



NWP NACIMIENTO WATER PROJECT

San Luis Obispo County Flood Control & Water Conservation District

**Nacimiento Project Commission
Notice of Meeting and Agenda
Thursday, August 22, 2013 – 4:00 pm
Templeton Community Services District Offices**

1. Call to Order
 - a. Call to Order, Roll Call, and Flag Salute
2. Public Comment
This is the opportunity for members of the public to address the Commission on items that are not on the agenda, subject to a three minute time limit.
3. Meeting Notes from May 23, 2013 (RECOMMEND APPROVAL)
4. COMMISSION INFORMATION ITEMS – written reports with brief verbal overview by staff or consultant. No action is required.
 - a. Utilities Division Manager’s Report
 - b. All Reserve Water to Participants’ Delivery Entitlement and Options for use of Unexpended Construction Funds
 - c. Water Availability Program for Lands with Dry Wells
5. PRESENTATIONS – no action required.
None
6. COMMISSION ACTION ITEMS
(No Subsequent Board of Supervisors Action Required)
 - a. Stenner Canyon Hydroelectric Plant
7. COMMISSION ACTION ITEMS
(Board of Supervisors Action is Subsequently Required)
None
8. FUTURE AGENDA ITEMS DESIRED BY COMMISSION

Commissioners

Judy Dietch, Chair, Templeton CSD

Frank Mecham, Vice Chair, SLO County Flood Control & Water Conservation District

John Hamon, City of El Paso de Robles

Grigger Jones, Atascadero MWC

Kathy Smith, City of San Luis Obispo

**Next Commission meeting scheduled for
Thursday, November 21, 2013, at 4:00 pm at
Templeton Community Services District Offices**

Nacimiento Project Commission
August 22, 2013
Agenda Item 3 – Meeting Notes from May 23, 2013

Agenda Item 1.a – Call to Order, Roll Call, Flag Salute

Chairperson Dietch convened the meeting at 4:00 p.m.

Commissioners Present:

Chairperson Judith Dietch, Templeton Community Services District
Vice-Chairperson Frank Mecham, San Luis Obispo County Flood Control and Water Conservation District
John Hamon, City of Paso Robles
Grigger Jones, Atascadero Mutual Water Company
Kathy Smith, City of San Luis Obispo

Staff Present:

Paavo Ogren, Will Clemens, Scott Duffield – District
Carrie Mattingly, Wade Horton – City of San Luis Obispo

Agenda Item 2 – Public Comment

There were no public comments.

Agenda Item 3.a – Meeting Notes from April 18, 2013

The meeting notes from the April 18, 2013 Commission Meeting were unanimously approved without corrections.

Agenda Item 4 –Commission Informational Items

Agenda Item 4.a – Utilities Division Manager’s Report

Paavo Ogren introduced this item and asked the Commission if there were any questions or comments on items within the report that they would like to discuss. The Commission had questions regarding the proposed reservoir release schedule included in the packet which was provided to the District at the MCWRA Reservoir Operation Committee meeting on May 2. Commissioner Mecham asked if the releases would stop so MCWRA could perform maintenance on their facilities. Paavo indicated that MCWRA is required to maintain a minimum release of 60 cfs. Commissioner Hamon asked if HRCSD could still receive their water with the minimum release. Paavo stated that HRCSD can receive their water from the minimum release flow.

There were no other questions or comments on the Utilities Division Manager’s Report.

Agenda Item 4.b – All Reserve Water to Participant’s Delivery Entitlement

Paavo Ogren introduced this ongoing discussion item that has also been discussed with the TSG. Paavo indicated that staff has prepared the bullet point comments from the discussions which are presented in the staff report. Paavo also indicated that the Paso Robles ground water basin subject could present new issues or promote new discussion. The growing interest from the agricultural community could conflict with the use of Nacimiento Water for municipal purposes; however, those groups and proposed use were not considered in the EIR or the WDEC. Paavo pointed to the fact that sale of Surplus Water is only temporary and that the agricultural community, and the Participants both may want to provide more security of having Nacimiento Water available to them. Paavo stated there is one organized agriculture group interested and studying the possibilities presently.

Commissioner Mecham reiterated a suggestion that the Participants should secure all the remaining water entitlement. Commissioner Jones asked what mechanism there is to do that, and suggested that each Agency engage their individual Boards to provide feedback to the TSG. The Commission requested this item be continued to the August 22, 2013 Commission meeting with ongoing discussions and feedback to the District through the TSG.

Agenda Item 4.c – Options for use of Unexpended Construction Funds

Will Clemens reviewed the staff report which presented several options for use of the remaining construction funds. Will stated that the exact figure will not be known until the construction fund is closed out and reconciled; anticipated to be by the end of the calendar year. Commissioner Mecham asked if the funds could be applied to the idea of the Participants securing the remaining water entitlement. Will indicated that is a possibility and that the District will run that and other scenarios and report back to the Commission.

Agenda Item 5 – Presentations

None

Agenda Item 6 – Commission Action Items (No subsequent Board of Supervisors action required)

Agenda Item 6.a – Water Availability Program for Lands with Dry Wells

Paavo Ogren introduced this item recommending approval of development of a water availability program to provide the sale of Surplus Water to lands with dry wells. Paavo explained that staff initially anticipated the development of a program would include three main issues; pricing, access, and procedures. Paavo explained that the pricing does not appear to be an issue because the Surplus Water pricing established by the

Commission is already fair and equitable. Paavo then summarized that access locations would need to be identified, designed, and installed. Lastly, standard operating procedures, and associated forms and waivers will also have to be developed. There was discussion that the access locations may be best located at the existing pump stations or water storage tanks and that the program will be developed with consideration of public health and safety, and security of the Project.

Motion was made by Commissioner Jones to approve the recommendation. Motion was seconded by Commissioner Smith. Motion was approved unanimously.

Agenda Item 7 – Commission Action Items (Subsequent Board of Supervisors action required).

None

Agenda Item 8 – Future Agenda Items Desired by Commission

The Commission expressed a desire for the District to provide financial scenarios regarding the following:

- Allocation of the unexpended construction fund money
- All Reserve Water to Participants' Delivery Entitlement

Chairperson Dietch adjourned the meeting at 4:47 p.m.

* * *

Nacimiento Project Commission
August 22, 2013
Agenda Item 4.a – Utilities Division Manager’s Report

PROJECT UPDATES

1. Construction Contracts Status Update

A summary of construction contract recent activities are as follows:

Spec 2 (Facilities): Mediation was held June 20, 2013, and was unsuccessful.

All other construction contracts are closed.

2. Operations Report

903.18 Acre Feet was pumped from the Intake Pump Station in July. All monthly scheduled system preventative maintenance was completed.

Several other significant items to note this month are:

- Both SYPS AFD 500 HP burned motors were removed, rehabilitated, and reinstalled on August 2, 2013. Motor controls were checked and all reinstallations verified as per specifications. AFD#1 motor burned again due to defective rehabilitation. Both motors will be repaired again at not cost to the Project. Additional protective equipment is being evaluated to protect future potential motor burnout.
- Both SYPS constant speed 500 HP motors have had the soft start controls adjusted and they have not experienced any current power unbalance issues. It remains to be seen if the adjustments alone have solved the unbalance issues if and when we have another extreme heat condition.
- The motors at the Rocky Canyon Pump Station were “megged” to test motor winding insulation and tested good. The Intake motors will be tested early next month. This will be scheduled annually for mid summer to track motor condition.
- A large dump pile was cleared from the easement off of River Road just north of Paso Robles. 10 yards of trash was removed. This area will be posted and evaluated to discourage/prohibit continuous dumping.

3. Nacimiento Reservoir Status

Reservoir status as reported by MCWRA is 37% percent full, or 138,538 acre-feet, as of August 14, 2013. MCWRA releases are reported as 60cfs. The most recent report

from the MCWRA Reservoir Operations Committee dated August 8, 2013 is attached (Attachment 4.a.3).

4. Outside Agency Issues

Monterey County Water Resources Agency: Nothing new to report.

New Participants:

- Santa Margarita Ranch – Awaiting preliminary design from Santa Margarita Ranch. A like-contract is being developed by District staff.
- HRCSD – The District review comments have been returned to HRCSD for revisions and the District also met with HRCSD and their engineer to discuss the next steps. The District is also moving forward with development of a wheeling contract in accordance with the Water Delivery Entitlement Contracts

5. EPA Klau/Buena Vista Mines Investigation – Lake Nacimiento Study

Nothing new to report.

6. Invasive Species Prevention Program

In the month of August, the District will be contacting mussel coordinators from communities and private ramps around Lake Nacimiento to schedule an “End of the Year Coordination Meeting” in September or October. The meeting will provide a forum for the District to meet with the volunteers in person. This is a great opportunity for the communities to let us know how successful the season was, describe any problems they may have run into, and if they have any ideas on how to make the program even better for 2014.

Resident Vessel Program Update

The board members from the community of Christmas Cove have recently signed a resolution to become part of the Resident Vessel Program. There are now six communities at Lake Nacimiento that have joined the Resident Vessel Program since the program began in 2012. The final classes for 2013 will be held in September and October. Currently, there are 132 vessels enrolled in the program.

7. 18-inch Pipe Rupture

The District and County Counsel are pursuing recovery of all damages associated with the pipe rupture from Southern California Pipeline and/or its Surety.

8. Intake Pipe Repair

The Intake Pipe Repair project reached substantial completion on May 17, 2013. Black & Veatch is working on several final submittals and anticipates meeting the final completion date of September 6, 2013.

9. Oak Shores Sewer Interceptor Laterals

The final Risk Assessment report from the District's consultant has been received and is being reviewed.

10. Fiber Optics Update

Nothing new to report

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**MONTEREY COUNTY WATER RESOURCES AGENCY
BOARD OF DIRECTORS – RESERVOIR OPERATIONS COMMITTEE**

MEETING DATE:	August 8, 2013	AGENDA ITEM:	
AGENDA TITLE:	RESERVOIR RELEASE UPDATE		
	Consent ()	Action ()	Information (X)
SUBMITTED BY: PHONE:	Howard Franklin (831) 755-4860	PREPARED BY: PHONE:	Howard Franklin (831) 755-4860
DEADLINE FOR BOARD ACTION:	August 8, 2013		

RECOMMENDED BOARD ACTION:

None – item presented for informational purposes

PRIOR RELEVANT BOARD ACTION:

None – the Board of Directors receives monthly updates on the Agency’s reservoir status

DISCUSSION/ANALYSIS:

RESERVOIR ELEVATION / STORAGE: As of July 31, 2013, San Antonio Reservoir is at approximately 700.7 feet mean sea level (msl), 64,955 acre-feet of storage. Nacimiento Reservoir is at elevation 749.15 feet msl, 148,060 acre-feet of storage. San Antonio Reservoir is currently at 19% of storage capacity and Nacimiento Reservoir is at 39% of capacity.

RESERVOIR RELEASES: Conservation releases to the Salinas River continued during the month of July for aquifer recharge and Salinas River Diversion Facility operations. Emergency repairs at the Nacimiento Hydroelectric Plant have governed the operation of releases from both reservoirs. Minimum fisheries releases of 60 cfs are being made from the Low Level Outlet Works when possible. During actual emergency repair activities, releases are temporarily constrained to bypass pumping directly from the reservoir (approximately 12 cfs). When personnel are not performing emergency repair activities within the Plant, releases are increased to a flow between 30 to 60 cfs. Therefore, Nacimiento releases will fluctuate between approximately 12 cfs and 60 cfs while emergency repair work is being performed on the Hydroelectric Plant. When maintenance activities are interrupted for extended periods, releases from Nacimiento Reservoir will be maximized, to the extent possible.

Releases as of 10:00 AM, July 31, 2013:

- Nacimiento Reservoir: 22 cfs (fluctuating between 12–60 cfs)
- San Antonio Reservoir: 615 cfs

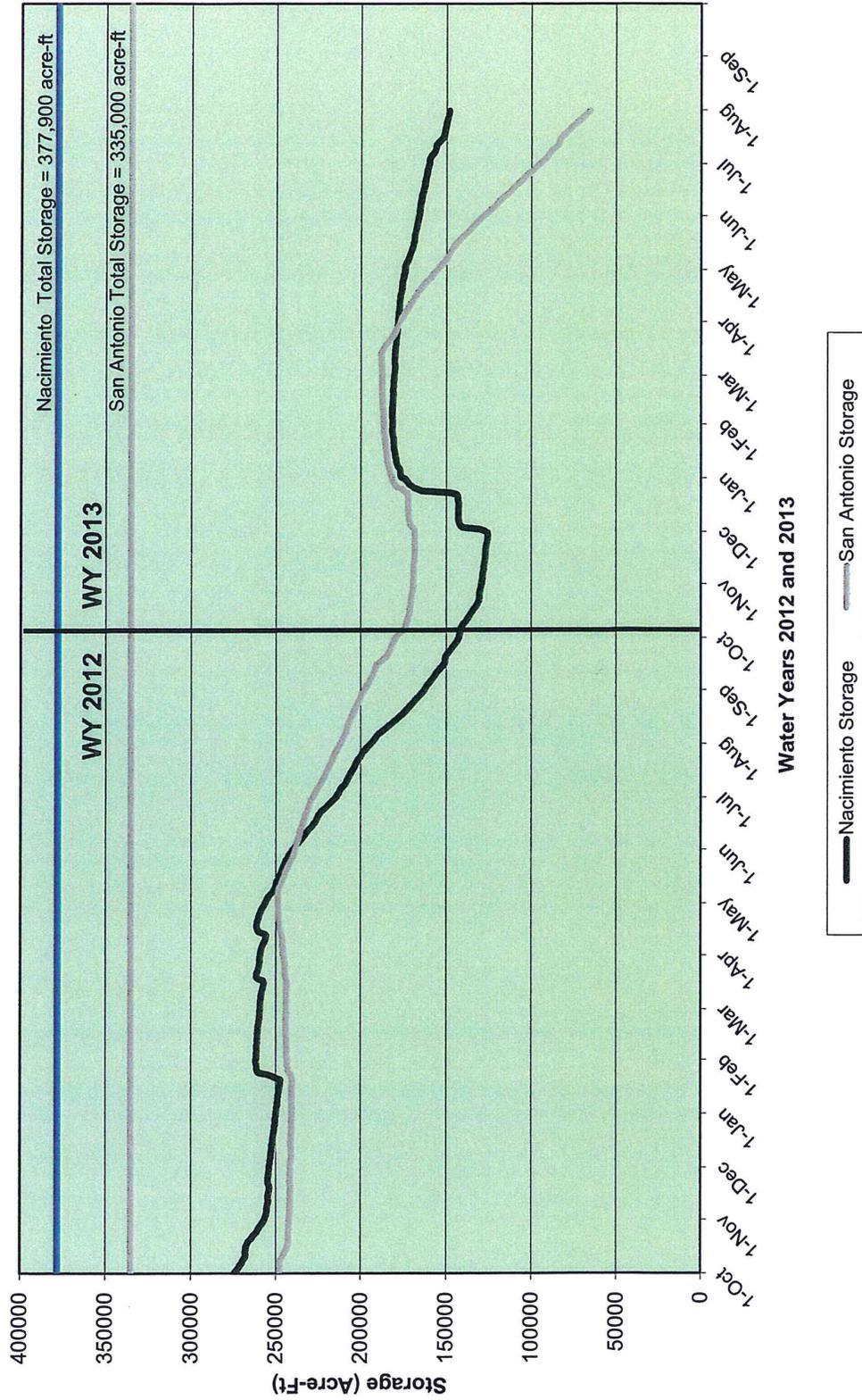
ATTACHMENT 2

**Synopsis of Reservoir Release Changes from
May 3, 2013 to July 31, 2013**

Date	San Antonio Reservoir		Nacimiento Reservoir		Total Releases
	Starting Flow	Ending Flow	Starting Flow	Ending Flow	
May 3, 2013	440	265	60	260	525
May 6, 2013	265	350	260	175	525
May 8, 2013	350	325	175	175	500
May 14, 2013	325	425	175	115	540
May 15, 2013	425	480	115	60	540
May 28, 2013	480	510	60	30	540
May 29, 2013	510	480	30	60	540
June 3, 2013	480	520	*	31	551
June 4, 2013	520	560	*	31	591
June 6, 2013	560	520	*	48	568
June 7, 2013	520	550	*	62	612
June 24, 2013	550	590	*	40	630
July 4, 2013	590	230	*	336	566
July 6, 2013	230	280	*	417	697
July 7, 2013	280	630	*	265	895
July 8, 2013	630	590	*	40	630
July 9, 2013	590	565	*	42	605
July 11, 2013	565	215	60	410	625
July 15, 2013	215	305	410	320	625
July 16, 2013	305	565	320	60	625
July 25, 2013	565	565	60	125	690
July 26, 2013	565	565	125	100	665
July 29, 2013	565	615	*	53	675

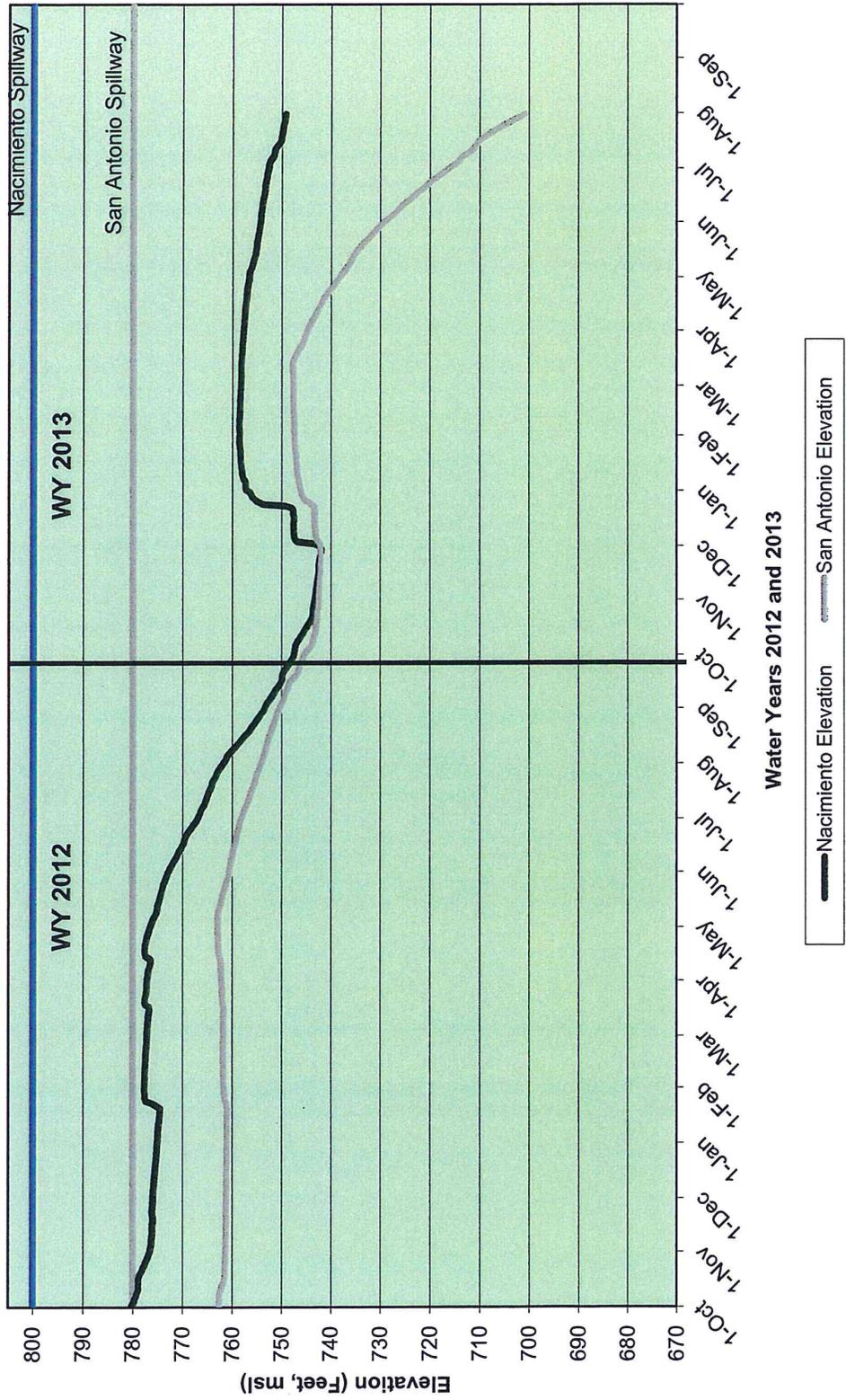
* Release rates will fluctuate while repair work is being performed on the Nacimiento hydroelectric facility. Daily reservoir releases will be reported as mean daily flow at the USGS gage Nacimiento River below Nacimiento Dam during the repair period.

Reservoir Storage



ATTACHMENT 3

Reservoir Elevation



MONTEREY COUNTY WATER RESOURCES AGENCY

7/31/2013

PROPOSED RELEASE SCHEDULE - Estimated Elevation/Storage/NWP Diversions; after July 1st

RESERVOIR RELEASE SCHEDULE FOR 2013

	NACIMIENTO							SAN ANTONIO						
	Combined Releases (cfs)*	Combined Releases (ac-ft)	Evap. Losses (ac-ft)**	Reservoir Releases (cfs)*	Reservoir Releases (ac-ft)	NWP Orders (ac-ft)	NWP Diversions (ac-ft)	Storage (ac-ft)	Elev. (ft)	Evap. Losses (ac-ft)**	Reservoir Releases (cfs)*	Reservoir Releases (ac-ft)	Storage (ac-ft)	Elev. (ft)
1/1/2013	70	4,304	446	60	3,689	776	8	176,101	757.1	397	10	615	181,623	746.0
2/1/2013	72	3,999	579	62	3,443	1,037	0	181,225	758.5	431	10	555	186,445	747.3
3/1/2013	255	15,658	974	63	3,874	1,033	0	180,288	758.3	830	192	11,784	187,358	747.6
4/1/2013	436	25,934	1,200	62	3,679	1,133	0	178,087	757.7	1,284	374	22,255	176,675	744.6
5/1/2013	529	32,522	2,450	112	6,867	1,166	99	173,935	756.5	2,282	417	25,655	154,493	738.0
6/1/2013	601	35,763	2,930	49	2,916	1,258	561	165,632	754.2	2,388	552	32,847	127,265	728.9
7/1/2013	648	39,845	3,220	149	9,162	2,035	903	159,748	752.6	2,213	499	30,683	94,000	715.8
8/1/2013	650	39,968	2,823	285	17,524	2,094	2,094	147,890	749.1	1,480	365	22,443	63,800	700.0
9/1/2013	587	34,929	1,926	388	23,088	1,880	1,880	125,449	742.0	833	199	11,841	39,877	683.1
10/1/2013	304	18,693	1,191	294	18,078	1,240	1,240	98,555	732.5	508	10	615	27,202	670.8
11/1/2013	70	4,165	555	60	3,570	1,253	1,253	78,046	724.1	265	10	595	26,079	669.5
12/1/2013	60	3,689	348	60	3,689	844	844	72,668	721.7	160	0	0	25,219	668.6
1/1/2014								67,786	719.4				25,058	668.4
TOTALS:		259,468	18,643	99,580	15,750	8,882				13,072		159,889		

* Mean daily flow for the month in cubic feet per second.

** Evap. Losses estimated from long term pan evaporation data at Nacimiento and San Antonio Reservoirs.

1. Nacimiento Reservoir storage capacity 377,900 acre feet.

2. San Antonio Reservoir storage capacity 335,000 acre feet.

3. Reservoir Operations Committee may make release considerations for fish spawn and holiday periods to benefit recreation.

4. Shaded areas represent periods when elevations are influenced by inflow/runoff; releases may include flood control releases.

5. Preliminary Schedule assumes no inflow to reservoirs after May 1st.

6. "NWP Diversions" are San Luis Obispo County - Nacimiento Water Project conveyance facilities diversions. Max. allowable diversions for water year (Oct. 1 - Sept. 30) are 15,750 ac-ft. To Be Reported (TBR)

7. NACIMIENTO "NWP Diversions" do not include lakeside water use which is estimated at approximately 1,750 acre feet per year.

NOTES:

ATTACHMENT 4

Nacimientto Project Commission

August 22, 2013

Agenda Item 4.b – Participating Agencies Subscribing to Full Allocation and Options for use of Unexpended Construction Funds

TO: Nacimientto Project Commission

FROM: Will Clemens, Finance Division

VIA: Paavo Ogren, Public Works Director

SUBJECT: Participating Agencies Subscribing to Full Allocation and Options for use of Unexpended Construction Funds

DATE: August 22, 2013

At your May 23, 2013 meeting, there was a discussion item relating to the use of unexpended construction funds and several options were presented and discussed. Separate discussions at that meeting involved the participating agencies subscribing to the full water allocation available from Nacimientto Lake. Your Commission asked staff to return with an item discussing how unexpended construction funds might be used to offset the cost increase to agencies if they fully subscribed.

Article 17 B (5) of the water delivery contract states that the District's available ad valorem property tax be used to offset the debt service cost related to reserve water. Currently, this results in a total billing credit to agencies of nearly \$1.1 million annually. If agencies were to fully subscribe, this billing credit would be eliminated.

If agencies are willing to fully subscribe, based on anticipated remaining construction funds, and with a contribution of enough District funds, District staff would be willing to recommend to your Commission and the Board of Supervisors to defer debt service increases to agencies so that in total, agencies would not see an increase in debt service costs for 10 years. This would allow sufficient time for agencies to adjust rates if needed to cover the estimated \$1.1 million increase in debt service billings beginning in year 11.

If agencies were to fully subscribe, supplemental EIR efforts would need to occur for any agencies subscribing for more water than is in the existing EIR allocations. In addition, a water delivery entitlement contract amendment would be needed to address the decisions made.

The discussion at your May 23, 2013 meeting also included several comments, questions, and ideas that were previously expressed by the TSG. The summary of those discussion points are presented again for your information and consideration as follows:

CITY OF SLO

- City is currently considering options and impacts on long term water supply alternatives
- Estimate 12 months before a decision
- What is the timing for when other Participants want to take information to their Boards?
- If Agencies took more water would County tax contribution be taken away incrementally/prorated?
- An economic analysis may get others to become Participants
- A cost benefit proposal would be required for presentation to City Council for consideration

CITY OF PASO

- Comments pending

TCSD

- TCSD appreciates AMWC and SLO comments and is interested in participating if all the primary participants agree to purchase reserve water
- TCSD is interested in a phased approach
- TCSD would also like to see County tax contribution continue to go toward the project in some way

AMWC

- Waiting for City of SLO to decide if they will participate. If City of SLO doesn't, AMWC not as interested
- Would like to see some sort of phased approach; every year take a little more water over a 10-yr period
- The only significant cost implication is the loss of the County tax contribution to NWP
- A phased approach may get others to become Participants
- A phased approach would help control budget (increase in cost over time)
- May be discussed through a Blue Ribbon Committee

- Environmental Regulatory Agencies may require more flow
- Perhaps eliminate any contract provision that would prohibit a participant from brokering any water it obtains beyond its original subscription

DISTRICT

- County tax contribution adjustments
- Use of County tax contribution for Paso ground water basin programs
- WDEC could be revised to allow Participants to sell their allocation to others
- District prepare several cost scenarios using a phased approach backfilled with percentages of new Participant allocations as examples
- How will EIR agencies be advised of opportunities to take water before Participants acquire full allocation?

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Nacimiento Project Commission
August 22, 2013

Agenda Item 4.c – Water Availability Program for Lands with Dry Wells

TO: Nacimiento Project Commission
FROM: Scott Duffield, Project Manager
VIA: Dean Benedix, Utilities Division Manager
SUBJECT: Water Availability Program for Lands with Dry Wells
DATE: August 22, 2013

Discussion

At the May 23, 2013 meeting, your Commission approved development of a water availability program to include:

1. Sale of water at Surplus Water pricing
2. Development of access locations
3. Development of program procedures and forms (i.e. indemnification/waivers)

The Commission approved that Nacimiento water could be sold to lands with dry wells at the current surplus water pricing established by the Commission on a year to year basis. Staff has confirmed that an access location is available at the Rocky Canyon water storage tank, as suggested by the Commission. Operational procedures would be implemented depending on the demand for this service and appropriate forms would be drafted with assistance from County Counsel.

Potable Water Option

The City of Paso Robles (City), Templeton Community Services District (TCSD), and Atascadero Mutual Water Company (AMWC) have indicated that their agencies could provide assistance if a need and urgency is announced by the County. These agencies have indicated that potable water from their systems could be made available to property owners overlying the basin whose existing wells have gone dry, and that it may require approval by their governing bodies to allow the sale of water to owners of properties outside of the service area boundaries.

The District recommends that the Commission consider a refined recommendation that prioritizes emergency water to be delivered primarily via wheeling through water purveyor infrastructure (potable water option), then secondarily, if needed, via the Rocky Canyon storage tank (non-potable water option).

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Nacimiento Project Commission
August 22, 2013
Agenda Item 6.a – Stenner Canyon Hydroelectric Plant

TO: Nacimiento Project Commission
FROM: Scott Duffield, Project Manager
VIA: Dean Benedix, Utilities Division Manager
SUBJECT: Stenner Canyon Hydroelectric Plant
DATE: August 22, 2013

Recommendation

Approve the attached scope of work and budget from Hollenbeck Consulting regarding a potential Approved Additional Project for the Stenner Canyon Hydroelectric Plant.

Discussion

The City of San Luis Obispo (City) has been considering options to develop a hydroelectric plant in Stenner Canyon and at the March 14, 2013 TSG meeting presented two options, 1) Develop a plant on the City side of their turnout or, 2) Develop a plant on the Nacimiento Water Project (Project) side of their turnout.

At the June 13, 2013 TSG meeting, the City proposed that development of the Stenner Canyon Hydroelectric Plant be located on the Project side of their turnout and be managed by the Project. The City also presented a letter proposal from their consultant, Hollenbeck Consulting to perform several tasks to assess the possible hydroelectric project further. The TSG was supportive of the proposal but recommended that the proposed tasks be scaled down to initially include only the reconnaissance feasibility assessment task. The revised letter proposal (scope and budget) is provided as Attachment 6.a and has been reviewed and supported by the TSG.

If the recommendation is approved by the Commission, the findings would be brought back to the TSG and Commission. The next step could be to perform a condition assessment of existing equipment proposed to be incorporated into the project and currently owned by the City. A formal proposal for this next step would be brought back to the Commission for approval. These initial efforts are intended to provide the Commission with an initial assessment of the proposed project for consideration if the project should become an “Approved Additional Project”. An Approved Additional Project would be managed and funded pursuant to Article 28 of the Water Delivery Entitlement Contracts.

Financial Considerations

The existing Nacimientto Water Operating Fund budget has sufficient funds to support these initial efforts.

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San Luis Obispo County Flood Control and Water Conservation District

TASK ORDER for Professional Consulting Services

Task Order Name: **Stenner Canyon Hydro Hydraulics and Generation**

Task Order No.: 005 Revision No.: 00

P.O. No. 25008035

Consultant: Hollenbeck Consulting

Background: Hollenbeck Consulting (HC) understands that the San Luis Obispo County Flood Control and Water Conservation District (District) is interested in pursuing the scope of work described in the letter proposal provided by HC to the City of San Luis Obispo dated April 9, 2013. HC understands that this proposal has been reviewed by the Nacimiento Water Project's (Project's) Technical Support Group (TSG) and they support the Project funding this evaluation.

Purpose: The purpose of this task order is to evaluate the hydraulics and estimated generation from the Stenner Canyon Unit if the water from the Salinas Pipe and NWP Pipe is combined to power the unit.

Task Description: (enter detailed scope of work for this specific Task Order)

Task 0 – Management. General management and coordination with District staff.

Task 1 - Combining Flow from Nacimiento and Salinas Pipelines. John Hollenbeck presented at the March 14, 2013, TSG meeting a concept of combining the flows from the Salinas and Nacimiento pipelines into a new forebay on the south side of the Cuesta grade. The Nacimiento flow typically is about 5-cfs. The Salinas flow is approximately 4.4-cfs (2,000 gpm) per pump¹ at the Santa Margarita Booster Pump Station. This is the typical operation of the two pipelines supplying water to the City's water treatment plant. The flow operating range of the Stenner Canyon unit is listed to be 5- to 15-cfs; thus, the combined flow of the Nacimiento and Salinas Pipelines fall within this range.

This task would be a hydraulic calculation to evaluate the following conditions:

- Determine if the City has an existing and reliable operating relationship between flow and headloss in the Salinas pipeline upstream of the Stenner Canyon Unit, or said another way, is there an existing net head curve that the City has high confidence in its accuracy. If not, then the net head curve will need to be computed by borrowing the Salinas Pipeline drawings from the City to determine diameter and length parameters for the hydraulic calculation. Discuss with the City the operating experience with the pipeline to understand

¹ Flow value per pump is an approximation provided by the County's Utilities Division of the Public Works Department.

San Luis Obispo County Flood Control and Water Conservation District

TASK ORDER for Professional Consulting Services

Task Order Name: **Stenner Canyon Hydro Hydraulics and Generation**

Task Order No.: 005 Revision No.: 00

P.O. No. 25008035

Consultant: Hollenbeck Consulting

the inside condition of the pipeline for use in estimating the hydraulic friction factor.

- Analyze if the Salinas pipeline flows full between the hydro unit and the Cuesta Tunnel for all flow ranges, and if not, estimate at what flow the pipeline does flow full.
- Estimate headwater elevation for a new forebay.
- Conceptualize the operation of the pipelines when used for generation by evaluating the following questions:
 - Does the flow separate into the individual pipelines, and then are recombined just upstream of the turbine?
 - Does all the flow enter the Salinas pipeline and Unit H1 shut down when the hydro unit is operating?
 - Can the flow of the Salinas and Nacimiento pipes be individually connected to one-each of the needle valves on the unit?²

The output from the hydraulic calculation will lead into the next task activities to complete the assessment of this new flow configuration:

- Estimate the annual generation from the unit.
- Perform a back-calculation of capital cost for repowering the unit for various benefit/cost ratios.
- Provide a letter report that is a reconnaissance level evaluation that describes this configuration, the feasibility, and the next steps for the City to consider. The letter report will discuss ownership of the asset and the benefactors of the generated energy.
- Attend the TSG meeting with the District to discuss the outcome of the study.

Deliverable Items: (enter detailed description of deliverables for this Task Order)

- Letter Report, PDF, delivered via e-mail.

² Mr. Kermit Paul, retired electrical and mechanical engineer from PG&E, mentioned that he worked on the design of a dual-jet PG&E Pelton unit that was supplied water from two separate pipelines that were at nearly the same head. They designed the operation of the unit to be plumbed so that one pipeline fed one needle valve, and the other pipeline fed the other needle valve, and then through the SCADA system, they would operate the needle valves such that the horsepower of the flow impacting the buckets was approximately equal. This concept might be applicable to Stenner Canyon, but will require analyses as to whether it will work.

San Luis Obispo County Flood Control and Water Conservation District

TASK ORDER for Professional Consulting Services

Task Order Name: Stenner Canyon Hydro Hydraulics and Generation

Task Order No.: 005 Revision No.: 00

P.O. No. 25008035

Consultant: Hollenbeck Consulting

Period of Performance: From: June 24, 2013 To: July 31, 2013

Task Order Manpower and Budget:

See the attached budget estimate.

Not-to-exceed Fee Estimate³: \$6,800

Authorized classifications/individuals:

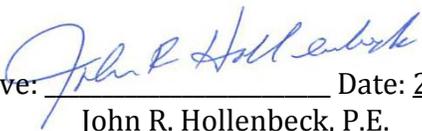
Only John Hollenbeck will work on this task order.

Authorized subconsultants/subcontractors/other direct costs:

No subconsultants will be used for this Task Order.

Subconsultant _____ will be used for this Task Order

Authorization Signatures:

Authorized Consultant Representative:  Date: 23 JUNE 2013
John R. Hollenbeck, P.E.

Authorized District Representative: _____ Date: _____
Scott Duffield, P.E.

Attachment(s): Budget Estimate

³ The fee can only be revised by mutual approval of a revised Task Order.

Attachment 6.a

**County of San Luis Obispo
Stenner Creek Hydro Development at Old Water Treatment Plant
Reconn Feasibility Evaluation for Repowering the Unit**

Evaluate the hydraulics if the machine operated off of water from both the Salinas and Nacimiento pipelines.

Task No.	Description	Quantity	Unit	Unit Rate	HC Labor Cost	ODC (Expenses)	Totals
0.0	Management	2	hr	\$ 175.00	\$ 350	\$ 11	\$ 361
1.0	Reconn Feasibility Assessment of Combined Pipe Flows						
	Meeting with City and/or County Staff to Understand Flow Conditions	3	hr	\$ 175.00	\$ 525	\$ 44	\$ 569
	Meeting with City to Understand Net Head on Salinas Pipeline	3	hr	\$ 175.00	\$ 525	\$ 16	\$ 541
	Copy Salinas Documents	1	LS	\$ 50.00	\$ 50	\$ -	\$ 50
	Hydraulic Calculations for Pipelines	10	hr	\$ 175.00	\$ 1,750	\$ 53	\$ 1,803
	Energy Generation Calculations	3	hr	\$ 175.00	\$ 525	\$ 16	\$ 541
	Financial Evaluation	6	hr	\$ 175.00	\$ 1,050	\$ 32	\$ 1,082
	Letter Report	8	hr	\$ 175.00	\$ 1,400	\$ 42	\$ 1,442
	Meeting with District & TSG	2	hr	\$ 175.00	\$ 350	\$ 39	\$ 389
	TOTALS	37	HC Hrs		\$ 6,525	\$ 251	\$ 6,776
					Budget Estimate (rounded):		\$ 6,800

TABLE 3-4. BASE CASE ECONOMIC ANALYSIS

Net Annual Energy (kWh)	1,250,000		
Capacity (kW)	260	[Yrs Dollars]	
Project Capital Cost	\$ 1,770,000	2015	Annual Debt Interest Rate 4.50% percent
Licensing Cost	\$ 125,000	2015	Debt Term 20 years
Total Estimated Project Cost	\$ 1,895,000	2015	O&M Cost Escalation Rate 3.00% percent
Amount Self-Financed	0.00%	percent	Energy/Power Escalation Rate 1.50% percent
Amount Debt Financed	\$ 1,895,000	2015	First Year Avoided Energy Cost \$ 0.140 \$/kWh
First Year O&M Cost	\$ 50,000		First Year Capacity Cost \$ - \$/kW
			Present Worth Discount Rate 3.00% percent

Year	Gross Revenue (1,000\$)	O&M Cost (1,000\$)	Net Revenue (1,000\$)	Debt Req'ment (Principal & Interest) (1,000\$)	Debt Principal (1,000\$)	Remaining Debt Principal (1,000\$)	Annual Debt Interest (1,000\$)	Total Remaining Debt (1,000\$)	Cashflow (1,000\$)	IRR
2015	\$ 175.0	\$ 50.0	\$ 125.0	\$ (145.7)	\$ (60.4)	\$ 1,834.6	\$ (85.3)	\$ 1,834.6	\$ (20.7)	11.2%
2016	\$ 177.6	\$ 51.5	\$ 126.1	\$ (145.7)	\$ (63.1)	\$ 1,771.5	\$ (82.6)	\$ 1,771.5	\$ (19.6)	
2017	\$ 180.3	\$ 53.0	\$ 127.2	\$ (145.7)	\$ (66.0)	\$ 1,705.5	\$ (79.7)	\$ 1,705.5	\$ (18.4)	
2018	\$ 183.0	\$ 54.6	\$ 128.4	\$ (145.7)	\$ (68.9)	\$ 1,636.6	\$ (76.7)	\$ 1,636.6	\$ (17.3)	
2019	\$ 185.7	\$ 56.3	\$ 129.5	\$ (145.7)	\$ (72.0)	\$ 1,564.5	\$ (73.6)	\$ 1,564.5	\$ (16.2)	
2020	\$ 188.5	\$ 58.0	\$ 130.6	\$ (145.7)	\$ (75.3)	\$ 1,489.3	\$ (70.4)	\$ 1,489.3	\$ (15.1)	
2021	\$ 191.4	\$ 59.7	\$ 131.6	\$ (145.7)	\$ (78.7)	\$ 1,410.6	\$ (67.0)	\$ 1,410.6	\$ (14.0)	
2022	\$ 194.2	\$ 61.5	\$ 132.7	\$ (145.7)	\$ (82.2)	\$ 1,328.4	\$ (63.5)	\$ 1,328.4	\$ (13.0)	
2023	\$ 197.1	\$ 63.3	\$ 133.8	\$ (145.7)	\$ (85.9)	\$ 1,242.5	\$ (59.8)	\$ 1,242.5	\$ (11.9)	
2024	\$ 200.1	\$ 65.2	\$ 134.9	\$ (145.7)	\$ (89.8)	\$ 1,152.7	\$ (55.9)	\$ 1,152.7	\$ (10.8)	
2025	\$ 203.1	\$ 67.2	\$ 135.9	\$ (145.7)	\$ (93.8)	\$ 1,058.9	\$ (51.9)	\$ 1,058.9	\$ (9.8)	
2026	\$ 206.1	\$ 69.2	\$ 136.9	\$ (145.7)	\$ (98.0)	\$ 960.9	\$ (47.7)	\$ 960.9	\$ (8.8)	
2027	\$ 209.2	\$ 71.3	\$ 137.9	\$ (145.7)	\$ (102.4)	\$ 858.5	\$ (43.2)	\$ 858.5	\$ (7.7)	
2028	\$ 212.4	\$ 73.4	\$ 138.9	\$ (145.7)	\$ (107.1)	\$ 751.4	\$ (38.6)	\$ 751.4	\$ (6.7)	
2029	\$ 215.6	\$ 75.6	\$ 139.9	\$ (145.7)	\$ (111.9)	\$ 639.5	\$ (33.8)	\$ 639.5	\$ (5.8)	
2030	\$ 218.8	\$ 77.8	\$ 140.9	\$ (145.7)	\$ (117.0)	\$ 522.5	\$ (28.8)	\$ 522.5	\$ (4.8)	
2031	\$ 222.1	\$ 80.1	\$ 142.0	\$ (145.7)	\$ (122.2)	\$ 400.3	\$ (23.5)	\$ 400.3	\$ (3.8)	
2032	\$ 225.4	\$ 82.4	\$ 143.0	\$ (145.7)	\$ (127.7)	\$ 272.8	\$ (18.0)	\$ 272.8	\$ (2.9)	
2033	\$ 228.8	\$ 84.7	\$ 144.1	\$ (145.7)	\$ (133.4)	\$ 139.4	\$ (12.3)	\$ 139.4	\$ (2.0)	
2034	\$ 232.2	\$ 87.0	\$ 145.2	\$ (145.7)	\$ (139.4)	\$ 0.0	\$ (6.3)	\$ (0.0)	\$ (1.1)	
2035	\$ 235.7	\$ 89.3	\$ 146.4	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 145.4	
2036	\$ 239.2	\$ 91.6	\$ 147.6	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 146.2	
2037	\$ 242.8	\$ 93.9	\$ 148.9	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 147.0	
2038	\$ 246.5	\$ 96.2	\$ 150.3	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 147.8	
2039	\$ 250.2	\$ 98.5	\$ 151.7	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 148.5	
2040	\$ 253.9	\$ 100.8	\$ 153.1	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 149.2	
2041	\$ 257.7	\$ 103.1	\$ 154.6	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 149.9	
2042	\$ 261.6	\$ 105.4	\$ 156.2	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 150.5	
2043	\$ 265.5	\$ 107.7	\$ 157.8	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 151.1	
2044	\$ 269.5	\$ 110.0	\$ 159.5	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 151.7	
2045	\$ 273.5	\$ 112.3	\$ 161.2	\$ (145.7)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ (0.0)	\$ 152.2	

SAMPLE

First Year of Positive Cashflow		2035
COSTS	PW of Debt Cost	\$2,167.35 (2015\$)
	PW of O&M Cost	\$1,504.85 (2015\$)
	PW TOTAL COSTS	\$3,672.21 (2015\$)
BENEFIT	PW of Gross Revenue	\$4,263.11 (2015\$)
	B/C Ratio	1.16