

TO: BOARD OF DIRECTORS
FROM: BRUCE BUEL *BB*
DATE: DECEMBER 7, 2007

**AGENDA ITEM
E-1
DEC. 12, 2007**

SUPPLEMENTAL WATER ALTERNATIVES ANALYSIS

ITEM

Receive draft Boyle Technical Memorandum regarding water supply from CCWA/State Water Pipeline and provide policy direction on development of supplemental water [Provide Policy Direction].

BACKGROUND

Attached is Boyle Engineering's Draft Technical Memorandum No. 3 – Implementation of Water Supply from CCWA/State Pipeline. The SWP Committee will review this report at its December 10, 2007 Meeting and forward recommendations to your Board at the Board Meeting. Mike Nunley and Malcolm McEwen from Boyle Engineering are scheduled to present the draft to your Board at the Board Meeting.

Also attached is a spread sheet prepared by staff comparing key elements of the CCWA alternative with the Waterline Intertie Project and Desalination. It should be noted the cost per customer information provided at the bottom of the spread sheet is dependent on the assumptions used above and is subject to potentially dramatic change as those assumptions are refined. It should also be noted that all three scenarios assume that the "Backbone" improvements detailed in the Draft Water & Sewer Master Plan and funded in the current rates are excluded from all three Alternatives.

SAIC has developed projections of future groundwater storage (See Agenda Item E-2), that indicate without supplemental water 100% of the groundwater above sea level could be depleted in 11 to 12 years and the 65,000 acre feet of storage above sea level presumed to be needed to prevent sea water intrusion could be reached in as little as two years. SAIC's analysis further suggests that at least 4,750 acre feet per year of supplemental supply will be needed to prevent depletion of storage below current levels with zero growth; at least 6,750 acre feet per year with 1% growth; and 10,000 acre feet per year with 2.3% Growth (The 15,000 acre feet per year with 4.3% growth probably exceeds full build-out of the Mesa).

RECOMMENDATION

Staff recommends that your Honorable Board receive Boyle's presentation, hear from the SWP Committee, hear from the Public and then discuss and accept Technical Memorandum No. 3.

In regards to the three Supplemental Water Projects described in the attached spread sheet, Desalination is the only option that appears to meet the future Supplemental Water needs of the Mesa, however it can not be developed quickly enough to protect the basin from sea water intrusion and it does carry the risk of regulatory rejection. The Waterline Intertie Project appears to have the lowest unit cost and the quickest timeline, but it is limited as to yield. The CCWA Alternative is the most limited in terms of yield; it would require substantial additional evaluation before it could be adequately defined (intense negotiations with the assistance of a water broker); and it would be subject to a vote of the community.

Staff believes that the cornerstone of the District's Supplemental Water Policy should be development of a Desalination Project. Staff recommends that the Board confirm that it wishes to pursue development of Desalination and direct staff to bring back a detailed Strategic Plan for implementation.

Staff further believes that either the Waterline Intertie Project or the CCWA Alternative need to be implemented as soon as possible to provide short term water supply. If the Board prefers the Waterline Intertie Project, staff should be directed to bring back proposals for refining the project based on new information and for re-starting the Environmental Review process. If the Board prefers the CCWA Alternative, staff should be directed to bring back proposals for retention of a water broker.

ATTACHMENTS

- Boyle Technical Memorandum No. 3
- Staff Spread Sheet Comparing Alternative SWPs

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Evaluation of Supplemental Water Alternatives

Technical Memorandum No. 3 Implementation of Water Supply from CCWA/State Water Pipeline

Nipomo Community Services District

President	Michael Winn
Vice President	Larry Vierheilig
Director	Cliff Trotter
Director	Ed Eby
Director	Jim Harrison
General Manager	Bruce Buel
District Engineer	Peter Sevcik, PE

Boyle Engineering Corporation

Project Manager	Mike Nunley, PE
Project Engineer	Malcolm McEwen, PE

19996.32
November 30, 2007



BOYLE

1194 Pacific Street, Suite #204

San Luis Obispo, CA 93401

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1.0 Introduction

As directed by the Board of Directors of Nipomo Community Services District (NCSD), Boyle has prepared the following Technical Memorandum to assist the District in acquiring supplemental water from the Coastal Branch of the State Water Project (SWP). The Coastal Branch of the SWP consists of water conveyance facilities built by the California Department of Water Resources (DWR) and regional distribution and treatment facilities constructed by the Central Coast Water Authority (CCWA). The CCWA is responsible for operating and maintaining the Polonio Pass Water Treatment Plant and all of the downstream Coastal Branch facilities.

Negotiation with various stakeholders (including the San Luis Obispo Flood Control and Water Conservation District, State Water “subcontractors” in San Luis Obispo County, CCWA, and individual member agencies of CCWA) is ongoing. Therefore, this Memorandum does not present a detailed cost opinion or implementation strategy for this project.

Objective

The objective of this Memorandum is to present an “interim report” regarding these negotiations and to identify facilities required for delivering this water. It is intended to provide the Board of Directors with sufficient information to decide whether to continue negotiations or to initiate implementation of the Waterline Intertie Project as a “short term” water supply.

Scope of Work

This memo presents:

- a brief summary of pertinent background information,
- a description of a potential framework for an agreement to gain access to this water source,
- a description of the facilities needed to implement this project, and
- a summary of the ranges of costs which may be expected.

Prior Studies

Boyle has completed two previous Technical Memoranda related to this work:

TM 1 – Constraints Analysis

Boyle examined the feasibility and costs of alternatives to the Nipomo Waterline Intertie Project. Conclusions are listed below:

- Using Santa Maria groundwater was found to be infeasible because this alternative would likely affect the flow of water between Santa Maria Valley and the Nipomo Mesa Management Area, and would likely be prevented as a result of the adjudication.
- Extending the Nacimiento Water Project was found to be infeasible because the project was already out to bid, and as designed would not deliver the District's desired 3,000 AFY.
- Drawing agricultural drainage from Oso Flaco is not considered to be a feasible supplemental water alternative due to the poor water quality of the water, inadequate quantity, likelihood of requiring approval from parties in Santa Maria Valley adjudication, and lack of support expected from drinking water regulators.
- Groundwater recharge with treated wastewater will not increase the water supply available to the District, but may assist with managing groundwater depressions and disposing of treated effluent.
- Seawater desalination is expected to take many years for implementation, would be an expensive water supply, and would require many years of studies and negotiation with resource agencies, but would represent the most reliable water supply available to the District.
- Direct purchase of 3,000 AFY or 6,300 AFY of State Water from the SWP pipeline did not appear to be feasible, due to institutional and legal constraints including the likelihood of paying a significant "buy-in" cost as repayment for past expenditures by participating State Water customers.

TM 2 - Evaluation of Desalination as a Source of Supplemental Water

Boyle provided the Nipomo Community Services District (NCSD) with a general plan to implement a seawater or brackish water desalination plant capable of delivering at least 6,300 acre-feet per year of desalted water. The report identified several key preliminary studies which will be needed in order to build and operate a desalination facility. The report found that implementation of a desalination plant may require approximately \$79 million, with additional costs for distribution system improvements. The implementation period may take over 8 years.

Significant challenges must be overcome to implement this project, as discussed in Technical Memoranda 2 and 3. Issues include the intake design, brine discharge location, and permitting constraints. Because of lack of information about the hydrogeologic characteristics of the areas proposed for subsurface intakes and discharges, it is unknown whether these structures will be feasible. In addition, there may be considerable pressure from regulatory agencies to form a regional partnership with South SLO County agencies

(City of Arroyo Grande, City of Grover Beach, and Oceano Community Services District) in lieu of developing two (2) desalination projects approximately 6-7 miles apart.

Prior to completing these draft memoranda, Boyle evaluated the cost for a waterline connection to the City of Santa Maria. Three alignments were examined with capital costs ranging from \$24 million to \$27 million and annual costs ranging from \$300,000 to \$320,000. Construction of the river crossing was expected to take 4 to 8 months and construction of the Nipomo-side transmission pipeline would take 2 to 6 months. Additional time would be needed for preliminary studies, design, permitting, bidding, and contracting, but the project could be implemented within the next two (2) to three (3) years.

The Limits of Information

The values contained in this memorandum are projections of future transactions. The reliability of these values may be categorized as follows:

- Very reliable values include (1) projections of construction costs for installation of common infrastructure items such as pipelines, and (2) projections of recurring costs that will be paid to CCWA and DWR for operation and maintenance of the system.
- Moderately reliable values include (1) projections of construction costs for installation of uncommon infrastructure items such as highway crossings, pressure-reducing stations, and chloramination facilities; and (2) projections of construction costs for large components based on construction costs that obtained several (or many) years ago (such as the water treatment plant expansion.)
- Unreliable values include projections based on costs which are negotiable, such as buy-in costs.

2.0 Background

The State Water Project and the Central Coast Water Authority

The State Water Project (SWP) is a system of dams, reservoirs, power and pumping plants, canals, and aqueducts that conveys water from Lake Oroville to Southern California. The “Coastal Branch” of the SWP consists of water conveyance facilities built by the California Department of Water Resources (DWR) and regional distribution and treatment facilities constructed by the Central Coast Water Authority (CCWA).

Coastal Branch Phase I was completed in 1968. Phase II of the Coastal Branch was completed in 1997 and brings SWP water to San Luis Obispo and Santa Barbara Counties. Key facilities include the Polonio Pass Water Treatment Plant (PPWTP), approximately 143 miles of pipeline, and associated pumping plants and storage tanks. Individual components of the Coastal Branch were built by either the DWR or CCWA. However, CCWA is responsible for operating and maintaining the Polonio Pass Water Treatment Plant and all of the downstream Coastal Branch facilities.

State Water Allocations – Drought Buffers, Table A, Suspended Allocations, and Delivery Reliability

The State Water Project delivers water to each of its contractors based on that contractor’s “Table A Amount.” In approximately 3 out of 10 years the SWP delivers the full amount. In years when deliveries are reduced, each contractor’s delivery amount is reduced by the same fraction. It has been estimated that on average the SWP will deliver approximately 75% of its Table A Amounts (California Department of Water Resources, Bay-Delta Office, The State Water Project Delivery Reliability Report, 2005).

To increase the reliability of delivery, some contractors increased their Table A Amounts above the amounts they planned to use. These excess Table A Amounts are typically considered “drought buffers.”

According to the CCWA 2005 Urban Water Management Plan:

Originally, SBCFC&WCD requested 57,700 acre-feet of water annually. In 1980, Santa Barbara County water purveyors requested and agreed to pay for 45,486 acre-feet and SBCFC&WCD, with the concurrence of DWR, suspended the remaining 12,214 acre feet. CCWA is actively pursuing a possible repurchase of 12,214 acre-feet of SBCFC&WCD Table A Amount that was suspended by request in 1981.

In 1994, Santa Barbara County water purveyors, now part of CCWA, agreed to take 39,078 acre-feet with an additional 3,908 acre-feet of drought buffer. Goleta Water District took an additional 2,500 acre-feet of drought buffer to further firm up its supply.

SLOCFC&WCD originally requested 25,000 acre-feet annually. In 1991, it decided, however, to participate in the treatment and conveyance facilities for 4,830 acre-feet only. ...

SLOCFC&WCD has 25,000 acre-feet of Table A available but can only take delivery of 4,830 acre-feet in any given year, and SBCFC&WCD has 45,486 acre-feet available, but can only take delivery of 42,908 in any given year. ... As a result, CCWA project participants typically have at least 5,000 acre-feet in each normal year to carryover into the next year.

SLO County's excess allocation can be used: to ensure achievement of full allocation in years of low delivery from State (<100%); for groundwater banking in and out of County (currently evaluating in-County); turnback pools (sell to the state or other contractors); permanent sale; yearly/multi-year sale; or used in County after expansion of facilities and/or contract negotiation. (www.slocountywater.org)

These quantities are summarized below:

Table 1. Water Allocation, Drought Buffers, and Table A Amounts

Turnout	Allocation (afy)	Drought Buffer (afy)	Total Table A Amount (afy)
Chorro Valley	2,438	3,315	5,753
Lopez	2,392	302	2,694
SLO County Excess Allocation (1)			16,553
SLO County Subtotal	4,830	3,617	25,000
Santa Maria Valley Turnouts	17,250	1,725	18,975
Other SB County Turnouts	21,828	2,183	24,011
Goleta Water District Drought Buffer		2,500	2,500
Santa Barbara County Subtotal	39,078	6,408	45,486
SWP/CCWA Total	43,908	10,025	67,986

Capacity Restrictions – Treatment at Polonio Pass and Pipeline Capacity to Nipomo

The annual conveyance capacities of the various portions of the existing Phase II Coastal Branch of the State Water Project were designed to deliver the amounts discussed below. These reported capacities take into account the fact that the pipeline and treatment plant are operated 11 out of 12 months each year.

Polonio Pass Treatment Plant

The Polonio Pass Treatment Plant (PPTP) is reported to have a treatment capacity of 50,758 acre-feet per year (CCWA 2007/08 Budget.) The CCWA has allocated this treatment capacity to deliver the full

Table A amounts to Santa Barbara County participants (45,486 afy) and the non-drought buffer allocation amounts to San Luis Obispo County participants (4,830 afy). [45,486 + 4,830 = 50,316 afy] Thus, treatment capacity is almost fully allocated.

Depending on the changing month-by-month and year-by-year demands of the various participants, it may be possible to treat additional water for Nipomo CSD without making capital improvements to the PPTP. However, without implementing an in-depth engineering and operational analysis of the PPTP, it is not possible to quantify the amount of “excess” capacity in this facility.

Coastal Branch Phase 2

In 2005 Penfield & Smith produced a Pipeline System Modeling report for CCWA. Results of this study are summarized below. The committed capacities listed are sufficient to provide all Santa Barbara County participants with their Table A Amounts plus drought buffer, and all San Luis Obispo County participants with their Table A Amounts - without drought buffer. The existing capacities listed refer to the existing physical restrictions on conveyance. The excess capacity is the difference between the committed and existing capacities.

Table 2. Excess Conveyance Capacity

Component	Committed Capacity	Existing Capacity	Excess Capacity
Pipeline from Devils Den Pumping Plant to Polonio Pass	50,316 afy	74,125 afy (1)	23,809 afy
Pipeline from PPWTP to Lopez Lake	47,816 afy	56,916 afy (2a) to 53,416 afy (2b)	9,100 afy (2a) to 5,600 afy (2b)
Pipeline from Lopez to Santa Maria Valley (Tank 5)	42,986 afy	42,986 afy (2a) to 48,586 afy (2b)	0 afy (2a) to 5,600 afy (2b)
Pipeline south of Tank 5	24,011 afy	24,011 afy	0 afy

Notes:

(1) Reported in SLOCFCWCD Paso Robles Groundwater Subbasin Water Banking Feasibility Study, Draft, August 2007.

(2) Pennfield & Smith, July 2005 – C factor = 150 above Tank 5; C factor = 135 below Tank 5.

(2a) All excess (9,100 afy) taken at Lopez turnout

(2b) All excess (5,600 afy) taken in Santa Maria Valley

The amount of water in excess of the CCWA-committed delivery amount that could be delivered to the Santa Maria Valley turnouts depends on the amount of water in excess of the CCWA-committed delivery amount delivered to the Lopez turnout (or to a new Nipomo turnout), as shown below.

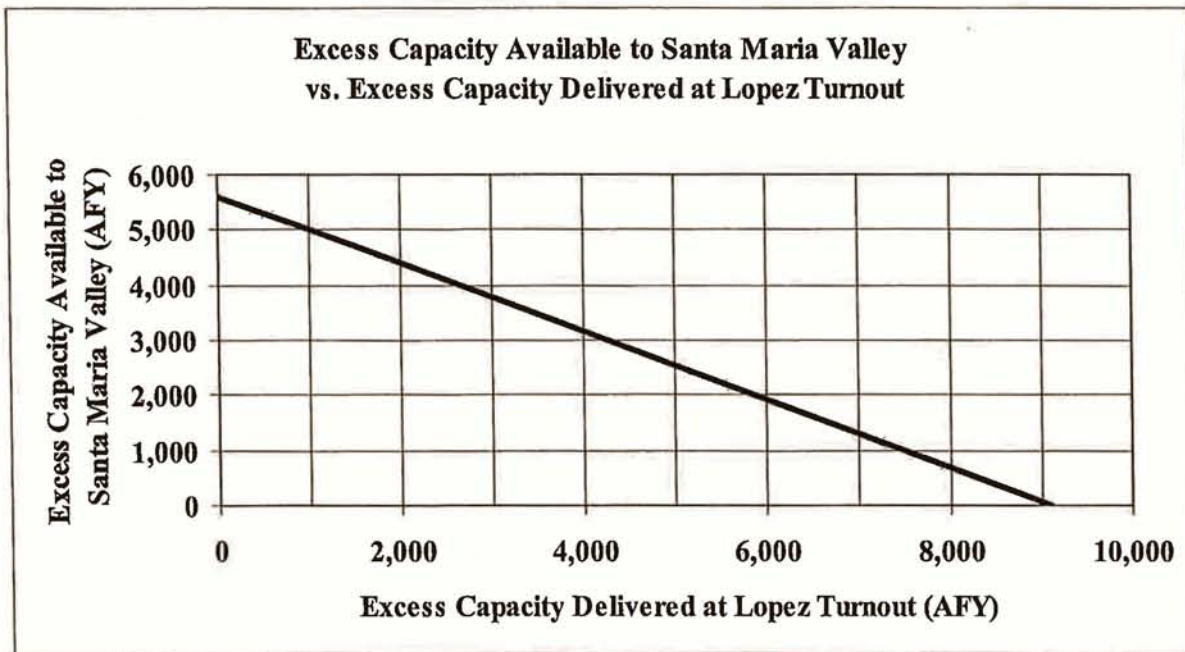


Figure 1 Santa Maria Valley Excess Delivery Capacity

3.0 Framework for an Agreement

Legal Constraints

As discussed in Technical Memorandum 1, Nipomo residents opposed State Water delivery in two separate ballots. Therefore, District legal counsel has recommended the District sponsor a new ballot to allow voters to reconsider their previous decisions. After a general framework is developed through negotiation with the stakeholders listed below, it is assumed the District will be able to present project costs in sufficient detail for the voters.

SWP/CCWA Stakeholders

The following stakeholders to a proposed agreement have the following motivations and concerns.

Table 3. Stakeholder Issues

Entity	Potential Motivations	Concerns
San Luis Obispo County taxpayers who do not now receive State Water	Taxes could be reduced by amount paid by Nipomo for use of excess allocation	
San Luis Obispo County Flood Control and Water Conservation District	Obtain Revenue for unused Table A amounts	May lose the right to 16,000 afy if not used.
Other SLO County SWP subcontractors	Reduce the fixed cost of their Table A allocation Additional Water desired by some users	
City of Santa Maria	Wants more water and payback for pipeline cost	Proposal should be comparable or more attractive than existing MOU with District
Montecito Water District	Wants more water and payback for pipeline cost	
All SWP Subcontractors	Want more water and/or payback for pipeline cost	
CCWA	Ensure reliable State Water deliveries to member agencies Find opportunities to improve reliability of State Water for member agencies	

Possible Allocation of Additional Water and Costs for “Buy-In”

Terms and conditions will be defined through negotiation with these agencies, but the following outline presents one possible scenario. The table represents a possible basis for an agreement that may result in SWP water for Nipomo CSD. Water is reported as “Table A Amounts”, wet water (i.e. Table A Amounts actually delivered), and drought buffer (i.e., used to increase reliability of delivery, but never actually delivered.)

Table 4. Possible Allocation of Additional Water and Costs

Entity	Water	Cost or Income
NCSD	Gets 2,500 to 3,000 afy "wet water" Table A amount from SLO County.	Pays \$ for buy-in costs, including possible Polonio Pass WTP expansion (if required) Pays \$ for right to State Water Project water.
Lopez turnout participants	Get 1,000 afy "wet water" Table A amount at Lopez turnout.	
Other SLO County SWP Subcontractors		Reduced cost for Table A amounts. (a)
SLO County taxpayers		Reduced cost for "holding" excess SWP allocation.
City of Santa Maria	Gets 4,500 to 5,000 afy Table A amount from SLO County: <ul style="list-style-type: none"> • 1,500 to 2,000 afy as "wet water". • 3,000 afy as drought buffer. 	Pays \$ for Polonio Pass WTP expansion (if required) Reimbursal for past expenditures from buy-in costs paid by NCSD
Montecito Water District	Gets 500 afy "wet water" from SLO County.	Reimbursal for past expenditures from buy-in costs paid by NCSD
CCWA	Needs to treat and transport additional 5,500 to 6,500 afy.	Reimbursal for past expenditures from buy-in costs paid by NCSD

Notes:

(a) San Luis Obispo County taxpayers have been paying approximately \$1 million per year to "hold" the 20,130 afy in excess allocation (SLO Telegram-Tribune, 4/30/1996). If SLO County were to release 10,000 afy of their Table A amounts (a portion to be used as drought buffer, and a portion actually delivered), then the tax could be cut by almost half.

Probable Costs and Their Impact on Proposed Allocation

The following table summarizes a range of costs for NCSD to obtain water from the State Water Project. These estimated costs do not include costs to the District for local connection, conveyance, and storage facilities. Those costs are discussed in a later section.

Purchase of water will include two cost components: (1) annual costs for CCWA operation, maintenance, and continuing debt service; and (2) buy-in cost for past capital improvement payments made by the seller. The former is routinely calculated while the latter is more difficult to determine. In a recent sale of 400 AFY from Carpinteria Valley Water District, annual costs were \$1,500/af and the buy-in costs were \$5,000/afy of capacity (Carpinteria Valley Water District, Board of Directors Meeting, April 26, 2006.) However, a buy-in cost of \$13,000 per afy of capacity was said to be "reasonable" at a recent meeting of stakeholders (11/21/2007.)

Note that the following estimated costs are only for obtaining water from the pipeline – at the pipeline. There will be additional costs for the construction and operation of District facilities required to

implement the interconnection to the District's distribution system. These costs are discussed in Section 4.

**Table 5. Estimated Costs in Agreement
– Cost of Water at the Point of Delivery**

One-Time Costs	Low Estimate	Medium Estimate	High Estimate
Buy-in Cost to NCSD for 3,000 afy for existing conveyance and treatment	\$3.6 M (a) (3,000 afy @ \$1,180/afy)	\$15 M (b) (3,000 afy @ \$5,000/afy)	\$39 M (c) (3,000 afy @ \$13,000/afy)
Buy-in Cost to NCSD for 3,000 afy for Polonio Pass Expansion	Zero (assumes excess capacity exists)	\$12.3 M (3,000 afy @ \$4,100/afy) (50% of original costs)	\$24.6 M (3,000 afy @ \$8,200/afy) (original CCWA costs)
Total One-Time Costs	\$3.6 M	\$27.3 M	\$63.6 M

Annual Costs	Low Estimate	Medium Estimate	High Estimate (s)
Annualized One-Time Costs (20 years @ 6%)	\$0.3 M	\$2.4 M	\$5.5 M
Annual fixed cost paid to CCWA, DWR, and SLOCFCWCD by NCSD	\$2.8 M (3,000 af @ \$930/af) (current price to Pismo Beach)	\$3.3 M (assumes 20% increase)	\$3.3 M (assumes 20% increase)
Annual variable cost paid to CCWA, DWR, and SLOCFCWCD by NCSD	\$0.6 M (3,000 af @ \$185/af) (current price to Pismo Beach)	\$0.7 M (assumes 20% increase)	\$0.7 M (assumes 20% increase)
Total Annual Costs	\$3.7 M	\$6.4 M	\$9.5 M

Cost of Water	Low Estimate	Medium Estimate	High Estimate (s)
Total Cost per acre-foot delivered (based on long-term average delivery of 75% of 3,000 afy = 2,250 afy)	\$1,600 / af	\$2,800 / af	\$4,200 / af

Notes:

(a) Unescalated cost based on \$1,180/afy of capacity as paid by SLO County SWP contractors prior to water deliveries.

(b) Carpinteria sale to PXP, April 26, 2006.

(c) Estimated net present value of past capital costs to Santa Maria. See Appendix C.

It has been reported that Santa Barbara County is considering building another pipeline within the Coastal Branch right-of way for transporting 11,200 afy of their suspended allocation. For purposes of comparison the probable costs of that project are summarized below.

Table 6. Estimated Costs of Parallel Pipeline

Cost Assumptions	Low Estimate	High Estimate
Buy-back cost for Santa Barbara County's 11,200 afy Suspended Table A amount	\$15 M (11,200 afy @ \$1,340/afy)	\$17 M (11,200 afy @ \$1,520/afy)
Design and Construction cost to Santa Barbara County for building a pipeline parallel to the existing SWP/CCWA pipeline.	\$560 M (143 miles @ \$3.9 M/mile) (Nacimiento Project bids)	\$1.04 B (143 miles @ \$7.3 M/mile) (SWP costs adjusted for inflation)
Design and Construction Cost to Santa Barbara County for 11,200 afy treatment plant	\$92 M (11,200 afy @ \$8,200/afy)	\$92 M (11,200 afy @ \$8,200/afy)
Total Cost	\$667 M	\$1.2 B

4.0 Facilities Needed

Assuming the District is able to connect to the State Water Project at Mehlschau Road, a number of improvements will be needed to implement this connection.

A preliminary hydraulic analysis of the SWP show the hydraulic grade line (HGL) at Mehlschau Road to be from 794 to 910 ft. above mean sea level (MSL). Ground surface elevation at the intersection with Mehlschau Road is approximately 350 ft MSL, giving pipeline pressures of between 193 and 244 psi (pounds per square inch). Sufficient pressure would exist to move the released water up to the Quad Tanks (at 540 ft MSL). The preferred alignment for this pipeline is depicted in Appendix B.

In addition, it is anticipated the District will be required to take constant flow deliveries from the CCWA facilities. This will require the District construct equalization storage to address differences between short-term deliveries and fluctuating demands.

Cost of Improvements for the Connection (“Present Demand Only”)

If the purpose is to acquire a connection to the SWP for meeting present demand only, then this could be accomplished by installing a pressure-reducing valve system and approximately 2 miles of 12-inch water main, and by converting to chloramination at each well head. Our opinion of probable cost for these improvements would be \$3.8 million (including contingencies and engineering, no property acquisition), as described in Appendix B.

The Water Master Plan cites the need for approximately 1.0 million gallons of operational storage to accommodate this supply. Assuming an additional storage tank is constructed either near the turnout or at the Quad Tanks site, the cost for this storage tank would be approximately \$1.5M (including engineering and contingency, no property acquisition).

Therefore, the cost for the pressure reducing station, 12” pipeline, and 1.0 MG storage tank would be approximately \$5.3M. This one-time cost could be amortized over 20 years at 6% with annual payments of \$460,000. Adding \$27,000 for additional O&M, and assuming on average 2,250 acre-feet are delivered per year, the cost of these local facilities would be approximately \$225 per acre-foot delivered.

Cost of Improvements to Integrate the Connection into the Master Plan (including Future Demand Considerations)

The Water and Sewer Master Plan Update (Administrative Draft) for the District recently prepared by Cannon Associates makes provisions for connection to the State Water Project. This Master Plan Update lists a number of improvements (“Priority 1 – Backbone Improvements to Accommodate New Supply at Thompson and Mehlschau”) needed to implement the connection: a pressure reducing station, 13,600 feet of new 14” and 24” diameter water main, conversion to chloramination at each well head,

and a 1 million gallon storage tank. The cost projection for these improvements was \$5.5 million including contingencies and engineering.

In addition, approximately 15,700 feet of 12", 16" and 18" diameter water main will be needed to link the new east side supply and storage improvements to the western portion of the District's distribution network via the proposed Willow Road extension. The cost of these improvements was projected to be approximately \$3.25 million.

The total cost to fully integrate the new water source into the existing and future water distribution system would therefore be approximately \$8.8 million. This one-time cost could be amortized over 20 years at 6% with annual payments of \$770,000. Adding \$27,000 for additional O&M, and assuming on average 2,250 acre-feet are delivered per year, the cost of these local facilities would be approximately \$350 per acre-foot delivered.

Allocation of Connection Costs between Existing and Future Users

The discussion above may form the basis for allocating capital costs for the "Master Plan" connection between existing and future users. \$5.3 million could be allocated to existing users, since that is the "minimum" project required to deliver State Water, while the remaining \$3.5 million can be allocated to future users.

5.0 Range of Costs

A range of costs are presented below, based on various assumptions about whether the low cost or high cost assumptions are valid for a particular component. These costs are based on the assumption that 3,000 acre-feet are allocated but on average only 2,250 acre-feet are delivered per year, and that the one-time costs for “buy-in” and distribution system improvements are amortized at 6% over 20 years. This allows a “per acre-foot” cost comparison with the Waterline Intertie Project (at approximately \$1720-2120 per acre-foot based on the Memorandum of Understanding and the Preliminary Engineering Memorandum, *ibid.*)

The lowest cost that can be expected would apply if there are minimal buy-in costs, the Polonio Pass treatment plant does not require expansion, and the District implements the “present demand only” connection improvements (12” pipeline, pressure reducing station, and new 1.0 MG storage tank). After considering that the State Water Project can be relied upon for 75% of Table A deliveries on a long-term basis, cost would be \$1,850 per acre-foot without purchase of an additional “drought buffer”.

If the buy-in costs are \$15 million and the cost of expanding the Polonio Pass WTP is \$12.3 million, and the District implements the “present demand only” connection improvements, then the per acre-foot cost of delivered water would be \$3,025/af. If the “master plan” connection improvements are implemented, the cost rises to \$3,150 per acre-foot delivered.

The maximum expected cost would be \$4,550 per acre-foot delivered. This cost would apply if buy-in costs are \$39 million, the Polonio Pass treatment plant requires an expansion costing \$24.6 million, and the District implements the “master plan” connection improvements.

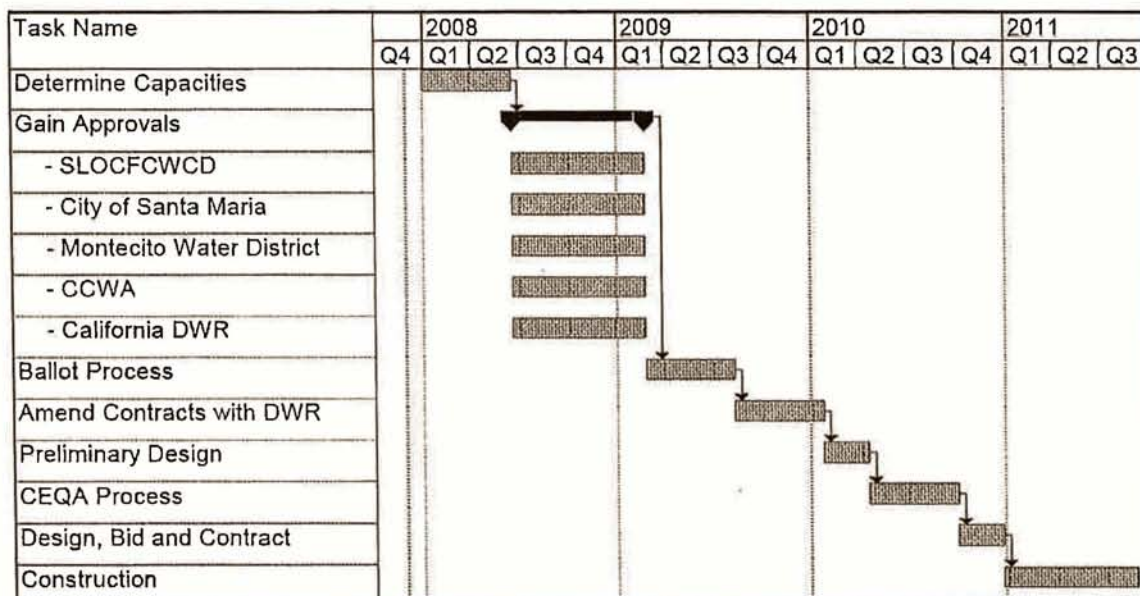
6.0 Implementation Schedule

The following implementation schedule assumes the various governmental organizations will approve the project, after having had sufficient time to determine the benefit involved. The following approach can lead to project implementation in as little as 4 years, or as long as 7 years, as noted below.

Table 7. Implementation Schedule

Action	Short Time	Long Time
Determine Capacities of Polonio Pass Water Treatment Plant and Coastal Branch Pipeline	6 months	12 months
Gain approval from all agencies that will be party to the agreement: - SLO County Flood Control and Water Conservation District (i.e., SLO County Board of Supervisors) - City of Santa Maria - Montecito Water District - Central Coast Water Authority - California Department of Water Resources	9 months	18 months
Ballot Procedure for Nipomo CSD Customers	6 months	6 months
Amend Contracts with California Department of Water Resources	6 months	12 months
Preliminary Design	3 months	6 months
California Environmental Quality Act (CEQA) Process	6 months	12 months
Engineering, Final Design, Bidding and Contracting	3 months	6 months
Construction	9 months	12 months
Total	4 years	7 years

Figure 1. Implementation Schedule – Short Time Estimate



7.0 Conclusions

As discussed in this Technical Memorandum, capital and buy-in costs for connecting to the coastal Branch of the State Water Project at Mehlschau and Thompson could vary widely (from \$8.9 M minimum to over \$72 M). In addition, State Water is considered to have a long-term reliability of 75% (California Department of Water Resources, Bay-Delta Office, The State Water Project Delivery Reliability Report, 2005). Therefore, it appears the cost of connecting to the State Water Project may be similar in cost to the Waterline Intertie Project (or significantly more expensive) with lower reliability. The Waterline Intertie Project is considered more reliable because the City of Santa Maria can provide groundwater during State Water Project shortages or failures.

The “final” cost for connecting to CCWA facilities will require negotiation among the various stakeholders mentioned above. Therefore, if the District decides to continue with this process, we recommend the District conclude cost negotiations with these various agencies prior to beginning the CEQA process, ballot procedure, or subsequent tasks.

We also recommend that additional studies be undertaken to conclusively determine the capacity limits of the Polonio Pass Water Treatment Plant and the Coastal Branch pipeline.

Appendices

Appendix A Cost of State Water for City of Pismo Beach

MEMORANDUM

TO: Bruce Buel
Peter Sevcik, PE

November 8, 2007

FROM: Mike Nunley, PE

SUBJECT: Cost of State Water for City of Pismo Beach

I received some information from the San Luis Obispo County Public Works Department regarding the City of Pismo Beach's costs for State Water. The following is the approximate 2007 cost breakdown for delivery to the Lopez Distribution System, without including any Lopez system costs. Pismo Beach and other County participants paid DWR for initial costs when contracts were signed in 1992 and began receiving State Water in August of 1997.

Initial payment to DWR was approximately \$5,723,000 for the 4,830 acre-feet of the County's contracted allocation (approximately \$1184 per acre-foot).

Cost per Acre-Foot for State Water

Component	DWR (1)	SLOFC	CCWA	\$/AF Cost
Capital	\$532		\$140	\$672
Fixed O&M	\$105		\$75	\$180
Variable	\$155		\$30	\$185
Administrative		\$78		\$78
Totals	\$792	\$78	\$245	\$1,115

(1) Estimate based on the basic contractors allocation before adjustments (under/overpayments) for prior years

Please let me know if you have questions or comments.

Appendix B Connection to State Water Project at Mehlschau Road – Opinion of Probable Cost

MEMORANDUM

TO: Bruce Buel, General Manager, NCSD

November 8, 2007

FROM: Malcolm McEwen

SUBJECT: Connection to State Water Project at Mehlschau Road
- Opinion of Probable Cost

As requested, Boyle has prepared an opinion of the probable cost of connecting to the State Water Project at Mehlschau Road.

Our preliminary hydraulic analysis of SWP show the hydraulic grade line (HGL) at Mehlschau Road to be from 794 to 910 ft. above mean sea level (MSL). Ground surface elevation at the intersection with Mehlschau Road is approximately 350 ft MSL, giving pipeline pressures of between 193 and 244 psi (pounds per square inch). With a 12-inch PVC pipe, sufficient pressure would exist to pass 1690 gpm up to the Quad Tanks (at 540 ft MSL). This flow rate is equivalent to 2500 acre-feet per year, delivered over 11 months.

The following planning-level opinion of probable cost assumed installation of a pressure-relief valve system, with connection to the SCADA system, a building to house the valve(s) and controls, and approximately 2 miles of 12-inch PVC installed in paved roads (@ \$200/ft). Our opinion of probable cost, including engineering costs and contingency, is summarized below.

Cost Component	Capital Cost	Annual Capital Cost*	Annual Operating Cost	Total Annual Cost
Installation - Connection and PRV	\$677,000	\$59,000		\$59,000
Installation - 12-inch Pipeline to Quad Tanks	2,060,000	180,000		180,000
Additional Maintenance (1% of Capital)			\$27,000	27,000
Total	\$2,727,000	\$239,000		\$266,000

* 6% over 20 years

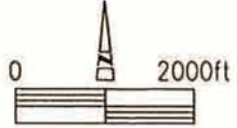
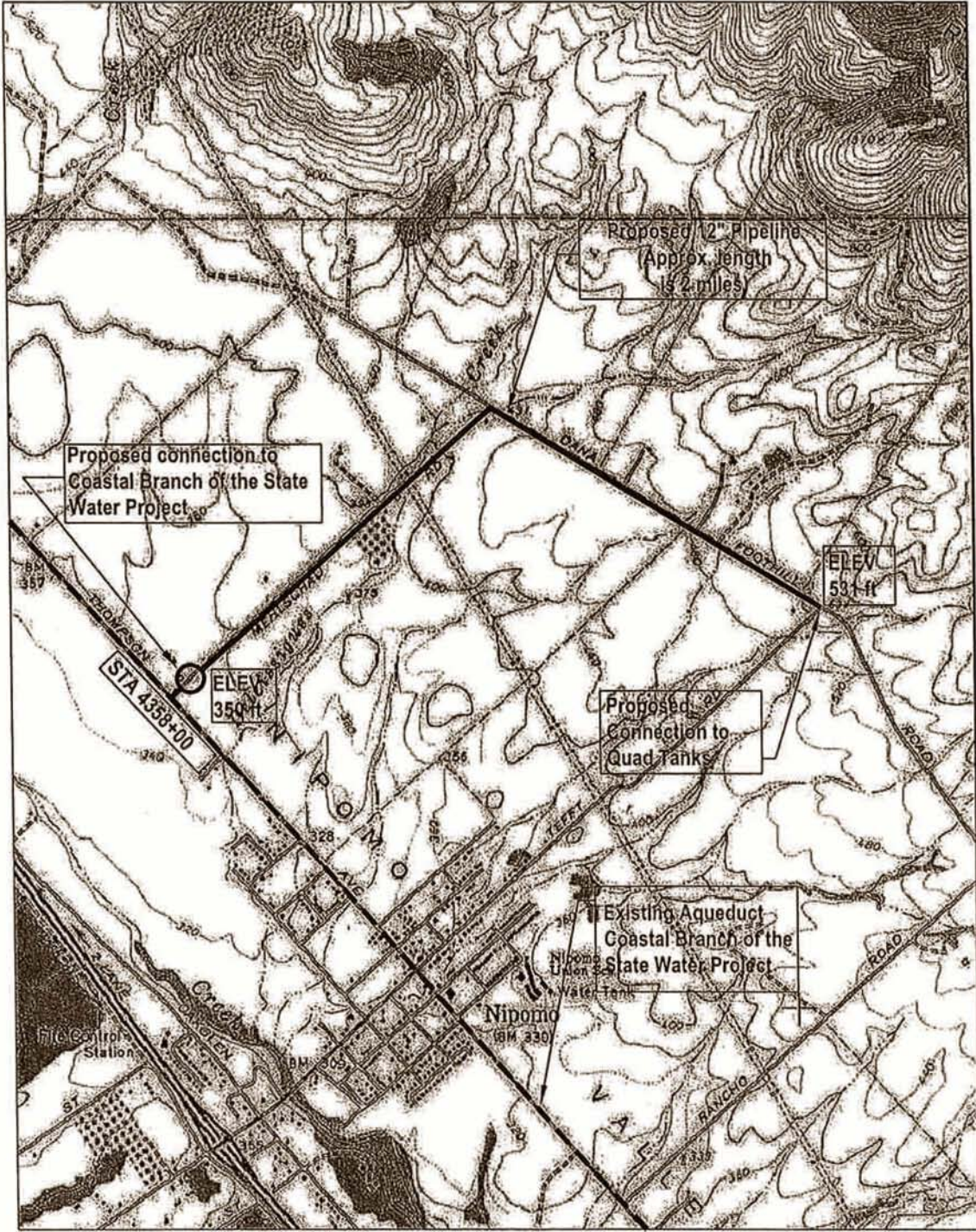
With an annual cost of \$266,000 for delivering 2500 afy, the cost per acre-foot would be approximately \$110/af, excluding any costs to CCWA, SLO County, or the SWP.



Enclosure: Attachment A – State Water Project Connection at Mehlschau Road

Copy to: M. Nunley

DWG: W:\Nipomo CSD (19996)\19996.32 (Alternative Water Supply)\CAD\Exhibits\EXHIBIT A - connect to coastal branch SWP Pipeline.TIF
 DATE: Nov 08, 2007 6:55am
 XREFS:
 IMAGES: quad map for coastal SWP Pipeline.TIF
 USER: jfroelicher



••NOTE: MAP FROM NATIONAL GEOGRAPHIC TOPO

BOYLE
 ENGINEERING CORPORATION
 1194 Pacific St., Suite 204 Tel. 805-542-9840
 San Luis Obispo, CA. 93401 Fax 805-542-9990
 WWW.BOYLEENGINEERING.COM

PROPOSED CONNECTION TO THE COASTAL
 BRANCH OF THE STATE WATER PROJECT AT STA
 4358+00 (APPROXIMATELY)
 IN NIPOMO, SAN LUIS OBISPO COUNTY

BEC
 PROJECT NO.
 19996.32

EXHIBIT
 A

Mehlschau Connection to SWP - Pipeline to Quad Tanks

Assumptions

Power cost	zero	HGL high enough - no pumping
Years	20	
Interest Rate	6%	

Cost Component	Capital Cost	Annual Capital Cost	Annual Operating Cost	Total annual Cost
Installation - Connection and PRV	\$ 667,000	\$ 59,000		\$ 59,000
Installation - 12-Inch Pipeline to Quad Tanks	\$ 2,060,000	\$ 180,000		\$ 180,000
Additional Maintenance			\$ 27,000	\$ 27,000
Total	\$ 2,727,000	\$ 239,000		\$ 266,000

Water Delivered 2,500 afy

Cost per afy \$110 /afy

**Appendix C Santa Maria & Nipomo CSD
State Water Project Costs
Financial Summary (1961-
2035)
Prepared by Sierra Water
Group, Inc.
8/25/2007**

SANTA MARIA & NIPOMO CSD

State Water Project Costs (SLO & SB Counties)

Financial Summary (1961-2035)

Category	NPV Cost/AF 1961-2007	NPV Cost/AF 2008-2035	NPV Cost/AF Total
SLO DWR Costs	\$4,446	\$4,082	\$8,527
SLO CCWA Costs	<u>\$923</u>	<u>\$1,128</u>	<u>\$2,051</u>
SLO, Subtotal	\$5,368	\$5,210	\$10,578
SB DWR Costs	\$11,795	\$10,373	\$22,169
SB CCWA Costs	<u>\$1,224</u>	<u>\$5,185</u>	<u>\$6,409</u>
SB, Subtotal	\$13,019	\$15,558	\$28,577
Total	\$18,387	\$20,768	\$39,155

Prepared By: Sierra Water Group, Inc.

August 25, 2007

SAN LUIS OBISPO COUNTY
State Water Project - DWR Charges

Financial Summary (1961-2035)

		100.0%	5.0%		
Year	SLO SWP Payments	SLO SWP Fixed	Factor	Adjusted Payments	Adjusted per AF
1	1961	-	-	9.43	-
2	1962	-	-	8.99	-
3	1963	-	-	8.56	-
4	1964	\$6,696	\$6,696	8.15	\$54,570
5	1965	13,756	13,756	7.76	106,768
6	1966	26,524	26,524	7.39	196,065
7	1967	56,469	56,469	7.04	397,541
8	1968	115,960	115,960	6.70	777,483
9	1969	185,156	185,156	6.39	1,182,309
10	1970	200,150	200,150	6.08	1,217,194
11	1971	202,413	202,413	5.79	1,172,339
12	1972	209,057	209,057	5.52	1,153,162
13	1973	206,557	206,557	5.25	1,085,116
14	1974	208,545	208,545	5.00	1,043,390
15	1975	225,895	225,895	4.76	1,076,376
16	1976	228,976	228,976	4.54	1,039,102
17	1977	238,699	238,699	4.32	1,031,643
18	1978	245,331	245,331	4.12	1,009,816
19	1979	243,110	243,110	3.92	953,023
20	1980	282,254	282,254	3.73	1,053,783
21	1981	307,065	307,065	3.56	1,091,823
22	1982	328,215	328,215	3.39	1,111,452
23	1983	357,218	357,218	3.23	1,152,064
24	1984	409,530	409,530	3.07	1,257,881
25	1985	500,696	500,696	2.93	1,464,666
26	1986	536,751	536,751	2.79	1,495,368
27	1987	570,644	570,644	2.65	1,514,088
28	1988	673,071	673,071	2.53	1,700,817
29	1989	772,571	772,571	2.41	1,859,284
30	1990	933,367	933,367	2.29	2,139,294
31	1991	979,709	979,709	2.18	2,138,582
32	1992	1,118,807	1,118,807	2.08	2,325,919
33	1993	1,185,666	1,185,666	1.98	2,347,538
34	1994	1,335,974	1,335,974	1.89	2,519,178
35	1995	1,647,816	1,647,816	1.80	2,959,241
36	1996	2,592,043	2,592,043	1.71	4,433,273
37	1997	3,002,833	3,002,833	1.63	4,891,299
38	1998	3,256,282	3,256,282	1.55	5,051,562
39	1999	3,801,021	3,801,021	1.48	5,615,839
40	2000	3,796,090	3,796,090	1.41	5,341,480
41	2001	4,333,398	4,333,398	1.34	5,807,168
42	2002	4,057,625	4,057,625	1.28	5,178,672
43	2003	4,157,464	4,157,464	1.22	5,053,423
44	2004	5,489,168	5,489,168	1.16	6,354,398
45	2005	7,112,399	7,112,399	1.10	7,841,420

	Year	SLO SWP Payments	SLO SWP Fixed	Factor	Adjusted Payments	Adjusted per AF
46	2006	\$6,574,402	\$6,574,402	1.05	\$6,903,122	\$276.12
47	2007	7,044,971	7,044,971	1.00	7,044,971	281.80
48	2008	6,920,976	6,920,976	0.95	6,591,406	263.66
49	2009	6,902,252	6,902,252	0.91	6,260,546	250.42
50	2010	7,041,389	7,041,389	0.86	6,082,617	243.30
51	2011	7,040,017	7,040,017	0.82	5,791,839	231.67
52	2012	7,122,846	7,122,846	0.78	5,580,936	223.24
53	2013	7,100,760	7,100,760	0.75	5,298,696	211.95
54	2014	6,978,549	6,978,549	0.71	4,959,524	198.38
55	2015	7,008,567	7,008,567	0.68	4,743,674	189.75
56	2016	7,058,499	7,058,499	0.64	4,549,971	182.00
57	2017	6,944,803	6,944,803	0.61	4,263,507	170.54
58	2018	6,893,716	6,893,716	0.58	4,030,613	161.22
59	2019	7,009,412	7,009,412	0.56	3,903,103	156.12
60	2020	6,792,334	6,792,334	0.53	3,602,120	144.08
61	2021	6,814,203	6,814,203	0.51	3,441,636	137.67
62	2022	6,683,070	6,683,070	0.48	3,214,671	128.59
63	2023	6,718,658	6,718,658	0.46	3,077,895	123.12
64	2024	6,818,807	6,818,807	0.44	2,975,023	119.00
65	2025	6,698,081	6,698,081	0.42	2,783,191	111.33
66	2026	6,745,882	6,745,882	0.40	2,669,575	106.78
67	2027	6,668,526	6,668,526	0.38	2,513,297	100.53
68	2028	6,665,238	6,665,238	0.36	2,392,436	95.70
69	2029	6,617,756	6,617,756	0.34	2,262,279	90.49
70	2030	6,347,082	6,347,082	0.33	2,066,428	82.66
71	2031	6,283,725	6,283,725	0.31	1,948,381	77.94
72	2032	6,351,204	6,351,204	0.30	1,875,528	75.02
73	2033	6,514,791	6,514,791	0.28	1,832,225	73.29
74	2034	6,382,314	6,382,314	0.27	1,709,492	68.38
75	2035	6,356,215	6,356,215	0.26	1,621,430	64.86
	Total	\$259,250,016	\$259,250,016	-	\$213,185,542	\$8,527.42
	1961-2007	\$69,770,344	\$69,770,344	-	\$111,143,503	\$4,445.74
	2008-2035	\$189,479,672	\$189,479,672	-	\$102,042,039	\$4,081.68

SAN LUIS OBISPO COUNTY
State Water Project - CCWA Charges

Financial Summary (1961-2035)

5.0%

25,000

	Year	CCWA Payments	Factor	Adjusted Payments	Adjusted per AF
1	1961	-	9.43	-	-
2	1962	-	8.99	-	-
3	1963	-	8.56	-	-
4	1964	-	8.15	-	-
5	1965	-	7.76	-	-
6	1966	-	7.39	-	-
7	1967	-	7.04	-	-
8	1968	-	6.70	-	-
9	1969	-	6.39	-	-
10	1970	-	6.08	-	-
11	1971	-	5.79	-	-
12	1972	-	5.52	-	-
13	1973	-	5.25	-	-
14	1974	-	5.00	-	-
15	1975	-	4.76	-	-
16	1976	-	4.54	-	-
17	1977	-	4.32	-	-
18	1978	-	4.12	-	-
19	1979	-	3.92	-	-
20	1980	-	3.73	-	-
21	1981	-	3.56	-	-
22	1982	-	3.39	-	-
23	1983	-	3.23	-	-
24	1984	-	3.07	-	-
25	1985	-	2.93	-	-
26	1986	-	2.79	-	-
27	1987	-	2.65	-	-
28	1988	-	2.53	-	-
29	1989	-	2.41	-	-
30	1990	-	2.29	-	-
31	1991	-	2.18	-	-
32	1992	-	2.08	-	-
33	1993	-	1.98	-	-
34	1994	-	1.89	-	-
35	1995	-	1.80	-	-
36	1996	-	1.71	-	-
37	1997	\$1,600,000	1.63	\$2,606,231	\$104.25
38	1998	1,600,000	1.55	2,482,125	99.29
39	1999	1,600,000	1.48	2,363,929	94.56
40	2000	1,600,000	1.41	2,251,361	90.05
41	2001	1,600,000	1.34	2,144,153	85.77
42	2002	1,600,000	1.28	2,042,051	81.68
43	2003	1,600,000	1.22	1,944,810	77.79
44	2004	1,600,000	1.16	1,852,200	74.09
45	2005	1,600,000	1.10	1,764,000	70.56

	Year	CCWA Payments	Factor	Adjusted Payments	Adjusted per AF
46	2006	\$1,709,356	1.05	\$1,794,824	\$71.79
47	2007	1,821,675	1.00	1,821,675	72.87
48	2008	1,838,055	0.95	1,750,529	70.02
49	2009	1,848,798	0.91	1,676,914	67.08
50	2010	1,900,000	0.86	1,641,291	65.65
51	2011	1,900,000	0.82	1,563,135	62.53
52	2012	1,900,000	0.78	1,488,700	59.55
53	2013	1,900,000	0.75	1,417,809	56.71
54	2014	1,900,000	0.71	1,350,295	54.01
55	2015	1,900,000	0.68	1,285,995	51.44
56	2016	1,900,000	0.64	1,224,757	48.99
57	2017	1,900,000	0.61	1,166,435	46.66
58	2018	1,900,000	0.58	1,110,891	44.44
59	2019	1,900,000	0.56	1,057,991	42.32
60	2020	1,900,000	0.53	1,007,611	40.30
61	2021	1,900,000	0.51	959,629	38.39
62	2022	1,900,000	0.48	913,932	36.56
63	2023	1,900,000	0.46	870,412	34.82
64	2024	1,900,000	0.44	828,964	33.16
65	2025	1,900,000	0.42	789,489	31.58
66	2026	1,900,000	0.40	751,895	30.08
67	2027	1,900,000	0.38	716,090	28.64
68	2028	1,900,000	0.36	681,990	27.28
69	2029	1,900,000	0.34	649,515	25.98
70	2030	1,900,000	0.33	618,585	24.74
71	2031	1,900,000	0.31	589,129	23.57
72	2032	1,900,000	0.30	561,075	22.44
73	2033	1,900,000	0.28	534,357	21.37
74	2034	1,900,000	0.27	508,912	20.36
75	2035	1,900,000	0.26	484,678	19.39
Total		\$71,017,884	-	\$51,268,363	\$2,050.73
1961-2007		\$17,931,031	-	\$23,067,358	\$922.69
2008-2035		\$53,086,853	-	\$28,201,005	\$1,128.04

SANTA BARBARA COUNTY
State Water Project - DWR Charges

Financial Summary (1961-2035)

		87.5%	5.0%			45,486	17,820
Year	SB SWP Payments	SB SWP Fixed	Factor	Adjusted Payments	Adjusted per AF	SM SWP Costs	
1	1961	-	-	9.43	-	-	-
2	1962	-	-	8.99	-	-	-
3	1963	-	-	8.56	-	-	-
4	1964	\$21,667	\$21,667	8.15	\$176,579	\$3.88	\$69,178
5	1965	36,029	36,029	7.76	279,642	6.15	109,555
6	1966	61,349	61,349	7.39	453,491	9.97	177,664
7	1967	118,263	118,263	7.04	832,570	18.30	326,175
8	1968	229,807	229,807	6.70	1,540,799	33.87	603,637
9	1969	358,861	358,861	6.39	2,291,499	50.38	897,738
10	1970	387,675	387,675	6.08	2,357,609	51.83	923,638
11	1971	392,912	392,912	5.79	2,275,674	50.03	891,538
12	1972	406,589	406,589	5.52	2,242,751	49.31	878,640
13	1973	402,723	402,723	5.25	2,115,644	46.51	828,844
14	1974	407,090	407,090	5.00	2,036,748	44.78	797,935
15	1975	439,873	439,873	4.76	2,095,969	46.08	821,135
16	1976	447,299	447,299	4.54	2,029,861	44.63	795,236
17	1977	468,721	468,721	4.32	2,025,785	44.54	793,640
18	1978	484,259	484,259	4.12	1,993,276	43.82	780,903
19	1979	483,437	483,437	3.92	1,895,135	41.66	742,455
20	1980	540,553	540,553	3.73	2,018,131	44.37	790,641
21	1981	596,670	596,670	3.56	2,121,563	46.64	831,162
22	1982	682,546	682,546	3.39	2,311,343	50.81	905,512
23	1983	702,083	702,083	3.23	2,264,288	49.78	887,078
24	1984	801,057	801,057	3.07	2,460,466	54.09	963,934
25	1985	969,931	969,931	2.93	2,837,301	62.38	1,111,566
26	1986	1,038,030	1,038,030	2.79	2,891,913	63.58	1,132,961
27	1987	1,148,974	1,148,974	2.65	3,048,570	67.02	1,194,335
28	1988	1,439,620	1,439,620	2.53	3,637,848	79.98	1,425,196
29	1989	1,814,759	1,814,759	2.41	4,367,434	96.02	1,711,025
30	1990	2,046,370	2,046,370	2.29	4,690,318	103.12	1,837,521
31	1991	2,366,841	2,366,841	2.18	5,166,517	113.58	2,024,081
32	1992	2,526,860	2,526,860	2.08	5,253,160	115.49	2,058,025
33	1993	2,726,057	2,726,057	1.98	5,397,406	118.66	2,114,536
34	1994	3,518,043	3,518,043	1.89	6,633,795	145.84	2,598,914
35	1995	6,195,415	6,195,415	1.80	11,126,075	244.60	4,358,850
36	1996	15,232,541	15,232,541	1.71	26,052,814	572.77	10,206,682
37	1997	23,737,163	20,770,018	1.63	33,832,170	743.79	13,254,392
38	1998	28,312,394	24,773,345	1.55	38,431,589	844.91	15,107,191
39	1999	29,594,819	25,895,467	1.48	38,259,398	841.12	16,051,756
40	2000	30,850,550	26,994,231	1.41	37,983,594	835.06	16,015,884
41	2001	32,744,802	28,651,702	1.34	38,396,021	844.13	14,774,729
42	2002	32,532,341	28,465,798	1.28	36,330,374	798.72	14,493,300
43	2003	32,800,868	28,700,760	1.22	34,885,953	766.96	14,637,588
44	2004	34,403,279	30,102,869	1.16	34,847,834	766.12	14,492,412
45	2005	37,198,952	32,549,083	1.10	35,885,364	788.93	14,136,806

	Year	SB SWP Payments	SB SWP Fixed	Factor	Adjusted Payments	Adjusted per AF	SM SWP Costs
46	2006	\$36,411,846	\$31,860,365	1.05	\$33,453,384	\$735.47	\$13,650,011
47	2007	36,430,491	31,876,680	1.00	31,876,680	700.80	16,989,870
48	2008	36,048,882	31,542,772	0.95	30,040,735	660.44	13,605,134
49	2009	36,040,827	31,535,724	0.91	28,603,831	628.85	11,206,091
50	2010	36,215,319	31,688,404	0.86	27,373,635	601.80	10,724,139
51	2011	36,427,739	31,874,272	0.82	26,223,042	576.51	10,273,372
52	2012	36,581,162	32,008,517	0.78	25,079,510	551.37	9,825,372
53	2013	36,613,887	32,037,151	0.75	23,906,615	525.58	9,365,868
54	2014	36,414,917	31,863,052	0.71	22,644,476	497.83	8,871,402
55	2015	36,556,902	31,987,289	0.68	21,650,256	475.98	8,481,897
56	2016	36,671,275	32,087,366	0.64	20,683,802	454.73	8,103,270
57	2017	36,479,119	31,919,229	0.61	19,595,638	430.81	7,676,961
58	2018	36,169,533	31,648,341	0.58	18,504,130	406.81	7,249,342
59	2019	36,495,806	31,933,830	0.56	17,781,952	390.93	6,966,416
60	2020	35,972,863	31,476,255	0.53	16,692,530	366.98	6,539,614
61	2021	36,122,874	31,607,515	0.51	15,963,943	350.96	6,254,176
62	2022	35,770,597	31,299,272	0.48	15,055,485	330.99	5,898,271
63	2023	35,870,680	31,386,845	0.46	14,378,675	316.11	5,633,118
64	2024	35,991,994	31,492,995	0.44	13,740,289	302.08	5,383,018
65	2025	35,590,793	31,141,944	0.42	12,940,121	284.49	5,069,537
66	2026	35,534,529	31,092,713	0.40	12,304,442	270.51	4,820,498
67	2027	35,371,264	30,949,856	0.38	11,664,675	256.45	4,569,857
68	2028	35,272,392	30,863,343	0.36	11,078,161	243.55	4,340,079
69	2029	35,185,830	30,787,601	0.34	10,524,738	231.38	4,123,265
70	2030	33,373,632	29,201,928	0.33	9,507,310	209.02	3,724,668
71	2031	33,249,467	29,093,284	0.31	9,020,894	198.32	3,534,106
72	2032	33,371,350	29,199,931	0.30	8,622,821	189.57	3,378,153
73	2033	33,675,215	29,465,813	0.28	8,286,987	182.19	3,246,584
74	2034	33,431,949	29,252,955	0.27	7,835,355	172.26	3,069,648
75	2035	33,379,213	29,206,811	0.26	7,450,472	163.80	2,918,863
Total		\$1,398,390,419	\$1,229,778,229	-	\$980,258,854	\$21,550.78	\$395,046,588
1961-2007		\$404,510,409	\$360,133,221	-	\$513,104,334	\$11,280.49	\$210,193,869
2008-2035		\$993,880,010	\$869,645,009	-	\$467,154,521	\$10,270.29	\$184,852,719

SANTA BARBARA COUNTY
State Water Project - CCWA Charges

Financial Summary (1961-2035)

5.0%

45,486

17,820

	Year	CCWA Payments	Factor	Adjusted Payments	Adjusted per AF	SM SWP Costs
1	1961	-	9.43	-	-	-
2	1962	-	8.99	-	-	-
3	1963	-	8.56	-	-	-
4	1964	-	8.15	-	-	-
5	1965	-	7.76	-	-	-
6	1966	-	7.39	-	-	-
7	1967	-	7.04	-	-	-
8	1968	-	6.70	-	-	-
9	1969	-	6.39	-	-	-
10	1970	-	6.08	-	-	-
11	1971	-	5.79	-	-	-
12	1972	-	5.52	-	-	-
13	1973	-	5.25	-	-	-
14	1974	-	5.00	-	-	-
15	1975	-	4.76	-	-	-
16	1976	-	4.54	-	-	-
17	1977	-	4.32	-	-	-
18	1978	-	4.12	-	-	-
19	1979	-	3.92	-	-	-
20	1980	-	3.73	-	-	-
21	1981	-	3.56	-	-	-
22	1982	-	3.39	-	-	-
23	1983	-	3.23	-	-	-
24	1984	-	3.07	-	-	-
25	1985	-	2.93	-	-	-
26	1986	-	2.79	-	-	-
27	1987	-	2.65	-	-	-
28	1988	-	2.53	-	-	-
29	1989	-	2.41	-	-	-
30	1990	-	2.29	-	-	-
31	1991	-	2.18	-	-	-
32	1992	-	2.08	-	-	-
33	1993	-	1.98	-	-	-
34	1994	-	1.89	-	-	-
35	1995	-	1.80	-	-	-
36	1996	-	1.71	-	-	-
37	1997	-	1.63	-	-	-
38	1998	\$6,000,000	1.55	\$9,307,969	\$204.63	\$4,669,527
39	1999	6,000,000	1.48	8,864,733	194.89	2,995,970
40	2000	6,000,000	1.41	8,442,603	185.61	645,336
41	2001	6,000,000	1.34	8,040,574	176.77	2,582,581
42	2002	6,000,000	1.28	7,657,689	168.35	2,533,395
43	2003	7,000,000	1.22	8,508,544	187.06	2,279,132
44	2004	8,000,000	1.16	9,261,000	203.60	2,243,797
45	2005	10,000,000	1.10	11,025,000	242.38	1,620,213

	Year	CCWA Payments	Factor	Adjusted Payments	Adjusted per AF	SM SWP Costs
46	2006	\$12,000,000	1.05	\$12,600,000	\$277.01	\$2,232,879
47	2007	13,422,158	1.00	13,422,158	295.08	2,633,619
48	2008	14,916,967	0.95	14,206,635	312.33	2,538,813
49	2009	15,651,700	0.91	14,196,553	312.11	5,561,768
50	2010	15,799,633	0.86	13,648,317	300.06	5,346,986
51	2011	16,000,000	0.82	13,163,240	289.39	5,156,948
52	2012	16,000,000	0.78	12,536,419	275.61	4,911,379
53	2013	16,000,000	0.75	11,939,446	262.49	4,677,504
54	2014	16,000,000	0.71	11,370,901	249.99	4,454,765
55	2015	16,000,000	0.68	10,829,430	238.08	4,242,634
56	2016	16,000,000	0.64	10,313,743	226.75	4,040,604
57	2017	16,000,000	0.61	9,822,612	215.95	3,848,194
58	2018	16,000,000	0.58	9,354,869	205.66	3,664,947
59	2019	16,000,000	0.56	8,909,399	195.87	3,490,425
60	2020	16,000,000	0.53	8,485,142	186.54	3,324,215
61	2021	16,000,000	0.51	8,081,087	177.66	3,165,919
62	2022	16,000,000	0.48	7,696,274	169.20	3,015,161
63	2023	16,000,000	0.46	7,329,784	161.14	2,871,582
64	2024	16,000,000	0.44	6,980,747	153.47	2,734,840
65	2025	16,000,000	0.42	6,648,330	146.16	2,604,609
66	2026	16,000,000	0.40	6,331,743	139.20	2,480,580
67	2027	16,000,000	0.38	6,030,232	132.57	2,362,457
68	2028	16,000,000	0.36	5,743,078	126.26	2,249,959
69	2029	16,000,000	0.34	5,469,598	120.25	2,142,818
70	2030	16,000,000	0.33	5,209,141	114.52	2,040,779
71	2031	16,000,000	0.31	4,961,087	109.07	1,943,599
72	2032	16,000,000	0.30	4,724,844	103.87	1,851,047
73	2033	16,000,000	0.28	4,499,852	98.93	1,762,902
74	2034	16,000,000	0.27	4,285,573	94.22	1,678,954
75	2035	16,000,000	0.26	4,081,498	89.73	1,599,004
Total		\$526,790,458	-	\$333,979,843	\$7,342.48	\$114,199,841
1961-2007		\$80,422,158	-	\$97,130,269	\$2,135.39	\$21,802,831
2008-2035		\$446,368,300	-	\$236,849,573	\$5,207.09	\$92,397,010

SUPPLEMENTAL WATER PROJECT COMPARISON

PROJECT	CCWA	INTERTIE	DESALINATION
TIME TO DEVELOP	5 to 7 Years	3 to 4 Years	8 to 12 Years
RISK LEVEL	Low	Medium	High
YIELD/YR	2,250 AF/Yr	3,000 AF/YR	6,300 AF/YR +
CAPITAL COST	\$3.6m to \$63.6m	\$26m	\$98.2m
DEBT SERVICE/YR	\$.3m to \$5.5m	\$2.25m	\$8.56m
O&M COST/YR	\$3.4 to \$4.0m	\$4.1m	\$7.03m
TOTAL COST/YR	\$3.7 to \$9.5m	\$6.35m	\$15.59m
COST/AF	\$1,600 to \$4,200	\$1720 to \$2,100	\$2,500 +
OTHER SHARE CAP\$	\$1.2m to \$21.2m	\$8.6m	\$32.4m
CAPACITY FEES	\$1.2m to \$21.2m	\$8.6m	\$32.4m
CUSTOMER SHARE CAP\$	\$1.2m to \$21.2m	\$8.6m	\$32.4m
NET CAP COST/MO/CUSTOMER			
at 4,100 Customers	\$2 to \$37	\$15	\$58
at 5,000 Customers	\$1.7 to \$31	\$12.50	\$48
OTHER SHARE O&M \$	\$1.02m to \$1.33m	\$1.4m	\$2.32m
CUSTOMER SHARE O&M\$	\$2.38m to \$2.67m	\$2.7m	\$4.71m
NET O&M COST/MO/CUSTOMER			
at 4,100 Customers	\$48 to \$54	\$56	\$96
at 5,000 Customers	\$40 to \$45	\$46	\$79
NET TOTAL COST/MO/CUSTOMER			
at 4,100 Customers	\$50 to \$91	\$71	\$154
at 5,000 Customers	\$41.7 to \$76	\$58.50	\$127