8		80					8	112	$19,521	$1,952	$0	$21,473
2.6	Hydraulic Analysis		24		40							2	66	$11,679	$1,168	$3,814	$16,660
2.7	Pump Station Alternatives Analysis		40	80	40					40		8	208	$37,140	$3,714	$8,350	$49,203
2.8	Site Visits (up to 3)		16	16								4	36	$7,369	$737	$3,255	$11,361
2.9	Predesign Report		60	80	80	16	24			80		24	364	$61,539	$6,154	$18,522	$86,215
2.10	Predesign Review Meetings/Workshops (up to 3)		36	16	16		16					8	92	$17,653	$1,765	$7,337	$26,756
	Subtotal Task 2	**0**	**240**	**230**	**216**	**16**	**132**	**0**	**155**	**134**	**0**	**80**	**1203**	**$211,306**	**$21,131**	**$79,156**	**$311,593**
Task 3 - Final Design Phase																	
3.1	Surveying		4		8								12	$2,101	$210	$21,000	$23,311
3.2	Potholing (up to 2 days)		2		4								6	$1,051	$105	$7,216	$8,371
3.3	Instrumentation/Controls, SCADA, and Electrical												0	$0	$0	$35,223	$35,223
3.4.1	50%, 90%, and 100% Drawings		160	100	360	103	400			1,100			2,223	$351,961	$35,196	$115,708	$502,865
3.4.2	50%, 90%, and 100% Specifications		40	40	40		40					160	320	$44,386	$4,439	$38,436	$87,261
3.4.3	50%, 90%, and 100% Cost Estimates		16	8	16		4					8	52	$9,115	$912	$5,124	$15,151

Task		Labor													Expenses		Total ($)
		Principal and QA/QC *(Williams/ Reardon)*	Project Manager *(Olson, Hunt)*	Senior Project Engineer/ Mechanical *(Kontonickas)*	Staff Engineers *(Natoli)*	Architect *(Battrick)*	Structural Engineer *(Tavangar/ Schneider)*	CEQA *(Edgerton/ Fisher)*	Geotech *(Trumbull/ Brown)*	CAD Tech *(Down/ Van Meurs)*	Project Controller *(Melton)*	Project Coordinator *(Boyle)*	Total HDR Labor Hours	Total HDR Labor Cost	Total Expenses	Sub w/5% Markup	
3.5	Design Review Meetings (up to 2)		24	12	12		6					4	58	$11,286	$1,129	$3,515	$15,930
	Subtotal Task 3	**0**	**246**	**160**	**440**	**103**	**450**	**0**	**0**	**1,100**	**0**	**172**	**2,671**	**$419,900**	**$41,990**	**$226,223**	**$688,113**
Task 4 - Bidding Phase																	
4.1	Perform Job Walk and Attend Prebid Conference		6		6							2	14	$2,501	$250	$0	$2,751
4.2	Respond to Contractor Questions and Prepare Addenda (up to 2)		12	12	12		8					8	52	$9,015	$901	$5,821	$15,737
4.3	Conformed Documents		6		6							4	16	$2,681	$268	$3,169	$6,118
4.4	Recommendation for Award		4		8							4	16	$2,463	$246	$0	$2,709
	Subtotal Task 4	**0**	**28**	**12**	**32**	**0**	**8**	**0**	**0**	**0**	**0**	**18**	**98**	**$16,659**	**$1,666**	**$8,990**	**$27,315**
Task 5 - CEQA Plus Documentation																	
5.1	Project Description							16		8			24	$3,533	$353	$0	$3,886
5.2.1	Cultural Resources							56				4	60	$8,701	$870	$0	$9,571
5.2.2	Air Conformity Analysis							30				2	32	$4,648	$465	$0	$5,113
5.2.3	Biological Resources							30				2	32	$4,648	$465	$0	$5,113
5.2.4	SWRCB Consultation							55					55	$8,190	$819	$0	$9,009
5.3	Administrative Draft Initial Study							80		8		8	96	$13,786	$1,379	$0	$15,165
5.4	Public Draft Initial Study/Mitigated Negative Declaration							40				4	44	$6,318	$632	$0	$6,950
5.5	Final Initial Study/Mitigated Negative Declaration							40				4	44	$6,318	$632	$0	$6,950
5.6	Environmental Document Review Meetings (up to 3)		24					30				3	57	$10,691	$1,069	$0	$11,760
	Subtotal Task 5	**0**	**24**	**0**	**0**	**0**	**0**	**377**	**0**	**16**	**0**	**27**	**444**	**$66,834**	**$6,683**	**$0**	**$73,517**
TOTALS WITHOUT OPTIONALS		**160**	**666**	**410**	**752**	**119**	**590**	**377**	**155**	**1,250**	**44**	**369**	**4,892**	**$809,793**	**$80,979**	**$321,102**	**$1,211,873**

[1] *No markup on expenses.*

Task 6 - Existing Pump Station Rehabilitation Design (Optional)																	
6.1	Existing Pump Station Rehabilitation Design	44	90	120	140	44	140			260	8	60	906	$150,688	$15,069	$45,715	$211,472
	Subtotal Task 6	**44**	**90**	**120**	**140**	**44**	**140**	**0**	**0**	**260**	**8**	**60**	**906**	**$150,688**	**$15,069**	**$45,715**	**$211,472**

ATTACHMENT 'D' - RATE SCHEDULE

HDR ENGINEERING, INC.
STANDARD RATE SCHEDULE
October 2011 to June 2013

Napa Sanitation District
Influent Pump Station Expansion Project (CIP 4012)

Principal / Technical Specialist	$255
Project Manager	$248
Geotechnical Engineer IV	$225
Structural Engineer IV	$220
Geotechnical Engineer III	$205
Geotechnical Engineer II	$195
Senior Environmental Specialist	$192
Senior Project Engineer/Mechanical	$190
Architect III / Project Engineer III	$165
CAD Manager / Architect II /Cultural Resources Specialist II	$160
Structural Engineer III	$157
Architect I	$155
Structural Engineer II	$152
Project Engineer II / CAD Technician IV	$150
CAD Technician III	$145
Project Engineer I / CAD Technician II	$140
Staff Engineer III / CAD Technician I	$135
Biologist II	$130
Project Controller II	$127
Biologist I / Drafter IV	$125
Project Controller I	$124
Environmental Specialist I / Structural Engineer I / Drafter III	$120
Drafter II / Staff Engineer II	$115
Cultural Resources Specialist I	$113
Staff Engineer I	$105
Geotechnical Engineer I	$103
Drafter I	$90
Project Coordinator II	$86
Project Coordinator I	$83

Please Note: The above rates are good through June 2013. HDR reserves the right to request revised rate schedule if project extends beyond the schedule date identified in Attachment 'B' - Project Schedule.

EXPENSES

In-House Expenses

Technology Charge per Direct Labor Hour	$3.70
Vehicle Mileage (per mile)	Current Federal Travel Regulation (FTR)
Color Copy (per copy)	$0.75 to $1.50
Photocopies (per copy)	$0.10 to $0.20
Bond Plotting - Black & White (per square foot)	$0.135
Bond Plotting - Color (per square foot)	$0.50
Vellum - Black & White (per square foot)	$0.50
Mylar - Black & White (per square foot)	$0.90

Please Note:Technology charges include computer, CADD, network, software, and other related technology services. Subconsultants are charged with a five percent markup.