



TO: BOARD OF DIRECTORS  
REVIEWED: MARIO IGLESIAS  
GENERAL MANAGER   
FROM: PETER V. SEVCIK, P.E.   
DIRECTOR OF  
ENGINEERING & OPERATIONS  
DATE: JULY 20, 2017

**AGENDA ITEM  
E-1  
JULY 26, 2017**

**HYDROGEOLOGIC SERVICES FOR  
EUREKA WELL REPLACEMENT PROJECT**

**ITEM**

Authorize contract for professional hydrogeologic services for Eureka Well Replacement Project in the amount of \$49,008 with Martin B. Feeney, Consulting Hydrogeologist, and authorize contingency of \$15,000 [RECOMMEND AUTHORIZE HYDRO-GEOLOGIC SERVICES CONTRACT IN THE AMOUNT OF \$49,008 WITH MARTIN B. FEENEY, CONSULTING HYDROGEOLOGIST AND AUTHORIZE CONTINGENCY OF \$15,000].

**BACKGROUND**

Eureka Well has historically been one of the District's largest producing wells. The well was drilled in 1979 and the current pump has been in place since 1999. The 2007 Master Plan Update identified a nominal flow capacity of 890 gallons per minute (gpm) for the well based on the long-term average of flow records.

In 2014, a leak developed around the center shaft of the well. The pump was pulled, disassembled and inspected. The inspection revealed that the pump and well needed significant maintenance. Replacement of the well was considered at that time. However, due to budget and engineering constraints related to the then under construction Supplemental Water Project, full replacement was deferred. Maintenance and rehabilitation efforts were undertaken at that time.

Rehabilitation efforts included replacing the inner column pipe and column pipe and chemically cleaning the well screen to partially restore efficiency. The well returned to service in late 2014. In late 2016, the well casing failed. The well is no longer serviceable and needs to be properly abandoned and replaced with a new well. The new well will be drilled on the same site as the existing well.

Staff requested a proposal for professional hydrogeological services from Martin B. Feeney, Consulting Hydrogeologist, to assist in the design and drilling of the new well. Mr. Feeney has thirty years of municipal well drilling experience and has overseen numerous supply well drilling efforts. Mr. Feeney specializes in assisting public water suppliers with drilling new water wells.

Mr. Feeney will assist the District in well design and siting, in reviewing proposals from well drillers and will directly oversee drilling operations to ensure the well is completed as designed. Mr. Feeney proposes a time and materials budget of \$49,008.00 for his services. Staff reviewed Mr. Feeney's proposal and feels the proposed cost of service is reasonable. Attached is the proposed scope of work and budget for the well design and drilling phase of the project.

**ITEM E-1 EUREKA WELL HYDROGEOLOGIC  
SERVICES CONTRACT  
JULY 26, 2017**

**PAGE 2**

The time required for drilling operations can vary significantly based on site conditions. Since much of Mr. Feeney's time will be directly linked to drilling operations, staff is recommending a 30% contingency (\$15,000) be approved for the contract.

**FISCAL IMPACT**

The District's 2017/2018 Budget includes \$1,000,000.00 for the Eureka Well Replacement Project.

**STRATEGIC PLAN**

Goal 1 – WATER SUPPLY – Actively plan to provide reliable water supply of sufficient quality and quantity to serve both current customers and those in the long-term future.

Goal 2. FACILITIES THAT ARE RELIABLE, ENVIRONMENTALLY SENSIBLE AND EFFICIENT. Plan, provide for and maintain District facilities and other physical assets to achieve reliable, environmentally sensible, and efficient District operations.

**RECOMMENDATION**

Staff recommends that the Board, by motion and roll call vote, adopt Resolution 2017-XXXX Eureka Well Replacement Project Hydrogeologic Services, authorizing a Task Order with Martin B. Feeney in the amount of \$49,008.00, and a contingency in the amount of \$15,000.00, for hydrogeologic services for the Eureka Well Replacement Project.

**ATTACHMENTS**

- A. Resolution 2017-XXXX Eureka Well Replacement Project Hydrogeologic Services
- B. May 26, 2017, Eureka Replacement Well – Hydrogeologic Services

July 26, 2017

ITEM E-1

ATTACHMENT A

**NIPOMO COMMUNITY SERVICES DISTRICT  
RESOLUTION NO. 2017-XXXX**

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE NIPOMO COMMUNITY SERVICES DISTRICT  
AUTHORIZING A CONTRACT WITH MARTIN B. FEENEY, CONSULTING HYDROGEOLOGIST, FOR  
HYDROGEOLOGIC SERVICES IN SUPPORT OF THE EUREKA WELL REPLACEMENT PROJECT**

**WHEREAS**, the Eureka Well was drilled nearly forty years ago and has historically been one of the Districts largest water production well; and

**WHEREAS**, the Eureka Well has exceeded its service life and is now inoperable; and

**WHEREAS**, replacement of the Eureka Well needs to be completed in a timely manner to restore the District's groundwater pumping capability; and

**WHEREAS**, District Purchasing Policy Resolution 2010-1201 provides for the procurement professional services through non-competitive negotiations in limited situations; and

**WHEREAS**, Martin B. Feeney has extensive experience with siting, design, and drilling of municipal supply wells; and

**WHEREAS**, the cost of services is reasonable and public exigency will not permit delay.

**NOW THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED BY THE NIPOMO COMMUNITY SERVICES DISTRICT BOARD OF DIRECTORS AS FOLLOWS:**

- 1) The above recitals are true and correct and constitute findings for the exclusive use of Martin B. Feeney to provide hydrogeological consulting services in support of the Eureka Well Replacement project.
- 2) The District Board of Directors does hereby direct District staff to execute a Task Order to Martin B. Feeney, Consulting Hydrogeologist, in the amount of \$49,008 with a contingency in the amount of \$24,500.

On the motion of Director XXXXX, seconded by Director XXXXX, and on the following roll call vote, to wit:

**AYES:**

**NOES:**

**ABSENT:**

**CONFLICTS:**

The foregoing resolution is hereby adopted this 26<sup>th</sup> day of July 2017.

---

**DAN A. GADDIS**

President, Board of Directors

ATTEST:

APPROVED AS TO FORM:

---

**MARIO IGLESIAS**

General Manager and Secretary to the Board

---

**WHITNEY MCDONALD**

District Legal Counsel

July 26, 2017

ITEM E-1

ATTACHMENT B

**Martin B. Feeney**  
Consulting Hydrogeologist

P.G. 4634  
C.E.G. 1454  
C.Hg 145

May 26, 2017

Nipomo Community Service District  
148 South Wilson Street  
Nipomo, CA 93444-0326

Attention: Mario Inglesias, General Manager

Subject: Eureka Replacement Well – Hydrogeologic Services- Scope of Work

Dear Mario:

Following-up our discussions, I am pleased to submit this proposal for hydrogeologic services associated with the design and construction-management of a replacement well for Nipomo Community Service District's (District) existing Eureka Well. The Eureka Well has reached the end of its service life. Presented in this proposal is a scope of work, schedule and cost for the proposed work.

A detailed scope of work and fees for the work described is presented below.

## **BACKGROUND**

It is understood that the Eureka Well has operational problems and has reaching the end of their service life. In response to these conditions, the District has requested assistance in the design, preparation of documents for procurement of contractor services, and technical oversight during construction of the new well.

The existing well was drilled in 1979, is 585 feet in depth and is perforated between the depths of 250 and 575 feet below ground surface. The well is reportedly constructed of mild steel casing with louvered perforations. In response to declining performance, the District performed a major rehabilitation of the well in 2014. It is understood that, while some improvement in performance was observed, the results were short-lived. Review of 2016 video shows the well to be extensively incrustated and perforations barely visible. Given this and the fact that the well is more than 35 years old, far beyond the reasonable service life of mild steel wells, replacement is the appropriate action.

## ***SCOPE OF WORK***

Based on the above, a scope of work to address these issues has been developed. The work is broken down by task for purposes of budgeting.

## **PHASE I**

**Task 1 - Data Collection and Review/Basis of Design** - This task will include the collection and review of available data relevant to the existing well and the proximate area. This would include review of hydrogeologic data, well histories, well construction, well performance data and local contamination issues. These data will be utilized to prepare a basis-of-design for the new well. This document will recommend an overall well design, construction methods, and identify and propose approaches to well construction logistical issues.

**Task 2 – Prepare Plans and Specifications** - After the District's review and concurrence with the recommendations of the work product from Task 1, specifications for the new well will be developed. This would include the completion of the "technical portions" for inclusion in the

District's standard bid package. This task will also include the development of a short list from which bids should be requested. After receipt of bids, assistance will be provided in selecting the preferred contractor

**Task 3 - Well Construction Permitting** - Work performed under this task will be limited to assisting the District and their engineering/planning professionals with preparation of an initial study and negative declaration, if required. Assistance will also be provided toward acquisition of specific permits required for drilling and testing a water well. This would likely include well construction and possibly water disposal permits. It is assumed that the District would apply for these permits, and assistance will be provided as necessary. This task would also include assisting the District with issues associated with adding the new well to the system as a new source in accordance with SWRQB-DDW (DDW) protocols. This task does not include preparation of the Drinking Water Source Area Protection (DWSAP) document that may be required by DDW policies under the Clean Water Act.

## **PHASE II**

**Task 4 - Well Construction Supervision/Reporting** - This task would include the on-site observation of the drilling, construction and testing of the new well. Services would include the preparation of a geologic log, the enforcement of specifications, the observation of critical stages of construction (casing, gravel packing and development), and the supervision of well testing. If field conditions are different than assumed, technical input would be provided in response to the changed conditions. Upon completion of the well testing, water samples will be collected for laboratory analysis to support the application to DDW to add the well as a source of supply. It is assumed that the District will utilize their usual analytical laboratory. Cost of water quality analysis is not included in this proposal. Upon completion of construction and testing, a summary report will be prepared documenting construction methods, as-built construction, well yield and water quality.

## **COSTS**

Work described above will be performed on a time-and-expense basis in accordance with the current fee schedule (attached). Estimated costs by task are presented Table 2. Estimates presented for Phase 1 (Tasks 1, 2, and 3) can be considered firm and can be assumed to be not-to-exceed values. The level of effort associated with well construction supervision (Phase II - Task 4) is difficult to budget, as the time involved is a function of Contractor competence and diligence, factors of which, under low-bid procurement procedures, I have no control. The proposed budget assumes that well construction will be performed on a 24-hour a day schedule for a period of 16 days and that supervision will be on a variable basis but will average 50 percent coverage. If well construction activities are performed on a shorter or longer schedule, the fee for this task will be adjusted in accordance with the fee schedule. As such, Task 4 should be approached as time and materials. The cost basis for Task 4 is discussed below.

### **PHASE II - Task 4 Costs**

The cost estimate for Task 4 was developed from the anticipated construction schedule (below) for a 12-inch diameter 600-foot well. It is assumed the well will be constructed in four phases: 1) installation of a conductor casing; 2) drilling of pilot hole and geophysical logging; 3) reaming of pilot hole, building the well, and well development; and 4) test pumping. The anticipated schedule is shown below. Between each of these phases, there may be periods of inactivity for several days that will result in demobilization of field personnel. The travel time associated with these sequential mobilizations is included in the cost estimate. Cost estimate also includes per diem for field staff and rental of water level data logger and field water quality instruments.

### CONSTRUCTION SCHEDULE

**New 600 foot well - 24/7 construction**

Construction Task	Work Days															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mobilization																
Install Conductor																
Drill Pilot Hole																
Geophysical Log																
Ream Pilot Hole																
Build Well (casing, gravel and sealing)																
Well Development																
Well Testing																
Water Quality Sampling																

Contractor on-site  
Contractor off-site

### Task 4 Cost Estimate

Construction/Consultant Task	Duration (days)	Contractor Hours	Consultant Hours	Oversite %	Travel Trips	Per diem	Manpower
Pre-con Meeting	0.5	4	4		1		1
Mob	1	12	2.4	20%	1		
Install Conductor	1	8	4	50%		1	1
Drill Pilot Hole	6	144	86.4	60%	1	5	2
Geophysical Log	0.25	4	3.2	80%			1
Ream Pilot Hole	2	48	19.2	40%		1	1
Build Well (casing, gravel and sealing)	2	48	38.4	80%		2	2
Well Development	2	24	19.2	80%	1	1	1
Well Testing	1	12	6	50%	1	2	1
Water Quality Sampling	0.25		2				1
Reporting			20				
		204.8			5		12

Service	Hours	Rate	Extension
Consulting (field)	180.8	160.00	28928.00
Consulting (office)	24	195.00	4680.00
Travel (6 hour RT)	30	90.00	2700.00
	234.8		
<b>Per diem</b>	12	160.00	1920.00
<b>Equipment Rental</b>			
Data Logger (days)	1	100.00	100.00
Turbidity Meter (days)	3	50.00	150.00
			\$ 38,478.00
<b>TOTAL</b>			<b>\$ 38,478.00</b>



The costs for the tasks are presented on the attached below and detailed in the attached Table 2.

### Cost Summary

Task	Fee
PHASE I	
Task 1 - Data Collection and Review	5850
Task 2 - Prepare Plans and Specifications	3120
Task 3 - Well Construction Permitting Support-	1560
<b>Phase I - Subtotal</b>	<b>\$10,530</b>
PHASE II	
Task 4 - Well Construction Supervision/Reporting	38,478
<b>Phase II - Subtotal</b>	<b>38,478</b>
<b>Total</b>	<b>\$49,008</b>

### QUALIFICATIONS

I am a Professional Geologist licensed in the State of California with specialty certifications in engineering geology and hydrogeology. I have 34 years' experience of professional consulting experience in the field of hydrogeology, groundwater development, groundwater recharge augmentation, and groundwater resources management. I have applied this experience to recharge, desalination, water well and basin management projects, internationally. During my career I have designed and managed the construction of over 100 municipal wells with depths to 2,500 feet, diameters to 24-inches and discharge rates of up to 6,000 gpm. I have significant experience in drilling and well construction technology as well as the assessment and rehabilitation of existing wells. I have experience with all types of well rehabilitation techniques including chemical and mechanical treatments, timed-charge methods, liners, and in-situ methods. I have been involved in the successful remediation of well performance problems including sanding and declining production rates due to encrustation or iron bacteria. I have experience in well field operations for purposes of optimizing water quality or water quantity. My resume and a summary of well projects are attached.

### PROJECT PERSONNEL

A team of consultants will perform the work described. I will serve as project manager and project geologist. Depending on schedule, I may be assisted by contract personnel from Pueblo Water Resources Associates, Inc (PWR). PWR is geologic/hydrogeologic consulting firm formed by several of my former employees. Our combined experience includes more than 100 municipal wells.

### CONTRACTING/INSURANCE

It is assumed that the District will utilize their standard subcontract for professional services. Alternatively, I would be happy to provide a copy of my standard agreement. Please let me know your preference. I maintain professional liability, general liability and auto insurance to industry standards.

The opportunity to propose on this project is appreciated. Please call if you have any questions.

Sincerely,



Martin B. Feeney

Attachments:

Fee Schedule, Estimated Fee Summary  
Resume/Well Experience



**MARTIN B. FEENEY, P.G., C.E.G., C.Hg.    *Resume***  
**Consulting Hydrogeologist**

---

**CONTACT:** P.O. Box 23240, Ventura, CA 93002  
805-643-7710, 831-915-1115  
mfeeney@ix.netcom.com

**EDUCATION:** M.A., Environmental Planning (Groundwater), California State University, 1987  
Graduate Program, Water Science, University of California, Davis, 1981-1982  
Secondary Teaching Credential, University of California, Santa Barbara, 1979  
B.S., Earth Science (Geology), University of California, Santa Cruz, 1976

**QUALIFICATIONS:** Professional Geologist, California, No. 4634  
Certified Engineering Geologist, California, No. 1454  
Certified Hydrogeologist, California, No. 145  
Certified Groundwater Professional, NGWA, 1994

**EXPERIENCE:** Mr. Feeney has more than 30 years experience in groundwater consulting. After employment as a well-site geologist in the oil industry and again as an engineering geologist, Mr. Feeney was a founding Principal of Staal, Gardner and Dunne, Inc. (later became Fugro West, Inc.) and managed this firm's Monterey County office for 9 years. Mr. Feeney later was a member of the firm, Balance Hydrologics, Inc. Mr. Feeney is currently a private consultant. Mr. Feeney's experience in groundwater supply issues includes well siting and design, preparation of project specifications and contractor supervision, well maintenance and repair, water treatment, groundwater modeling (both flow and solute-transport), perennial yield analysis, artificial recharge (surface and injection), water quality assessments, regulatory compliance and groundwater modeling.

Mr. Feeney has significant experience in drilling and well construction technology. During his career Mr. Feeney has designed and managed the construction of over 80 municipal wells with diameters up to 24-inches and discharge rates of up to 6,000 gpm at locations around the world.

***Selected representative project experience includes:***

**WATER SUPPLY  
PROJECTS:**

**Point of Diversion Study, Monterey County, California-American Water Co.**

The feasibility of diverting subsurface flow from the Carmel River rather than direct diversion from the reservoirs was evaluated. The change would allow existing treatment facilities and pipelines to be utilized while providing important fisheries and riparian habitat benefits as well as reduced treatment costs. The scope included re-evaluating the geometry of the uppermost Carmel River alluvial aquifer, adapting the existing groundwater model to incorporate the proposed changes in point diversion, and assisting the local water district in modifying its operational models and in-stream flow simulations.

**Desalination Project, Marina Coast Water District.** Marina Coast Water District built the first operating desalination facility in mainline California. Work included design and supervision of construction of the project's seawater intake and brine disposal wells. Additional work included performance of aquifer and injection testing and analysis, detailed groundwater flow and transport modeling as part of feasibility analysis, and assessment of injection well plugging phenomena.

**Sand City Desalination Plant Saline Intake and Brine Disposal Monterey Peninsula Water Management District —, Monterey County**

In order to satisfy increased water demands, the MPWMD has proposed the construction of a 3.0 MGD seawater desalination facility that will extract water from coastal dune sands through the use of Ranney collectors. The feasibility of this approach was investigated and the conclusion reached that three Ranney collectors at the site would be capable of producing the required design flow. Also investigated was the use of Ranney collectors to inject brine into the shallow subsurface offshore. The project included drilling, well construction, aquifer testing and solute/flow modeling. It successfully demonstrated that Ranney collectors would be suitable for use and that brine injection was feasible.

MARTIN B. FEENEY, PG., C.E.G., C.Hg.  
Consulting Hydrogeologist

2 of 2

#### **Pilarcitos Creek Study -San Mateo County**

Anticipating the listing of certain species of fish that migrate up coastal streams, the Coastside Water District, in conjunction with San Francisco Water Department, contracted for a study of the feasibility of modifying the method of diversion from Pilarcitos Creek. The study included the review of reservoir operations, analysis of distribution system, evaluation and modeling of the District's wellfield, and the assessment of fisheries conditions in specific reaches of the creek. The report concluded that it was feasible to shift diversions to the wellfield from the reservoir and that this would result in the re-establishment of up to 2 miles of additional fisheries habitat. However, the overall benefit of the proposed modification was not clear as the modification would have no effect on the more-critical impacted fisheries habitat downstream of the District's property.

#### **EXPERT/3<sup>d</sup> PARTY REVIEW PROJECTS**

#### **Salinas Valley Hydrogeologic Conference "White Paper".**

Mr. Feeney was a one of eight participants in a "blue-ribbon" committee convened by the MCWRA to address the hydrogeologic issues facing the Salinas Valley. As part of two day conference, the committee evaluated available data regarding seawater intrusion, the overall water balance and water quality issues. The committee reached general consensus and prepared a report recommending a solution to the water supply shortfall.

#### **Soquel Creek Water District IGSM Development -- Technical Advisory Committee (TAC) Member.**

Mr. Feeney was retained by Soquel Creek Water District to participate in a TAC reviewing the development of the IGSM model by a consultant for the District. This recently completed model, shares its southern boundary with the Pajaro IGSM model. Water level and water quality conditions within the northern portion of PVWMA area are linked between the two models.

#### **Pajaro Valley Water Management Agency -- Groundwater Model Development Project -- TAC Chairperson**

The USGS was contracted to convert the Pajaro Valley Water Management Agency's (PVWMA) existing groundwater model from the IGSM code to MODFLOW2000 code. Mr. Feeney was retained by PVWMA to chair and as a participant in the advisory TAC that supervised the conversion of the model. This task entailed review and acceptance of a revised hydrostratigraphic model of the Pajaro Basin, review and acceptance of the water balance and recharge assumptions. The conversion project is on-going and a working, calibrated model has been completed.

#### **Seaside Groundwater Basin Watermaster -- Groundwater Model Development Project -- TAC Chairperson**

As part of the court decree, the Seaside Groundwater Basin Watermaster (Watermaster) was tasked with developing a groundwater model of the basin for management purposes. Mr. Feeney was retained to chair a panel of modeling experts to evaluate the existing groundwater models of the basin and the need for a new model. This review focused on the need and desired uses for a model, identification of data gaps that may limit model utility and validity, the suitability of flow verses solute transport models, and generalized approaches to the modeling effort. The results of the review resulted in the selection and modification of an existing model to meet the Courts requirement.

#### **National Water Resources Institute -- TAC Panel Member--**

#### **Monterey Regional Water Pollution Control Agency --Reclaimed Water Recharge Project in the Seaside Basin.**

Mr. Feeney was again asked to serve as the groundwater expert on a NWRI panel reviewing the Monterey Regional Water Pollution Control Agency's proposed Reclaimed Water Recharge Project in the Seaside Basin. This project proposes to take highly-treated wastewater and use it for recharge in the Seaside Basin -- either through percolation or direct injection. The review focused on the feasibility of the plan and the potential impacts and benefits of implementation. The panel is on-going.

#### **PROFESSIONAL AFFILIATIONS:**

Groundwater Resources Association  
Association of Groundwater Scientists and Engineers  
American Institute of Hydrology  
Monterey Bay Geologic Society

**Martin Feeny - Water Well Experience Summary**

Project Name	Year	Client	Location	No. of Wells	Depth (feet)	Diameter (inches)	Discharge Rate (gpm)	Services						
								Well Siting	Specifications	Well Design	Aquifer Testing	Construction Management	Geologic Supervision	Third Party Review
Seawater Intrusion Abatement Project	1983	Vta Cty Flood Control	Vta Cty	4	1800	18	2500	*	*	*	*	*	*	*
Emergency Water Wells 19,20 & 21	1985	City of Oxnard	Oxnard	3	1500	18	2500	*	*	*	*	*	*	*
Wells 3A and 4A	1987	City of Ventura	Ventura	2	1500	18	1500	*	*	*	*	*	*	*
Victoria Park Well	1988	City of Santa Barbara	Santa Barbara	1	500	14	800	*	*	*	*	*	*	*
Agricultural Well	1988	Huntsinger	Oxnard	1	275	18	2200	*	*	*	*	*	*	*
Saticoy Well	1989	City of Ventura	Saticoy	1	1100	16	2250	*	*	*	*	*	*	*
Johanen Test Well	1990	MPWMD	Del Rey Oaks	1	350	8	200	*	*	*	*	*	*	*
Carpinteria High School Well	1990	Carpinteria Water District	Carpinteria	1	950	16	1500	*	*	*	*	*	*	*
Paralta	1991	Cal-Am/MPWMD	Seaside	1	850	16	1700	*	*	*	*	*	*	*
Irrigation Well	1992	MCWRA	Greenfield	1	200	10	200	*	*	*	*	*	*	*
Conejo Well #3	1993	Camrosa Water District	Camarillo, CA	1	225	16	400	*	*	*	*	*	*	*
CVMWC	1994	California-American Water Co.	Monterey	1	750	14	800	*	*	*	*	*	*	*
Water Supply Well	1994	Sultan of Brunei	Brunei, SE Asia	1	1600	10	500	*	*	*	*	*	*	*
Laguna Seca Park Well	1994	Mty County Parks	Mty Cty	1	600	12	100	*	*	*	*	*	*	*
Castroville Seawater Intrusion Project	1995	Mty Cty Water Resource Agency	Castroville	5	500	22	4500	*	*	*	*	*	*	*
Brine Injection Well	1995	Marina Coast Water District	Marina	1	110	16	400	*	*	*	*	*	*	*
Seawater Intake Well	1995	Marina Coast Water District	Marina	1	100	12	600	*	*	*	*	*	*	*
Royal Oaks Park Well	1995	Mty County Parks	Mty Cty	1	450	8	100	*	*	*	*	*	*	*
San Tomas Injection Well	1996	Santa Clara Cty Water District	Campbell	1	500	14	600	*	*	*	*	*	*	*
Anzar H.S. Well	1996	Aromas-San Juan USD	San Juan Bautista	1	850	8	200	*	*	*	*	*	*	*
Livermore Injection Wells	1997	Black and Veatch	Livermore	1	300	14	300	*	*	*	*	*	*	*
Seawater Intake Wells	1997-01	Ionics/Aqua Design	various Carribean Is.	9	100	8	40-160	*	*	*	*	*	*	*
GOWC Well 21	1997	Great Oaks Water Company	San Jose	1	250	16	2000	*	*	*	*	*	*	*
GOWC Well 20	1998	Great Oaks Water Company	San Jose	1	250	16	2000	*	*	*	*	*	*	*
Golden Gate Park Wells	1998	City of San Francisco	San Francisco	2	250	14	1000	*	*	*	*	*	*	*
Chualar Well No. 3 & 4	1998	County of Monterey	Chualar	2	900	12	400	*	*	*	*	*	*	*
Quail Hollow Wells	2001	San Lorenzo Valley WD	Ben Lomand	2	200	12	500	*	*	*	*	*	*	*
ASR Injection Well	2000	Monterey Peninsula WMD	Seaside	1	750	18	3000	*	*	*	*	*	*	*
PVWMA Supplemental Wells	2001	Pajaro Valley Water MD	Watsonville	4	600	16	1500	*	*	*	*	*	*	*
Carpinteria Headquarters Well	2002	Carpinteria Water District	Carpinteria	1	900	16	1500	*	*	*	*	*	*	*
San Juan Well	2003	Aromas Water District	Aromas	1	1100	16	850	*	*	*	*	*	*	*
Cal-Am Ryan Ranch #11	2003	Cal-Am Water	Monterey	1	100	12	450	*	*	*	*	*	*	*
Cal-Am Ryan Ranch #12	2006	Cal-Am Water	Monterey	1	450	8	40	*	*	*	*	*	*	*
Castroville Well 2B	2007	Castroville Water Dst	Castroville	1	1500	16	1000	*	*	*	*	*	*	*
Scotts Valley Well 10A	2007	Scotts Valley Water Dst.	Scotts Valley	1	500	12	500	*	*	*	*	*	*	*
Cal-Am Patton # 2	2009	Cal-Am Water	Pasadena	1	400	16	400	*	*	*	*	*	*	*
Cal-Am Bishop Well #3	2010	Cal-Am Water	Monterey	1	700	12	400	*	*	*	*	*	*	*
Marina Coast Water District No. 34	2011	Marina Coast Water District	Marina	1	1100	16	2000	*	*	*	*	*	*	*
Carpenteria Well No. 2	2011	Aromas Water District	Aromas	1	500	12	400	*	*	*	*	*	*	*
O'Neill Ranch Well	2012	Soquel Creek WD	Soquel	1	650	16	900	*	*	*	*	*	*	*
Pasatiempo Well 5A	2012	San Lorenzo Valley WD	Fellton	1	700	12	450	*	*	*	*	*	*	*
Cabrillo College Well No. 4	2013	Cabrillo College	Aptos	1	825	8	200	*	*	*	*	*	*	*
Aptos Jr. High Well	2014	Soquel Creek WD	Soquel	1	800	12	700	*	*	*	*	*	*	*
MPWSP Slant Well	2015	California American Water	Marina	1	700	12	2000	*	*	*	*	*	*	*
Walnut Grove Well	2016	City of Morgan Hill	Morgan Hill	1	400	16	700	*	*	*	*	*	*	*
Granite Way	2016	Soquel Creek WD	Aptos	1	600	16	700	*	*	*	*	*	*	*

Evaluation/Rehabilitation Programs	Year	Client	Location	No. of Wells	Depth (feet)	Diameter (inches)	Discharge Rate (gpm)	Video Survey	Spinner /BESST	Mechanical Redevelopment	Chemical Redevelopment	Structural Repair	Water Quality Assessment	Spec.s/Contractor Supervision
								*	*	*	*	*	*	*
Fort Ord 29-32	1996	Fort Ord Reuse Agency		4	600	16		*	*	*	*	*	*	*
San Juan Bautista #1	2001	San Benito CWD		1	125	12		*	*	*	*	*	*	*
El Carro Well	2000	Carpinteria Water District		1	900	16		*	*	*	*	*	*	*
Well Assessment Project	1990	Channel Islands Beach CSD		3	1100	16		*	*	*	*	*	*	*
Wells 7, 8, 9, 15, 18	1999	Great Oaks Water Company		5	500	16		*	*	*	*	*	*	*
Oxnard Well No. 3	1988	City of Oxnard		1	1375	18		*	*	*	*	*	*	*
Water Well Assessment Program	1998	City of Palo Alto/Carollo Eng.		5	600	16		*	*	*	*	*	*	*
Well 3,7, and 9 Assessment	1997	Great Oaks Water Company		3	300	16		*	*	*	*	*	*	*
PCA Well	1991	Cal-Am		1	500	14		*	*	*	*	*	*	*
Hardin Foundation	1995	Hardin Foundation		1	150	12		*	*	*	*	*	*	*
Big Tank Well	1990	City of Greenfield		1	700	16		*	*	*	*	*	*	*
Manor Well	2004	Cal-Am Water Co.		1	850	16		*	*	*	*	*	*	*
Lompoc Well Field	2005	City of Lompoc		10	200	16		*	*	*	*	*	*	*
Soquel Creek Water Dst	2005-16	Soquel Creek Water Dst		3	800	16		*	*	*	*	*	*	*
Scotts Valley Water District	2014-2016	Scotts Valley		6	1000	12-16		*	*	*	*	*	*	*
Cal-Am Water	2005-11	Cal-Am Water		25	1000	16		*	*	*	*	*	*	*
Scotts Valley Well 10A	2016	Scotts Valley Water Dst.		1	500	12		*	*	*	*	*	*	*
San Lorenzo Valley Well #6	2017	San Lorenzo Valley WD		1	800	12		*	*	*	*	*	*	*

Over 300 to depths of 2,000 feet

**Martin B. Feeney, PG, CEG CHg  
Consulting Hydrogeologist**

**Fee Schedule 2017**

*Professional Services*

---

Principal Hydrogeologist	\$195/hour
Principal Hydrogeologist (field)	\$160/hour
Project Hydrogeologist	\$140/hour
Word Processor	\$70/hour
Illustrator/GIS	\$90/hour

*Equipment*

---

Data Logger and Transducer	\$100/day
Conductivity Meter	\$75/day
Turbidity Meter	\$50/day

*Indirect Charges*

---

Reproduction	Cost + 10%
Outside Services	Cost + 10%
Laboratory Services	Cost + 10%
Mileage (outside 100 mile radius)	\$0.56/mile

TO: BOARD OF DIRECTORS

REVIEWED: MARIO IGLESIAS  
GENERAL MANAGER



FROM: PETER V. SEVCIK, P.E.  
DIRECTOR OF  
ENGINEERING & OPERATIONS



DATE: JULY 20, 2017

**AGENDA ITEM  
E-2  
JULY 26, 2017**

**DESIGN ENGINEERING SERVICES FOR  
EUREKA WELL REPLACEMENT PROJECT**

**ITEM**

Authorize contract for design engineering services for the Eureka Well Replacement Project in the amount of \$116,446 with Cannon Corporation. [RECOMMEND AUTHORIZE DESIGN CONTRACT WITH CANNON CORPORATION IN THE AMOUNT OF \$116,446].

**BACKGROUND**

Eureka Well has historically been one of the District's largest producing wells. The well was drilled in 1979 and the current pump has been in place since 1999. The 2007 Master Plan Update identified a nominal flow capacity of 890 gallons per minute (gpm) for the well based on the long-term average of flow records.

In 2014, a leak developed around the center shaft of the well. The pump was pulled, disassembled and inspected. The inspection revealed that the pump and well needed significant maintenance. Replacement of the well was considered at that time. However, due to budget and engineering constraints related to the then under construction Supplemental Water Project, full replacement was deferred. Maintenance and rehabilitation efforts were undertaken at that time.

Rehabilitation efforts included replacing the inner column pipe and column pipe and chemically cleaning the well screen to partially restore efficiency. The well returned to service in late 2014. In late 2016, the well casing failed. The well is no longer serviceable and needs to be properly abandoned and replaced with a new well. The new well will be drilled on the same site as the existing well.

Staff requested a proposal for engineering services from Cannon to assist in the design, bidding, and equipping of the new well. Staff reviewed the Cannon proposal and feels the proposed cost of services are reasonable. Cannon is uniquely and extensively experienced with the District's production wells and water system. Attached is the proposed scope of work and budget for the pump design phase of the project.

**FISCAL IMPACT**

The District's 2017/2018 Budget includes \$1,000,000.00 for Eureka Well replacement.

**STRATEGIC PLAN**

Goal 1 – WATER SUPPLY – Actively plan to provide reliable water supply of sufficient quality and quantity to serve both current customers and those in the long-term future.

**ITEM E-2 EUREKA WELL ENGINEERING  
SERVICES CONTRACT  
JULY 26, 2017**

**PAGE 2**

Goal 2. FACILITIES THAT ARE RELIABLE, ENVIRONMENTALLY SENSIBLE AND EFFICIENT. Plan, provide for and maintain District facilities and other physical assets to achieve reliable, environmentally sensible, and efficient District operations.

**RECOMMENDATION**

Staff recommends that the Board, by motion and roll call vote, adopt Resolution 2017-XXXX Eureka Well Replacement Project Engineering Services, authorizing a Task Order with Cannon in the amount of \$116,446 for engineering services for the Eureka Well Replacement Project.

**ATTACHMENTS**

- A. Resolution 2017-XXXX Eureka Well Replacement Project Engineering Services
- B. July 11, 2017, Cannon Proposal and Scope of Work, NCSD Eureka Well Replacement Project



July 26, 2017

ITEM E-2

ATTACHMENT A

**NIPOMO COMMUNITY SERVICES DISTRICT  
RESOLUTION NO. 2017-XXXX**

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE NIPOMO COMMUNITY SERVICES DISTRICT  
AUTHORIZING A CONTRACT WITH CANNON ENGINEERS FOR ENGINEERING SERVICES IN SUPPORT  
OF EUREKA WELL REPLACEMENT PROJECT**

**WHEREAS**, the Eureka Well was drilled nearly forty years ago and has historically been one of the Districts largest water production well; and

**WHEREAS**, the Eureka Well has exceeded its service life and is now inoperable; and

**WHEREAS**, replacement of the Eureka Well needs to be completed in a timely manner to restore the District's groundwater pumping capability; and

**WHEREAS**, District Purchasing Policy Resolution 2010-1201 provides for the procurement professional services through non-competitive negotiations in limited situations; and

**WHEREAS**, Cannon Engineers have assisted the District with various water supply and well projects in recent years and is uniquely knowledgeable and qualified to assist with the Eureka Well Replacement project; and

**WHEREAS**, the cost of services is reasonable and public exigency will not permit delay.

**NOW THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED BY THE NIPOMO COMMUNITY SERVICES DISTRICT BOARD OF DIRECTORS AS FOLLOWS:**

- 1) The above recitals are true and correct and constitute findings for the exclusive use of the Cannon Engineers to provide Engineering Services in support of the Eureka Well Replacement project.
- 2) The District Board of Directors does hereby direct District staff to execute a Task Order to Cannon Engineers in the amount of \$116,446.

On the motion of Director XXXXXX, seconded by Director XXXXXX, and on the following roll call vote, to wit:

**AYES:**  
**NOES:**  
**ABSENT:**  
**CONFLICTS:**

The foregoing resolution is hereby adopted this XXX day of MONTH/YEAR.

\_\_\_\_\_  
**DAN A. GADDIS**  
President, Board of Directors

ATTEST:

APPROVED AS TO FORM:

\_\_\_\_\_  
**MARIO IGLESIAS**  
General Manager and Secretary to the Board

\_\_\_\_\_  
**WHITNEY MCDONALD**  
District Legal Counsel

July 26, 2017

ITEM E-2

ATTACHMENT B



July 11, 2017

Peter V. Sevcik, P.E.  
Director of Engineering and Operations  
Nipomo Community Services District  
148 South Wilson Street  
Nipomo, CA 93444

**PROJECT: ENGINEERING SERVICES FOR THE EQUIPPING OF THE EUREKA WELL**

Dear Mr. Sevcik:

The Nipomo Community Services District (District) is diligently pursuing improvements to the District's water system at the west end of their system. The improvements include the proper abandonment of the existing well, and drilling and equipping the new Eureka well on the existing site. The Eureka well is extremely important but currently out of service because of a corroded and decayed well casing pipe.

Water quality is being monitored for the customers directly adjacent the District's well facility to the south. The District plans on contracting the well design and construction separate from the design of the well equipping. Both contracts will be managed in parallel for scheduling reasons. The following proposal outlines our understanding of this project and provides a detailed scope of work, estimate of fees, and schedule. We've provided various options we'd like to discuss with you as quickly as possible so that we can continue with the design efforts.

I will follow up with you early next week; please contact me with any questions regarding this proposal or to further discuss project details.

Sincerely,

A handwritten signature in blue ink that reads "Eric Porkert".

Eric Porkert  
General Manager/Senior Principal Civil Engineer  
C 57562



#### **PROJECT BACKGROUND AND UNDERSTANDING**

The Nipomo Community Services District (District) is diligently pursuing improvements to the District's water system at the west end of their system. The improvements include the proper abandonment of the existing well casing, and drilling and equipping the new Eureka well on the existing site. The Eureka well is an essential component of the District's water supply and distribution system—it not only serves as a significant source of water supply but its connection on the west side helps equalize pressures within the overall system. The Eureka well is currently out of service due to severe decay of the well casing and has reached the end of its useful service life.

The site currently consists of a metal building around the well with a removable roof. The discharge piping is above ground and consists of a pump control valve for start-up and an automated gate valve for an initial blow off into atmosphere for approximately 30 seconds. The blow off water is discharged into an earthen detention basin along with an overflow trench that is necessary when the well is flushed for extended periods of time. The District's experience with native, sandy soils in the area have excellent percolation properties. District staff could not report ever seeing standing or ponding water on the site or adjacent areas. The District has provided the geotechnical report used for the design of the onsite disinfection system. Our structural engineer has reviewed the report and concluded the report can be used for the well equipping project. Based on the experience with Black Lake Well No.4 along with District staff experience and site observations it is assumed no further soil percolation testing is required for the basin. The existing site is not asphalt paved and consists of dirt and road base materials.

The District's SCADA Communication with the Eureka well site is achieved using a radio signal with 100 MHz from an antenna mounted to the existing pump shed. The SCADA system along with the disinfection system must remain in operation during the construction of the new well in order to continuously monitor water quality.

The existing well site is serviced from a pole mounted transformer with 480 V power. The District has a 300kW generator they will utilize for the new well site in emergency situations. The existing overhead powerlines are relatively low and the District would like to see this resolved with the new well site configuration, if possible. The District also would like a temporary power design.

The static water pressure is 168 psi. The existing Eureka well, constructed in 1979, was originally designed for a pumping rate of 1,000 gpm. The furthest tanks it pumps to are the Quad Tanks located approximately 8 miles east of the site at an approximate 549-foot HGL.

The District is currently negotiating the acquisition of approximately 30 feet of additional width of old Caltrans right-of-way. If successful, this will increase the overall well site property.

The District will, under a separate contract, have the well site cleared and grubbed. This work will include but will not be limited to the removal of the old pump head, column pipe with line-shaft, and tree removal.

The District plans on contracting the well design and construction separate from the design of the well equipping. Both contracts will be managed in parallel for scheduling reasons. Martin Feeney will provide the hydro-geologic services and Cannon will prepare engineering, design and prepare construction documents for the well equipping and site improvements.



## APPROACH AND WORK PLAN

The new well is planned to be located in the northwest corner of the District's 75 feet x 75 feet property. Several tall eucalyptus trees will need to be removed. It is assumed a new electrical transformer will be sited and located on the site. It is proposed the new well head be enclosed with a roll-apart building, consisting of separate stationary electrical room and a roll-away section over the pump and motor.

The new well pump will be designed to pump 1,000 gpm. If it is assumed the Total Dynamic Head is  $(549+150+25-170) = 554$  feet, then the total wire to water horse power equates to 200 HP. A system curve will be generated using the District's hydraulic model to select an efficient well pump. The District has expressed interest in using vertical turbine pump and motor (oil lubricated) controlled with Variable Frequency Drive (VFD) for operation versatility.

The well site slopes down to the west, so in order to achieve a level site for the well pedestal, a grading plan will be required and along with the design of a short retaining wall.

Normal well start up includes a 30 second initial flush to the atmosphere. The new well site will either include a new drainage basin similar to what is currently used or some variation of a French drain design (similar to Black Lake Well No. 4). The total amount of water is estimated to be  $1,000 \text{ gpm} \times 30 \text{ s} \times 1.6 = 800$  gallon. An additional option is to contain the water in an underground sump and then pump flush water out of the sump at a flow rate equal or less than permeability of the French drain/soil.

We have organized the project into the following three phases: Preliminary Engineering Services, Design and Construction Document Services and Bidding Support Services. The Construction Support Services will be determined upon completion of the design.

### *Phase 1. Preliminary Engineering*

#### *Task 1.1 – Project Management*

The project will require set-up, scheduling, controlling, and correspondence with the District and others. Correspondence includes telephone conversations, emails, project status reports, meeting minutes, and project memorandums. Project management will include monthly updates and detailed invoices.

#### *Task 1.2 – Project Kick-off Meeting*

We will coordinate and attend a Project Kick-Off Meeting with District staff. The meeting agenda will focus on developing a project understanding, project progress, team involvement, and project constraints. This meeting will also include a project introduction, review of background information and project scope, and an overview of the project schedule; it represents a key opportunity for representatives from the District to steer the project team and further clarify critical elements of the project scope.

#### *Task 1.3 – Site Visits and Investigations*

This task will include the following:

- Collect relevant information with the project team and District staff.
- Commence an information review (local and regional geology/hydrogeology).
- Perform a site visit and field reconnaissance.
- Prepare data synthesis and analysis for well drilling specifications (casing pipe).



*Task 1.4 – Topographic Survey*

A topographic survey is needed to provide the existing conditions and constraints for the project site. Cannon will retrieve pertinent record mapping (Tract Maps, Parcel Maps, Record of Survey Maps and Corner Records) proximate to the well site(s). Our survey field crews will seek to recover any survey marks reflected on said maps to serve as registration points for plotting the topographic map relative to the property lines. The found survey marks (if any) and the topographic mapping will be precisely tied by our control survey to the NAD'83 and NAVD'88 horizontal and vertical datum respectively.

The well site topographic survey will capture and exhibit the following: 1 ft. contours with spot elevations, paving, curb, all readily observable surface-evident utilities (sewer, storm, power, gas, etc.), fences, walls, signs, and any other observable improvements on the site. The survey data will be rendered in AutoCAD and passed to our engineers to continue the design process.

*Task 1.5 – Utility Search*

We will initiate a USA Dig Alert search, contact utility agencies, and request record drawing information from each utility agency. In addition, we will summarize contact persons and utility requirements for District use. All obtained utility drawings will be used to populate the base drawings established by the topographic survey.

*Task 1.6 – Hydraulic Calculations*

We will prepare hydraulic calculations for the well pump based on the pumping level of the well and the pressure of the District's domestic water at the point of connection. If we are provided the pump system curves generated from the hydraulic model for each well site, we will provide a detailed graph with the system curves and the selected pump curves for the District's use. Having the system curve will serve as a tool to select an optimum pump for the project.

*Task 1.7 – Permitting Research*

We will assist the District in securing permits from the following agencies:

- Regional Water Quality Control Board - National Pollutant Discharge Elimination System (NPDES) Permit
- California Department of Public Health Service - Drinking Water Source Assessment Program (DWSAP) Report, Domestic Supply Permit Amendment
- CEQA Documents

*Task 1.8 – Geotechnical Investigation and Report*

The District provided the geotechnical investigation report used for the engineering and design of the existing disinfection building. We reviewed specific sections of the Report related to the Eureka Well Site and determined it to be sufficient for the facilities contemplated for design.

*Task 1.9 – Review Well Data*

The District has issued a separate contract for Hydrogeology Consulting Services. Cannon has worked with many hydrogeologists serving the Central Coast and Southern California regions. We will work closely with the District's contracted hydrogeologist and will coordinate the well equipping with the construction and design recommendations provided.

*Task 1.10 – Prepare a Preliminary Design Memorandum (PDM)*

The Preliminary Design Memorandum will include the following:

- Proposed Well Site Components



- Well Head
- Piping
- Type of Pumps: Vertical Turbine vs Submersible
- Electrical and SCADA Equipment
  - MCC
  - Emergency Power
  - SCADA
- Disinfection System
- Well Blow-off Drainage Design
- Preliminary Hydraulic Pump Calculations
  - System Curves
  - Pump Curves
- Preliminary Well Site Facility Layout Plan
- Summary of Utility Research and Obstacles
- Evaluate Simple Site Security Devices and Fencing for Facility Security
- Prepare Preliminary Well Site Facility Layout Plan: Recommend well location on the proposed project site based on the locations of existing overhead power lines, adjacent structures, sewer lines, storm drains, etc. and anticipated layout of well building, discharge piping, and electrical equipment
- Prepare a Preliminary Opinion of Cost: based on recently completed projects and current projects under construction for well drilling and equipping, including electrical and SCADA
- Summarize the Typical Anticipated Hydrogeological Considerations (Provided by the District's Hydrogeologist).

The preliminary design memorandum will consist of preliminary plans, exhibits, graphs, and written summaries as necessary to accurately document the proposed engineering and design approach for the project.

*Task 1.11 – Attend Preliminary Design Memorandum (PDR) Review Meeting*

We will meet with District staff to review the comments and revisions for the Preliminary Design Memorandum.

*Task 1.12 – Prepare Final Design Memorandum*

Incorporate District staff comments and submit Final Design Memorandum.

*Phase 2. Design and Construction Document Services*

The well equipping construction design documents will include civil site work, pumps, motors, well discharge piping, and drains for the new well. The tasks for the submittal package are outlined as follows:

*Tasks 2.1 – Project Management*

The project will require project set-up, scheduling, controlling, and correspondence between the District, hydrogeologists, and utility companies. Correspondence includes telephone conversations, emails, project status reports, meeting minutes, and project memorandums. Project management will include monthly meetings and detailed invoices.

*Tasks 2.2 – 30% Plans and Specifications*

Based on the findings and results of the previous tasks, we will prepare and submit design plan packages at the 30% approximate completion level for the well equipping and site work. The





design plan package will include the title sheet notes, plans and profile sheets, detail sheets, and technical specifications. Design plans will be prepared in accordance with project required standards. Technical specifications and special conditions will be started using and referencing the District's standard boilerplate specifications.

*Task 2.3 – 30% Opinion of Probable Construction Cost*

During the preparation of the 30% submittal package, we will prepare an Opinion of Probable Construction Cost (OPCC) for the project. The OPCC will be tabularized in the same format as the construction document bid sheet and will be based on competitive Contractor pricing for similar projects in size and location; we will use actual construction costs from recent projects.

*Task 2.4 – 30% Permitting Assistance*

Along with each submittal to the District, we will provide assistance with permit acquisitions from agencies with jurisdiction. Permitting for a well facility typically includes preparing the following: NPDES Permit Amendment Documents, Storm Drain Permit Application, DWSAP Reports, and CDPH Domestic Supply Permit Amendment Documents. Cannon will support the District and the Hydrogeologist in obtaining these permits with information and sketches.

*Task 2.5 – 30% Review Meeting*

We will attend a meeting with the District to review and discuss the 30% design submittal. District comments and design preferences will be incorporated into the following submittal package.

*Task 2.6 – 60% Plans and Specifications*

Based on the findings and results of the previous tasks, we will prepare and submit design plan package at the 60% approximate completion level for the well equipping and site work. The separate design plan package will include the title sheet notes, plan and profile sheets, detail sheets, and technical specifications. Design plans will be prepared in accordance with project required standards. Technical specifications and special conditions will reference the District's standard boilerplate specifications.

*Task 2.7 – 60%, Opinion of Probable Construction Cost*

During the preparation of the 60% submittal package, we will prepare an Opinion of Probable Construction Cost (OPCC) for the project. The OPCC will be tabularized in the same format as the construction document bid sheet and will be based on competitive Contractor pricing for similar projects in size and location. We will use actual construction costs from recent projects.

*Task 2.8 – 60% Permitting Assistance*

Along with each submittal to the District, we will provide assistance with permit acquisitions from agencies with jurisdiction. Permitting for a well facility typically includes preparing the following: NPDES Permit Amendment Documents, Storm Drain Permit Application, DWSAP Reports, and CDPH Domestic Supply Permit Amendment Documents. Cannon will support the District and the Hydrogeologist in obtaining these permits with information and sketches.

*Task 2.9 – 60% Review Meeting*

We will attend a meeting with the District to review and discuss the 60% design submittal. District comments and design preferences will be incorporated into the following submittal package.



*Task 2.10 – 100% Plans and Specifications*

Based on the findings and results of the previous tasks, we will prepare and submit design plan package at the 100% approximate completion level for the well equipping and site work. The separate design plan package will include the title sheet notes, plans and profile sheets, detail sheets, and technical specifications. Design plans will be prepared in accordance with project required standards. Technical specifications and special conditions will reference the District's standard boilerplate specifications.

*Task 2.11 – 100% Opinion of Probable Construction Cost*

During the preparation of the 100% submittal package, we will prepare an Opinion of Probable Construction Cost (OPCC) for the project. The OPCC will be tabularized in the same format as the construction document bid sheet and will be based on competitive Contractor pricing for similar projects in size and location. We will use actual construction costs from recent projects.

*Task 2.12 – Final Plans and Specifications*

Based on the findings and results of the previous tasks, we will prepare and submit design plan package at the final approximate completion level for the well equipping and site work. The separate design plan package will include the title sheet notes, plans and profile sheets, detail sheets, and technical specifications. Design plans will be prepared in accordance with project required standards. Technical specifications and special conditions will reference the District's standard boilerplate specifications.

*Tasks 2.13 – Final Opinion of Probable Construction Cost*

During the preparation of the final submittal package, we will prepare an Opinion of Probable Construction Cost (OPCC) for the project. The OPCC will be tabularized in the same format as the construction document bid sheet and will be based on competitive Contractor pricing for similar projects in size and location. We will use actual construction costs from recent projects.

*Phase 3. Bidding Assistance*

We will develop a list of qualified Contractors from whom to solicit proposals, with the intention of receiving at least four to five responsive bids. As an extension of District staff we will assist in advertising the project(s) and attend a pre-bid site meeting with the interested Contractors. During bidding, we will take questions from Contractors, issue addenda, and respond to RFIs as required. We will provide an objective review of received bids to select the best value (lowest cost for services offered) responsive bidder; this will assist the District with proposal evaluation and selection of the Contractor. Bid assistance task items are as follows:

*Task 3.1 – Pre-Bid Meeting*

Cannon will coordinate and conduct a pre-bidding meeting, prepare a meeting agenda, and prepare and distribute meeting minutes to the prospective bidders.

*Task 3.2 – Requests for Information*

Processing requests for information (RFIs) and Requests for Clarification (RFCs) are vital for keeping the project on-schedule and to minimize claims from the Contractor for additional funds based upon project delays. RFIs and RFCs received from the Contractor will be reviewed and responses returned to the Contractor promptly to maintain the project schedule.

*Task 3.3 – Bid Addenda*

During the bidding period, it may be necessary to prepare and distribute bidding addenda. Cannon has estimated two addenda for this task.



*Task 3.4 – Review Construction Bids and Provide Recommendations*

We will complete a tabulated bid review matrix of all the responsive bids. This matrix will provide an objective review of the received bids to select the best value (lowest cost for services offered) responsive bidder; this will assist the District with proposal evaluation and selection of the Contractor.

*Task 3.5 – Conformed Plans and Specifications*

After the District has selected a Contractor, we will revise the drawings and specifications to incorporate all of the addendum items. The conformed specifications will then be presented to the Contractor, District, and Construction Manager.

**ASSUMPTIONS**

The following assumptions apply to this proposal:

- A separate scope of work for engineering services during construction will be determined at the completion of design.
- The project will not require relocation of existing utilities outside of the property boundary.
- The District will provide well data including static water levels and pumping draw-down levels and the latest hydraulic model of the District's system.
- The survey will be based on the datum specified by the District or the best available survey control proximate to the project site.
- The survey will exhibit all readily observable surface-evident utilities and improvements; however, no underground detection or potholing will be performed.

**EXCLUSIONS**

Items not specifically identified in the scope of service sections of this proposal are to be excluded from this work effort and would be considered additional services. Such services would include, but are not limited to, the following:

- Boundary surveys and legal descriptions.
- Staking for landscaping, plantings, irrigation, and lighting.
- Full-time construction management.
- Traffic control plans – the Contractor will be responsible for preparation and implementation of site-monitoring the traffic control plans as specified in the project construction documents.
- The Contractor will be responsible for SWPPP preparations, implementation of site-monitoring, and the inspecting program as described in the SWPPP.
- Utility Company design fees.
- Department of Health Service fees. (These fees are typically provided to public entities and not consultants).
- Bid Documents Reproduction Reimbursable expenses (i.e. printing costs, reproduction cost, delivery fees, agency research fees, etc.).
- Potholing services.
- Noise attenuation studies.
- Percolation testing.
- Automation/SCADA integration/programming.





**FEE SCHEDULE**  
**NIPOMO COMMUNITY SERVICES DISTRICT**  
**WATER WELL EQUIPPING - EUREKA WELL SITE**

Phase	Task	Cannon												Miscellaneous		Total									
		Civil Senior Principal Engineer		Quality Control Engineer		Electrical Engineer		Senior Engineer		Civil Engineer		SCADA Engineer		Project Coordinator			Topographical Survey		Mechanical HVAC		Miscellaneous Direct Costs				
Hourly Rate		Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost		
<b>PHASE 1 - HYDROLOGICAL/GEOTECHNICAL ENGINEERING AND ENGINEERING ANALYSIS AND RECOMMENDATIONS</b>																									
1	1.1	Project Management	8	\$1,600																					
	1.2	Project Kick-Off Meeting	6	\$1,500	1	\$195																			
	1.3	Site Visits and Investigations	2	\$400			4	\$780																	
	1.4	Topographic Survey	1	\$200	1	\$200																			
	1.5	Utility Search	0.25	\$50	0.5	\$100																			
	1.6	Hydraulic Analysis	4	\$900	0.5	\$100																			
	1.7	Permitting Research	0.25	\$50	0.5	\$100																			
	1.8	Geotechnical Investigation and Report																							
	1.9	Hydrogeologic Investigation and Design Recommendations																							
	1.10	Prepare a Prepare Draft Preliminary Design Report (PDR)	2	\$400			2	\$390																	
	1.11	Attend Draft PDR Review Meeting	8	\$1,600			4	\$780																	
	1.12	Prepare Final PDR	2	\$400	0.5	\$100	2	\$390																	
	<b>Subtotal</b>	<b>35.5</b>	<b>\$7,100</b>	<b>3</b>	<b>\$600</b>	<b>14</b>	<b>\$2,730</b>																		
<b>PHASE 2 - PREPARATION OF PLANS, SPECIFICATIONS AND OPINION OF COSTS</b>																									
2	2.1	Project Management	10	\$2,000																					
	2.2	Prepare and Submit 30% Plans and Specifications	8	\$1,600	1	\$200	16	\$3,120																	
	2.3	Prepare and Submit 30% Opinion of Cost	2	\$400	1	\$200	2	\$390																	
	2.4	Permitting Assistance	1	\$200	1	\$200	2	\$390																	
	2.5	Attend 30% Review Meeting with District Staff	4	\$800			8	\$1,560																	
	2.6	Project Management	25	\$5,000	3	\$600	28	\$5,400																	
	2.7	Prepare and Submit 60% Plans and Specifications	20	\$4,000																					
	2.8	Prepare and Submit 60% Opinion of Cost	6	\$1,200	1	\$200	12	\$2,340																	
	2.9	Permitting Assistance	1	\$200	1	\$200	2	\$390																	
	2.10	Attend 60% Review Meeting with District Staff	8	\$1,600	0.5	\$100	8	\$1,560																	
	2.11	Project Management	37	\$7,400	3	\$600	24	\$4,680																	
	2.12	Prepare and Submit 100% Plans and Specifications	16	\$3,200																					
2.13	Prepare and Submit 100% Opinion of Cost	2	\$400	1	\$200	2	\$390																		
2.14	Project Management	19	\$3,800	2	\$400	10	\$1,950																		
2.15	Prepare and Submit FINAL Plans and Specifications	12	\$2,400																						
2.16	Prepare and Submit FINAL Opinion of Cost	4	\$800	1	\$200	7	\$1,365																		
	<b>Subtotal</b>	<b>17</b>	<b>\$3,400</b>	<b>2</b>	<b>\$400</b>	<b>8</b>	<b>\$1,560</b>																		
<b>PHASE 3 - BIDDING ASSISTANCE</b>																									
3	3.1	Coordinate and Conduct Pre Bid Meeting and Meeting Minute	8	\$1,600																					
	3.2	Prepare Responses for "Requests for Information"	1	\$200	0.25	\$50	1	\$195																	
	3.3	Prepare and Distribute Bid Addenda	1	\$200	0.25	\$50	2	\$390																	
	3.4	Review Construction Bids and provide Recommendation	1	\$200	0.25	\$50	2	\$390																	
	3.5	Prepare Conformated Specifications and Plans	1	\$200	0.25	\$50	2	\$390																	
		<b>Subtotal</b>	<b>12</b>	<b>\$2,400</b>	<b>1</b>	<b>\$200</b>	<b>9</b>	<b>\$1,755</b>																	
	<b>Total</b>	<b>145.5</b>	<b>\$29,100</b>	<b>14</b>	<b>\$2,600</b>	<b>93</b>	<b>\$18,135</b>																		

**Reimbursables**  
 Cannon's expenses incurred in connection with this Proposal as follows:  
 a) incidental and out-of-pocket expenses including but not limited to:  
 costs for postage, shipping, overnight courier, reproduction services, plotting, photocopies, parking fees and tolls  
 b) travel expenses  
 \* This is an estimated allotment of hours. Actual time requested and spent will be billed on a T&M basis