OFFICE OF THE

COUNTY COUNSEL

COUNTY OF SAN LUIS OBISPO
COUNTY GOVERNMENT CENTER, ROOM D320
SAN LUIS OBISPO, CA 93408
TELEPHONE (805) 781-5400
FAX (805) 781-4221

WARREN R. JENSEN
COUNTY COUNSEL

ASSISTANT
RITA L. NEAL

CHIEF DEPUTY
TIMOTHY MCNULTY

DEPUTIES
JAMES B. ORTON
KATHY BOUCHARD
ANN CATHERINE DUGGAN
PATRICK J. FORAN
LESLIE H. KRAUT
SUSAN HOFFMAN
CHERIE J. VALLELUNGA
SHANNON G. MATUSZEWICZ
NINA NEGRANTI
CARRIE WINTERS
WHITNEY MCDONALD

March 1, 2011

Esteban Almanza, Deputy Director
Division of Administrative Services
State Water Resources Control Board
1001 "I" Street, 22nd floor
Sacramento, CA 95812-2828

Anne Hartridge, Senior Staff Counsel
Office of Chief Counsel
State Water Resources Control Board
1001 "I" Street, 22nd floor
Sacramento, CA 95812-2828

Re: County of San Luis Obispo Wastewater Project, March 1, 2011 Agenda Item #5, Citizens for a Sustainable Community Request For Additional Environmental Review

Dear Mr. Almanza and Ms. Hartridge:

We have reviewed the February 26, 2011 comment letter and attached addendum submitted by attorney Frank P. Angel on behalf of Citizens for a Sustainable Community whose named members are Mr. Keith Wimer and Ms. Elaine Watson. Mr. Wimer and Ms. Watson seek additional environmental review of the Los Osos Wastewater Project by asserting that there has been a substantial change in circumstances, and the development of substantially important new information regarding seawater intrusion, since the certification of the Final EIR. A review of the County and Coastal Commission administrative records demonstrates that seawater intrusion in the lower Los Osos aquifer is a longstanding problem that was evaluated in the EIR, repeatedly raised by Mr. Wimer and Ms. Watson below, and addressed by the coastal development permit conditions of approval. The known facts regarding seawater intrusion have not changed to a degree allowing additional analysis prior to action by the SWRCB.

On September 29, 2009 the San Luis Obispo County Board of Supervisors certified a Final Environmental Impact Report, made a set of findings and a statement of overriding considerations, and approved a coastal development permit for the Los Osos Wastewater Project. By certifying the EIR the County established a presumption against additional environmental

review. (*San Diego Navy Broadway Complex Coalition v. City of San Diego* (2010) 185 Cal.App.4th 924, 928.)

Public Resources Code section 21166 prohibits additional environmental review based on changed circumstances unless there are substantial changes with respect to the circumstances under which the project is being undertaken requiring major revision to the EIR or new information, which was not known and could not have been known at the time the EIR was certified, becomes available. (Pub. Resources Code § 21166, (b), (c).)

> "Thus, Public Resources Code section 21166 provides a balance against the burdens created by the environmental review process and accords a reasonable measure of finality and certainty to the results achieved. At this point the interests of finality are favored over the policy of favoring public comment, and the rule applies even if the initial review is discovered to have been inaccurate and misleading in the description of a significant effect or the severity of its consequences. (*San Diego* at *935,* citing *Melom v. City of Madera* (2010) 183 Cal.App.4th 41, 48-49.)
>
> "Section 21166 comes into play precisely because in-depth review has already occurred, the time for challenging the sufficiency of the original EIR has long since expired and the question is whether circumstances have *changed* enough to justify *repeating* a substantial portion of the process." (*San Diego* at *935,* citing *Melom* at 48-49.)

The addendum to Mr. Angel's letter correctly observes that the problem of seawater intrusion in the lower Los Osos aquifer was addressed in the Final EIR. (EIR Appendix D-2, Hopkins Groundwater Consultants, October 30, 2008.) In memoranda of June 22, 2009 and June 29, 2009, Mr. Wimer and Ms. Watson (then part of the Los Osos Sustainability Group), argued to the County Planning Commission that there was "new data showing the imminent threat seawater intrusion poses to the Los Osos Valley Water Basin ..." (Exhibit)

The Los Osos Sustainability Group presented charts that it asserted demonstrated that seawater intrusion had progressed twice as far between 2005 and 2009 as it had in the previous 20 year period. (*Id.*) Mr. Wimer and Ms. Watson made their own estimate of the progress of seawater intrusion based on "recent tests showing 250 mg/l of chlorides at the Palisades Well." (*Id.*) As part of their August, 2009 appeal of the coastal development and EIR to the Board of Supervisors, both Mr. Wimer and Ms. Watson asserted that further environmental review of

seawater intrusion was necessary. They each requested a basin-wide management plan to reduce seawater intrusion by reducing pumping from the lower aquifer by 900 acre-feet per year within two years. They hypothesized that a well designed intensive conservation program could achieve two-thirds of the requested 900 acre-feet per year reduction.

The Los Osos Wastewater Project has been conditioned to include a water conservation program that will be funded at $5 million. The conservation program combined with a required groundwater monitoring and management plan will directly address the seawater intrusion problem that has so long persisted in Los Osos. Nothing presented in the current letter and addendum of Mr. Angel rises to the level of changed circumstances or new information necessary to allow further environmental review by the State Water Resources Control Board. The County requests that the State Board make no finding of changed circumstances or new information.

Please feel to call me with any questions or concerns you may have regarding this letter.

Very truly yours,

WARREN R. JENSEN
County Counsel

By: Timothy McNulty
Chief Deputy County Counsel

TM:nw
110579
2323nwltr.doc

June 29, 2009

Subject: Essential conditions for LOWWP

Dear Commissioners,

The Los Osos Sustainability Group (LOSG) is updating our recommendations for conditions on LOWWP approval based on new information, including new data showing the imminent threat seawater intrusion (SWI) poses to the Los Osos Valley Water Basin and the strategies Monterey County has implemented to address SWI. We also have continuing concerns about the failure of the EIR and Coastal Develop permit to mitigate for sensitive ecosystems.

The following conditions we think are essential for the LOWWP to provide net benefits to the water supply and ecosystems, as well as to provide net value to the citizens who'll being paying the very high price tag for the system.

We thank you for your thorough review of the project.

Essential Conditions for the LOWWP to provide net benefits

1. **A basin-wide water management plan to stop SWI within three years with a margin of safety, integrating the LOWWP and maximizing conservation (i.e., a 25-33% water use reduction).** (SEE THE SWI CHARTS ATTACHED FOR SWI PROGRESS SINCE 2005 (TWICE AS FAR AS SWI PROGRESS THE PREVIOUS 20 YEARS, 1985-2005). ALSO, SEE THE LOSG PLAN TO STOP SWI WITHIN 3 YEARS. The LOWWP offers a window of opportunity to implement conservation, the most rapid and certain way to stop SWI, for 85-90% of the community. This opportunity must be optimized if SWI is to be stopped within a timeframe that prevents the basin from being destroyed—rendering the project worthless.

2. **A requirement that the LOWWP mitigates for potential, significant negative impacts to sensitive ecosystems.** Sites potentially impacted include the 3rd Street Marsh and Baywood Marsh. Willow Creek Drainage is virtually certain to be harmed (SEE ATTACHED AERIAL VIEW OF THE GREEN BELT THIS PROVIDES IN THE COMMUNITY). Using highly-treated recycled water to support Willow Creek and other ecosystems will help mitigate for project impacts and provide a way to use all of the recycled water from the project. **We also recommend development of one or more finishing ponds, e.g., by John Todd Ecological Design (http://www.toddecological.com/) to regulate recycled water flows, ensure the water is the highest quality possible for ecosystems and urban reuse, and provide attractive community spaces.** .

3. **A requirement that a low-energy, nature based treatment system is used that minimizes solids handling.** Disposal/recycling of bio-solids is sure to be more highly regulated and costly in the future. Thus, a treatment process reducing bio-solids with low-energy natural processes is essential for long-term value from the LOWWP. The AIPS and ADS pond systems (evaluated in the LOWWP *Ponds Treatment* TM) reduce solids handling to every 20 years or so and will fit on sites near town. **Todd Ecological treatment options, along with the AIPS and ADS pond systems, should be included in the design-build process.**

EXHIBIT 1

4. **A requirement that dedicated (100%) small-pipe sealed collection system options (STEP/STEG, vacuum, and low pressure) are included in the project design-build process.** This is needed to ensure that decision makers and the public have real numbers and all the information they need to make informed choices. This also ensures maximum competition, including competition between technologies. **The design-build process must include hard estimates for the maintenance of gravity and sealed-pipe systems, and the County must not allow change orders, so that decision makers and the public can compare the true costs of system options. Finally, the design-build process should allow companies to propose integrated system designs (collection, treatment, and reuse) to promote innovation and maximize cost savings. (SEE LOSG SUBMITTALS ON APRIL 23 FOR EVIDENCE SUPPORTING THE COST- AND ENVIRONMENTAL EFFECTIVENESS OF SMALL PIPE SYSTEMS RELATIVE TO GRAVITY SYSTEMS).**

5. **A requirement for current population numbers, water-use rates, and buildout estimates to be corrected, with an intensive conservation program factored in—and project sizing reduced accordingly.** Without adjustments in estimated flows, which also allow for intensive conservation, the system will be oversized by 25% or more. Using accurate figures will ensure the system does not place an undo cost burden on Prohibition Zone residents or cause a vicious cycle of resource overuse and unplanned growth.

6. **A requirement that spray fields are eliminated as a project option and all recycled water is used to stop SWI and support sensitive ecosystems from project start up.** Spray fields will waste the water needed to balance the basin, and disposal of water is unjustified because all of it can be used at project start up.

7. **A requirement that the proposed Tonini treatment site is eliminated as a project option and the treatment site is located near town (or in town, if treatment is handled using a nature-based system, e.g., underground wetlands, green house technologies, or Eco-Machines by John Todd Ecological Design).** The Tonini site will impact valuable farmland unnecessarily and require too much energy to pump wastewater and recycled to and from the site.

Please refer to the longer attached letter to your Commission dated June 22 that elaborates on these recommendations—also refer to other attachments for support of our recommendations. Earlier submittals on April 23 and 30 provide research supporting our recommendations (see "Correspondence Received" on your agendas for those days). Finally, our EIR comments, sustainable project criteria, scoping recommendations, and project recommendations with supporting research can be found on the County Public Works LOWWP website.

Thank you for your consideration and action on these items.

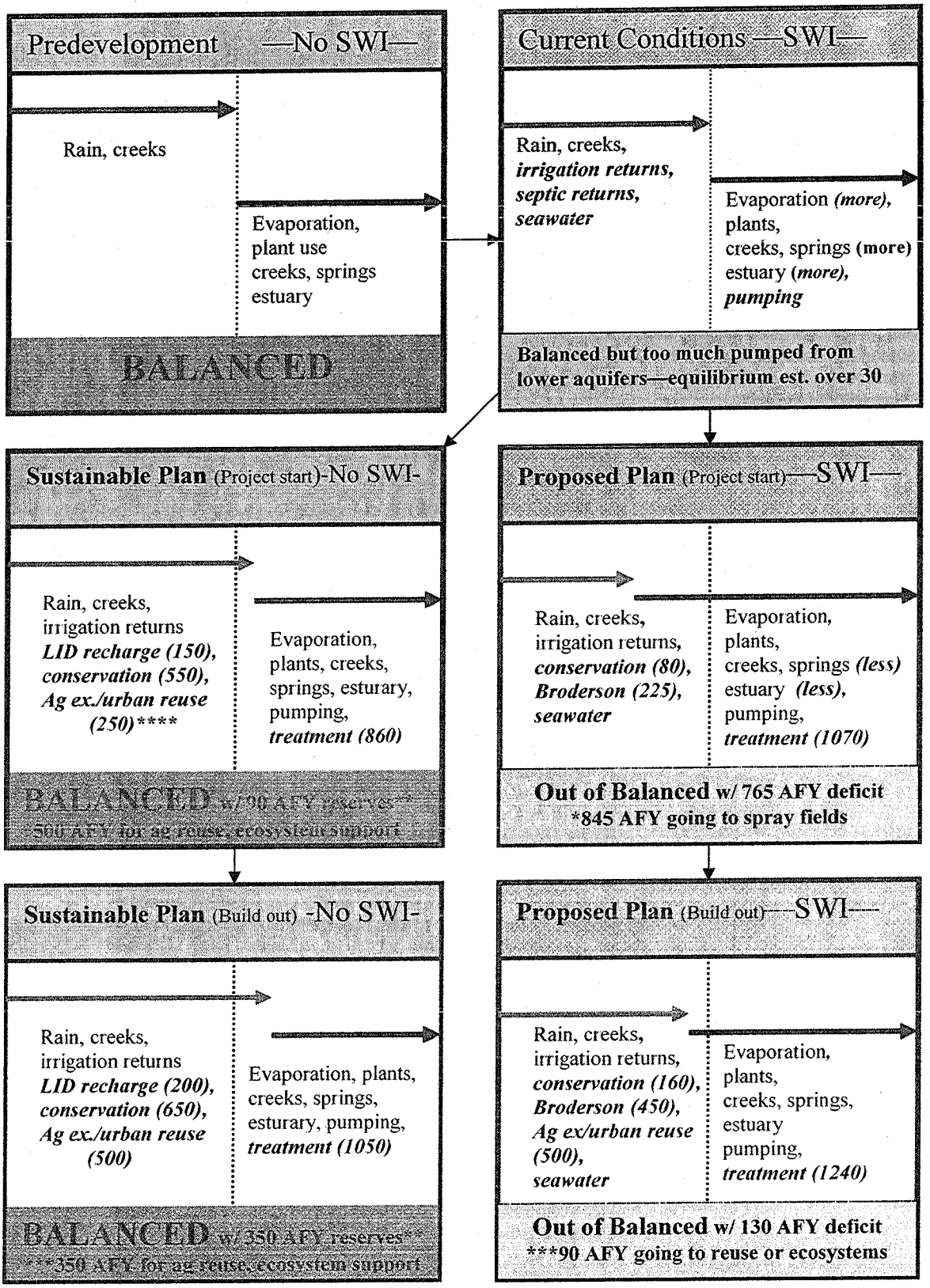
Sincerely,
Los Osos Sustainability Group

Attachments

EXHIBIT 1

Achieving Basin Balance (Draft)

(Not all plans lead to a sustainable water supply.)



* Recycled water available. ** Reserves are needed to bring up water tables to match sea level rises and prepare for climate change uncertainties, e.g., droughts. *** This subtracts 200 AFY of recycled water to account for less than 1:1 ag exchange ratio (i.e., about 400 AFY of well water for 600 AFY of recycled water). **** This uses the quickest and most cost-effective strategies for the stopping pumping of the lower aquifer and SWI; Broderson leach fields require several years to instal[illegible]d monitor, and their benefits on SWI are not certain.

EXHIBIT 1

SUMMARY OF BENEFITS TO MAJOR SYSTEMS AND STAKEHOLDERS

Win-Win-Win Benefits

Environmental

1. Ensures basin sustainability for all dependent ecosystems
2. Takes a precautionary approach to environmental protection, providing maximum flexibility to deal with uncertainties
3. Stops SWI and improves ground water faster and more reliably than other options (e.g., the currently proposed "reuse/disposal" plan) through conservation and LID recharge.
4. Supports watershed health by reducing nutrients entering the groundwater, bay and other sensitive ecosystems.
5. Reduces LOWWP impacts, including energy/carbon-production (e.g., by reducing the amount of water pumped and heated, etc.), construction impacts (e.g., by reducing treatment and water storage needs), and impacts on farmland (e.g., by the elimination of spray fields)

Social

For *LO residents*

1. Provides an affordable, sustainable water supply
2. Provides jobs and quality of life improvements (e.g., new appliances, landscaping amenities, reduced exposure to trace contaminants)

For farmers within the basin

3. Provides a supplemental, nutrient-rich water source to reduce pumping of their groundwater, related energy costs, and the costs of meeting nutrient management requirement (Water Board regulations)

Economic

1. Increases local job and business opportunities, ensuring more money is spent in the community and area (e.g., by increasing local LOWWP-related contracts and keeping water costs affordable)
2. Maintains/increases quality of life, home values, and tourism revenues (including ecotourism)
3. Enables planned development and related business opportunities
4. Ensures water is available for farming and all other beneficial uses in the area

Stakeholder Benefits

Public	➢ Provides homeowners assistance and choices to meet targets, along with generous rebates and/or no out-of-pocket costs ➢ Provides amenities such as new appliances and landscaping enhancements ➢ Ensures affordable water supply indefinitely and allows planned development ➢ Creates local jobs, increases property values, and provides community amenities—landscaped open space
Businesses	➢ Increases business revenues from the LOWWP (e.g., to supply/install retrofits) ➢ Maintains/increases tourism (including ecotourism) ➢ Enables planned development and related business opportunities
Water purveyors	➢ Encourages cooperation and coordination with water purveyors ➢ Provides outside funding to allow cost-effective operation and implementation ➢ Offers opportunities for data collection, outreach, and positive PR (w/ model program) ➢ Ensures a sustainable basin and secure water source ➢ Reduces/maximizes capital investments—(e.g., allows continued use of most wells at reduced pumping levels)
County	➢ Addresses reliability concerns with a tops down approach (plan administrator), self correcting mechanism (water auditor feedback from the field), and proven strategies (e.g., Water Sense-recommended appliances/fixtures) ➢ Coordinates with water purveyors and influences ISJ toward sustainable basin plan ➢ Provides an opportunity to leverage grant funding with the LOWWP ➢ Anticipates emerging laws and regulations ➢ Offers opportunities for data collection, outreach, and positive PR (w/ model program) ➢ Avoids water shortages in County ➢ Avoids stranded costs and possible liability from controversial LOWWP components (Broderson, spray fields) with integrated planning

EXHIBIT 1

Achieving a Sustainable Los Osos Valley Water Basin:

Framework for a 21st Century basin management plan integrating the LOWWP

June 2009 Draft Update

(All estimates in acre feet per year, AFY)

Phase I (From project approval to 3 years after approval)—Balances the basin with about a 100 AFY of reserves, stops SWI, eliminates the use of spray fields (and possibly leach fields), provides maximum flexibility and options to address impacts of the LOWWP and support ecosystems. Focuses basin-wide (farms not included) with most measures applied within the PZ, assumes 850 AFY of wastewater flows with conservation and tertiary treatment.

Method/target	*Strategies*	*Implementation*	*Timeframe*
Indoor conservation 25% (250-300 PZ; 25-50 outside PZ)	Water auditors, leak detection/repair, retrofits, recirculators	Lead agencies coordinate/require as part of basin-wide plan—apply ordinances, funding, etc.	Begins at project approval for PZ, outside PZ within one year—to be fully implemented within 3 years
Outdoor conservation 50% (250-300 PZ; 25-50 outside PZ)	Water auditors, leak detection/repair, graywater/rainwater systems xeriscape	(above)	(above)
LID recharge (100-200 PZ)	Onsite & community systems	(above) Coordinate with LID Center for grant assistance	(above)
Ag Exchange/Urban Reuse (200-300 inside/outside PZ)		(above) Ag contracts reward early participants & on-site storage; urban reuse for large users	(above)
Ecosystem support, ponds, storage, ag in lieu, (400-600 inside/outside PZ)	Surface/pond/drain field percolation/discharge; John Todd ponds	(above)	(above)

Phase II (From 3 years after project approval to build out about 2020—adds to above)—Balances the basin with about 350 AFY of reserves, stops SWI with sea level rises, provides maximum flexibility and options to prepare for climate change and other uncertainties. Focuses basin-wide with most measures applied outside the PZ and for new development (farms not included), assumes 1050 AFY of wastewater flows with conservation and tertiary treatment.

Method/target	*Strategies*	*Implementation*	*Timeframe*
Indoor conservation 25% (25-50 PZ; 25-50 outside PZ)	(Same as Phase I)	(Same as Phase I)	To begin within one year and be fully implemented by buildout—about 2020
Outdoor conservation 50% (25-50 PZ; 25-50 outside PZ)	(Same as Phase I)	(Same as Phase I)	(above)
LID recharge (100 inside/outside PZ)	(Same as Phase I)	(Same as Phase I)	(above)
Ag Exchange/Urban Reuse (200-400 AFY inside/outside PZ)		(Same as Phase I—reuse also for large parcels)	(above)
Ecosystem support (reduced by100 -200)	(Same as Phase I)	(Not as much storage needed)	(above)

COSTS & FUNDING

(Rough estimates based on estimates in *Achieving a Sustainable Los Osos Valley Water Basin* (p. 17, etc.), the LOWWP *Fine Screening Report* and Technical Memoranda. They assume costs will be shared basin-wide according to water use/SWI mitigation benefits and/or other appropriate benefits received by water users.)

Components	*Approximate Costs*	*Funding Sources*	*Who pays*
Basin Wide Plan—Phases I & II	$0-25 million (The low estimate reflects grant funding, available rebates, and/or offsetting reductions from elimination of spray fields.)	Grants $5-15 m, rebates $1-3 m, Project $10-12 m (in lieu of spray fields), 218 for undeveloped properties/impact fees, rates and charges.	PZ residential $0-9 m; PZ Class II $0-5 m; outside PZ $0-4 m; future development $0-7 million

Note: Major changes from the February 2009 Update include 1) Phase I now uses all recycled water and stops SWI with a reserve, 2) Phases I & II include ecosystem support.

EXHIBIT 1

Basic Provisions of a Basin-wide Water Management Plan for the Los Osos Valley Water Basin to Stop Seawater Intrusion (SWI) within 3 Years

Basin-wide components to be implemented within one year

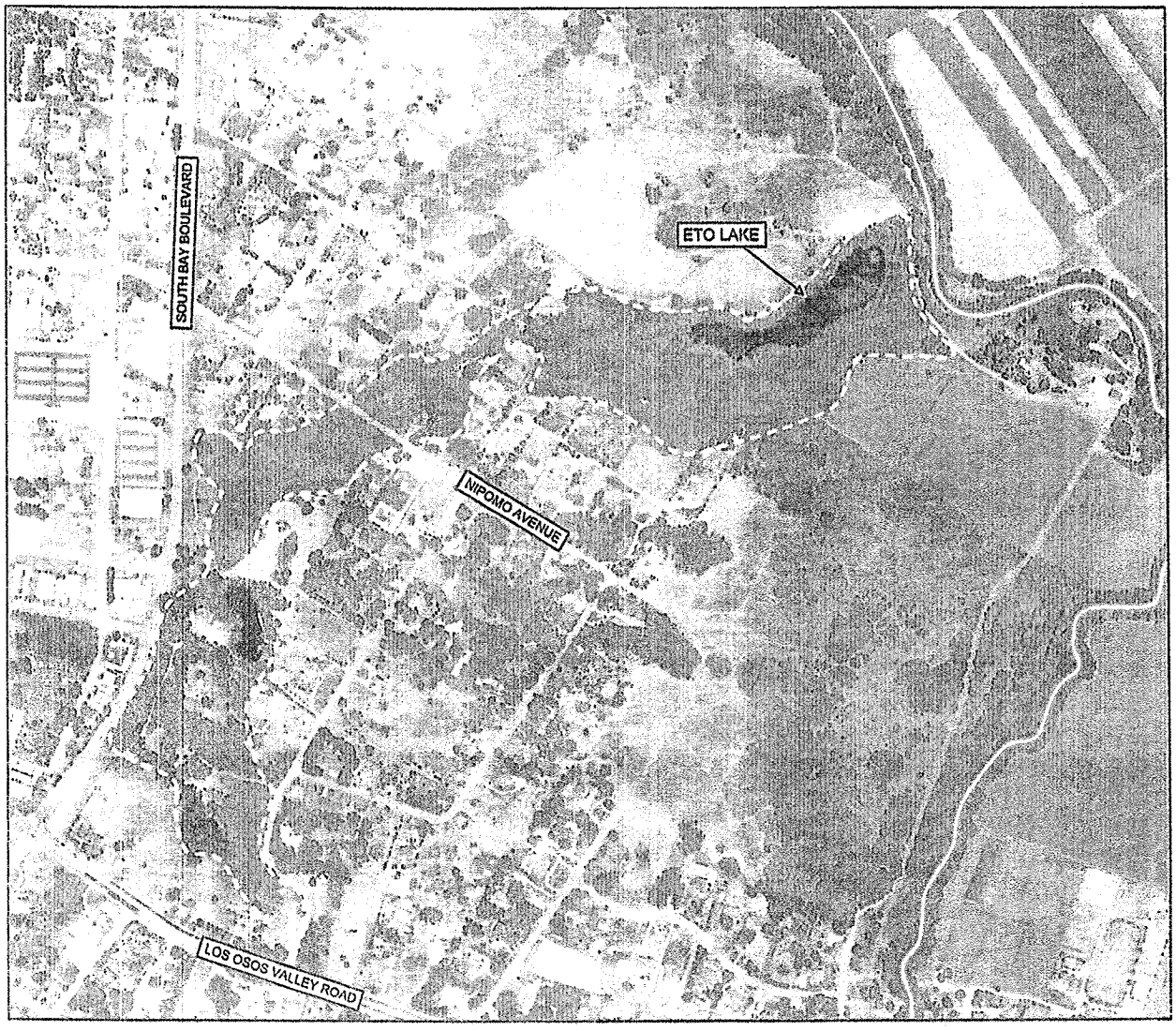
- A water use efficiency program to achieve a 25%-33% reduction in water pumped from the aquifers (with all reduced pumping from wells vulnerable to SWI), using high-efficiency retrofits and other green and appropriate technologies—xeriscape, graywater and rainwater harvesting systems.
- A low impact development (LID) recharge program to capture and infiltrate storm water now polluting bays and creeks, using on-site and community strategies.
- Ag exchange and urban reuse programs to beneficially use recycled water from the LOWWP within the basin.
- A provision for all costs for the plan to be shared community-wide on the basis of SWI intrusion or other appropriate benefits.
- A provision for administering agencies and responsible parties to seek all applicable grants, rebates, and other special funding sources to keep costs as low as possible (including grants and/or rebates for integrated watershed management, conservation, and green technologies/infrastructure).
- A provision for regulatory/administering agencies to craft and/or apply all necessary laws, ordinances, permits, measures, and funding mechanisms (e.g., Proposition 218, SRF loans, bonds) to implement the plan and achieve goals in an effective and timely manner.
- A provision to build aquifer reserves by a minimum of 10% of total basin yield (i.e., subtract 10% from safe yield estimates) to account for uncertainties in basin studies and climate change impacts, to allow for potential pumping from private wells, and to raise aquifer levels to match sea level rises.
- A provision to incorporate the principles, guidelines, and goals of the Department of Water Resources *California Water Plan*, current and emerging state and federal laws, initiatives, and goals on climate change, water use efficiency, and watershed management to avoid unnecessary future costs and to ensure maximum environmental benefits and best value from the plan.
- A provision for the plan to be based on a sustainability metrics to ensure it provides the best value long term for the environment, community, and the economy.

LOWWP component to be fully integrated with the basin-wide plan and implemented within the prohibition zone upon project approval

- A provision to integrate the LOWWP into the basin-wide plan, applying programs, measures, and funding mechanisms in a manner that achieves maximum project and plan effectiveness and value, e.g., by applying Proposition 218 funding for the LOWWP initially (until costs can be shared via other funding mechanisms) and by using grants available for LID systems to mitigate for LOWWP collection system installation.
- A provision to provide adequate mitigation (e.g., recycled water or LID recharge) to ensure terrestrial and aquatic ecosystems in the area are supported.
- A provision to size the LOWWP using current population figures and water-use rates, factoring in the water use reduction called for in this plan.
- A provision to eliminate spray fields as a project option and to require all recycled water from the project to be used to benefit the basin directly (i.e., stop seawater intrusion and support ecosystems).

EXHIBIT 1

EIR, Appendix O-2



Willow Creek Drainage will most likely dry up with project implementation and major reductions in perched layer flows.

- APPROXIMATE DRAINAGE AREA BOUNDARY
- LOS OSOS CREEK

NORTH
0 250 500
FEET

WILLOW CREEK DRAINAGE
Hydrogeological Impacts Analysis
LOWWP Draft EIR
San Luis Obispo County
Los Osos, California

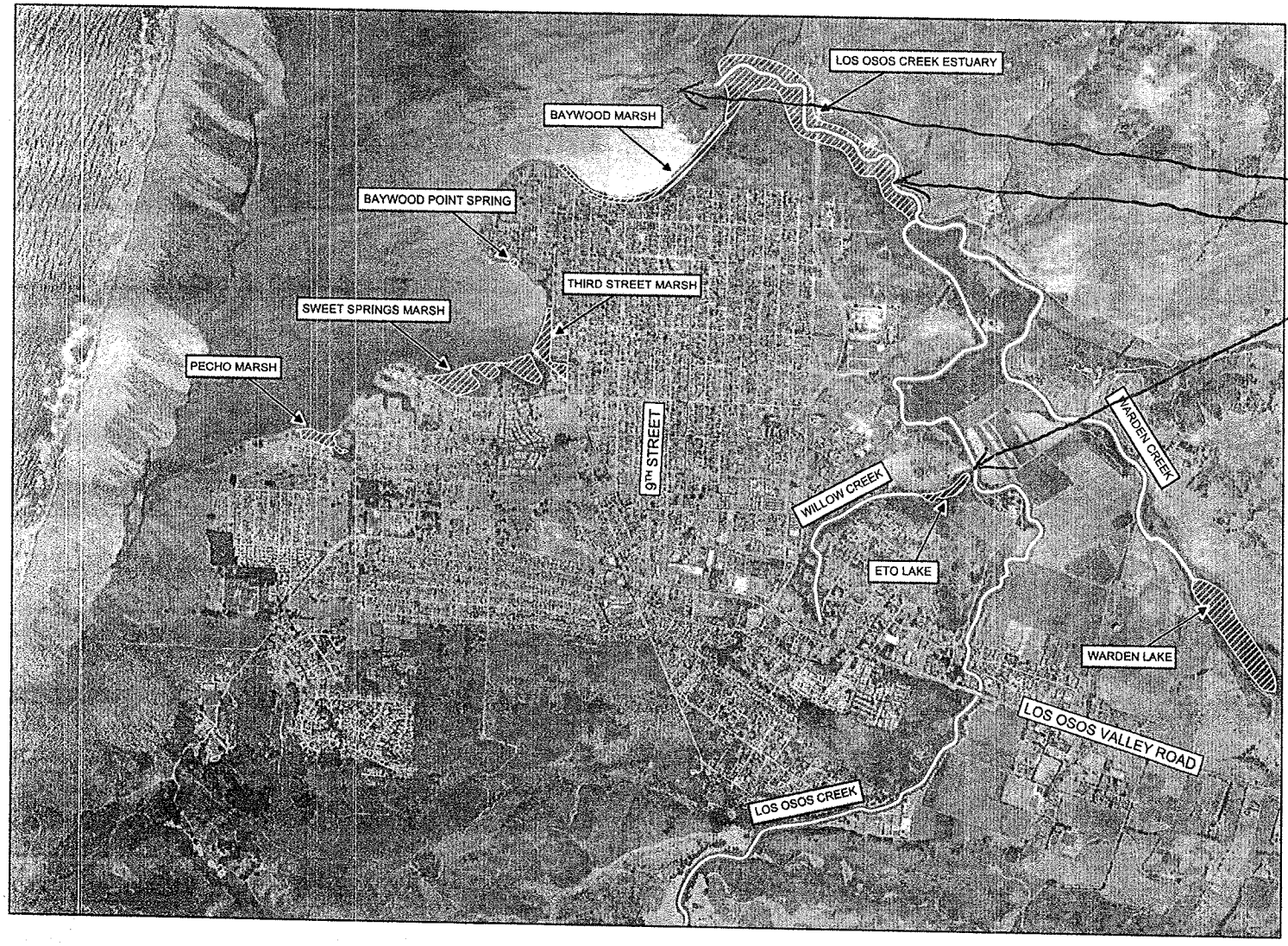
PLATE A2

EXHIBIT 3

EIR, Appendix D-2

October 2008
Project No. 07-016-01

HOPKINS
GROUNDWATER
CONSULTANTS



Willow Creek feeds Los Osos Valley Creek, Los Osos Creek Estuary, and Morro Bay Estuary part of the year.

- CREEKS
- SURFACE WATER FEATURE

NORTH
0 1000 2000
FEET

MARSH LOCATION BASED ON FRESHWATER INFLUENCES ON MORRO BAY. TMG, TES, 1990

SURFACE WATER FEATURES
LOCATION MAP
Hydrogeological Impacts Analysis
LOWWP Draft EIR
San Luis Obispo County
Los Osos, California

PLATE A1

EIR, Appendix D-2

present Willow Creek conditions are shown in Appendix A (see Plate A2). The creek flows a small amount during most of the year that primarily supports dense riparian vegetation. Flows in Willow Creek are fed by rising groundwater but they do not reach the bay except when Los Osos Creek is flowing to the bay.

An unnamed drainage channel in the vicinity of the mobile home park, south of Los Osos Valley Road, reportedly flows seasonally through the oak preserve into Los Osos Creek in the vicinity of Los Osos Valley Road (TMG & TES, 1990).

Table 2 – Summary of Local Surface Water Features

SURFACE WATER FEATURE	SEASONALITY	SIZE OR RATE OF FLOW	SOURCE
LOS OSOS CREEK (AT LOS OSOS ROAD BRIDGE)	EPHEMERAL	1,630 TO 4,110 AFY	MORRO GROUP, 1990
WILLOW CREEK (ETO CREEK)	EPHEMERAL	438 AFY (DISCHARGE FROM PERCHED AQUIFER)	YATES & WILLIAMS, 2003
ETO LAKE	PERENNIAL	NA	NA
SWEET SPRING	PERENNIAL	292 AFY	MORRO GROUP, 1990
SWEET SPRING MARSH	EPHEMERAL	NA	MORRO GROUP, 1990
PECHO ROAD MARSH	EPHEMERAL	NA	MORRO GROUP, 1990
THIRD STREET MARSH	NA	APPROX. 2-5 GPM OBSERVED	MORRO GROUP, 1990
BAYWOOD POINT SPRING	NA	APPROX. 5 GPM	MORRO GROUP, 1990
BAYWOOD MARSH	NA	NA	MORRO GROUP, 1990
LOS OSOS CREEK ESTUARY	NA	SEVERAL SMALL OUTFLOW CHANNELS AT APPROX. 0.5 GPM	MORRO GROUP, 1990

EXHIBIT 1

Table 8 – Current Basin Balance Conditions

COMPONENT OF WATER BUDGET	PERCHED AQUIFER	CREEK VALLEY AQUIFER	UPPER AQUIFER	LOWER AQUIFER
PERCOLATION FROM PRECIPITATION AND IRRIGATION	736	430	1,489	0
SEPTIC RETURN FLOW	631	30	606	0
SUBSURFACE OUTFLOW	0	0	- 1,310	0
SUBSURFACE INFLOW	0	167	112	0
LEAKAGE OR SUBSURFACE CROSS FLOW IN	0	117	788	1,248
LEAKAGE OR SUBSURFACE CROSS FLOW OUT	- 815	- 456	- 882	0
SEAWATER INTRUSION	0	0	0	469
LOS OSOS CREEK INFLOW	0	665	0	0
LOS OSOS CREEK OUTFLOW	0	- 77	0	0
WELL PRODUCTION	0	- 870	-803	-1,717
WARDEN DRAIN	0	- 6	0	0
WILLOW CREEK OUTFLOW AND EVAPOTRANSPIRATION	- 552	0	0	0
AQUIFER INFLOW	**1,367**	**1,409**	**2,995**	**1,717**
AQUIFER OUTFLOW	**- 1,367**	**- 1,409**	**- 2,995**	**- 1,717**

ALL TABLE QUANTITIES ARE IN ACRE-FEET PER YEAR

Flows to Willow Creek from the perched layer

A comparison of the septic return flow volumes in Tables 8 and 9 shows the currently reduction in this component in the hydrologic budget that is effectuated by the LOWWP. Roughly half of the recharge from septic system percolation is located over the perching clay layer while the remainder is located over the upper aquifer in areas not confined by the clay layer. As indicated by the reduction in this recharge component (see Table 9) the LOWWP effectively captures over 90 percent of the septage return flows within the Los Osos Basin.

EXHIBIT 1

Table 10 – Viable Project Alternative 2b Basin Balance Conditions

COMPONENT OF WATER BUDGET	PERCHED AQUIFER	CREEK VALLEY AQUIFER	UPPER AQUIFER,	LOWER AQUIFER
PERCOLATION FROM PRECIPITATION AND IRRIGATION	736	430	1,489	0
SEPTIC RETURN FLOW	36	30	44	0
SUBSURFACE OUTFLOW	0	0	- 1,169	0
SUBSURFACE INFLOW	0	166	107	0
LEAKAGE OR SUBSURFACE CROSS FLOW IN	0	103	719	1,205
LEAKAGE OR SUBSURFACE CROSS FLOW OUT	- 737	- 455	- 835	0
SEAWATER INTRUSION	0	0	0	352
LOS OSOS CREEK INFLOW	0	665	0	0
LOS OSOS CREEK OUTFLOW	0	- 60	0	0
WELL PRODUCTION (INCLUDES CONSERVATION)	0	- 870	- 803	- 1,557
WARDEN DRAIN	0	- 9	0	0
WILLOW CREEK OUTFLOW AND EVAPOTRANSPIRATION	- 35	0	0	0
BRODERSON INFLOW	0	0	448	0
AQUIFER INFLOW	**772**	**1,394**	**2,807**	**1,557**
AQUIFER OUTFLOW	**- 772**	**- 1,394**	**- 2,807**	**- 1,557**

ALL TABLE QUANTITIES ARE IN ACRE-FEET PER YEAR

Flows to Willow Creek are cut off with project.

Analysis of Water Supply Impacts

LOWWP Facilities Construction Impacts

The sewage collection system for each alternative is effectively the same with the exception of sewage pipeline route to the final location of the LOWWP. Each collection system alternative removes septic system effluent discharges from within the prohibition zone. After treatment to a secondary level, the effluent will be conveyed to spray fields proposed for location at the Tonini site and a leach field proposed for location at the Broderson property. During construction of pipelines, pump station, and treatment facilities shallow groundwater may be encountered that requires disposal.

EXHIBIT 1

LOSG Recommendations from April 23

(Please see "Correspondence Received," April 23 and 30 Planning Commission agendas, for explanations and research supporting these project conditions).

1. **Phase I of our water plan entitled *Achieving a Sustainable Los Osos Valley Water Basin* implemented in lieu of the current reuse/disposal element** (to safely mitigate for the project, eliminate spray fields and Broderson leach fields, and move the basin toward sustainability.)
2. **A 100% sealed, small-pipe collection system (STEP/STEG, vacuum, or low pressure)** (to reduce collection system costs and environmental impacts, from installation, seawater contamination, and overflows).
3. **A thorough analysis of maintenance for the hybrid gravity collection system that will keep leaks at a minimum—and a recommendation for design-build proposals to include on-going maintenance contracts for the life of the system that will keep leaks to these levels** (to meet more stringent Water Board requirements and show the true costs of a gravity collection system.).
4. **A vacuum or low-pressure component (if a hybrid gravity collection system is selected) installed in high ground water areas and along the bay to elevations of five feet** (to reduce collection system costs and environmental impacts, from installation, seawater contamination, and overflows).
5. **A revised population estimate for sizing the system** (to reflect accurate water use, reduce project costs, and avoid unplanned growth inducement).
6. **A decentralized system with two treatment sites in town using underground wetlands** (to avoid impacts to farmland, reduce energy use/costs for pumping, and provide attractive community spaces).
7. **Facultative pond treatment with any centralized option** (to reduce energy use and bio-solids generation/handling).
8. **Alternatives for the recycling bio-solids, and ways to reduce project fossil fuel use and carbon foot print (wind and solar power generation, carbon sequestering, etc.)**

Insights from the Monterey Field Trip

The serious SWI problem in the Monterey drove decision makers to take aggressive action with an integrated solution maximizing the beneficial uses of recycled wastewater. **The threat of imminent destruction of the Los Osos Valley Water Basin by SWI should also drive our County to aggressively address SWI with a basin-wide plan integrating the LOWWP.**

Monterey County implemented ordinances to limit pumping from aquifers impacted by SWI via managed use of recycled and well water. It also implemented area-wide assessments to pay for the wastewater/ recycling project based on economic and/or other general benefits. **SLO County should do the same to stop SWI in the Los Osos Water Basin and assure costs are appropriately shared by those who benefit from the project.**

The Monterey wastewater/recycling project cost about $220 million and serves about 240,000 people. It's relatively low cost compared to the Los Osos project is likely due to a very competitive design-build process. The County must do everything possible to ensure a highly competitive process to keep project costs affordable. **Ensuring maximum competition and best value requires including the water management component of the project in the design-build process, along with different collection system options.** The County Team now proposes to develop the water management component with a design-"bid"-build process.

Monterey's situation differs from the Los Osos situation in a few ways. Farmers are the most motivated to address SWI in Monterey (i.e., their wells have SWI impacts), and they bear the greatest costs since they derive the greatest benefits. **In Los Osos, wells supplying residential and commercial areas have the greatest impacts, so these users should be the most motivated to stop SWI and bear the greatest costs.** The LOSG recommends an intensive conservation program focused on residential and commercial areas.

Monterey has not stopped SWI with recycling. Bob Holden, an administrator at the recycling facility, said he would need more recycled water to stop SWI, and indicated a project to import water from the Salinas River is currently under development. Ultimately, SWI can't be stopped with recycled water because it results from basin imbalance (inflows less than outflows). Recycled water can only replace water removed from the basin, not increase net inflows. **Thus, the Monterey approach can be improved upon. The County can fully balance the Los Osos Basin stopping SWI with conservation. This is because conservation provides a supplemental water source—more reliable and cost-effective than imported or desalinated water. Los Osos is fortunate in one sense. The potential for conservation to reduce water use in the residential/commercial areas of the community is significantly greater than it is in the farming areas.**

Monterey has had the luxury of delaying a complete solution to basin balance due to the very large size of its basin. **Los Osos does not have the luxury of delaying a solution to SWI because of the small size of the basin. An intensive conservation program is needed now—or Los Osos will likely lose its sole water source to SWI, resulting in a $ 170 million wastewater project to improve drinking water when there is no drinking water to improve.**

EXHIBIT 1

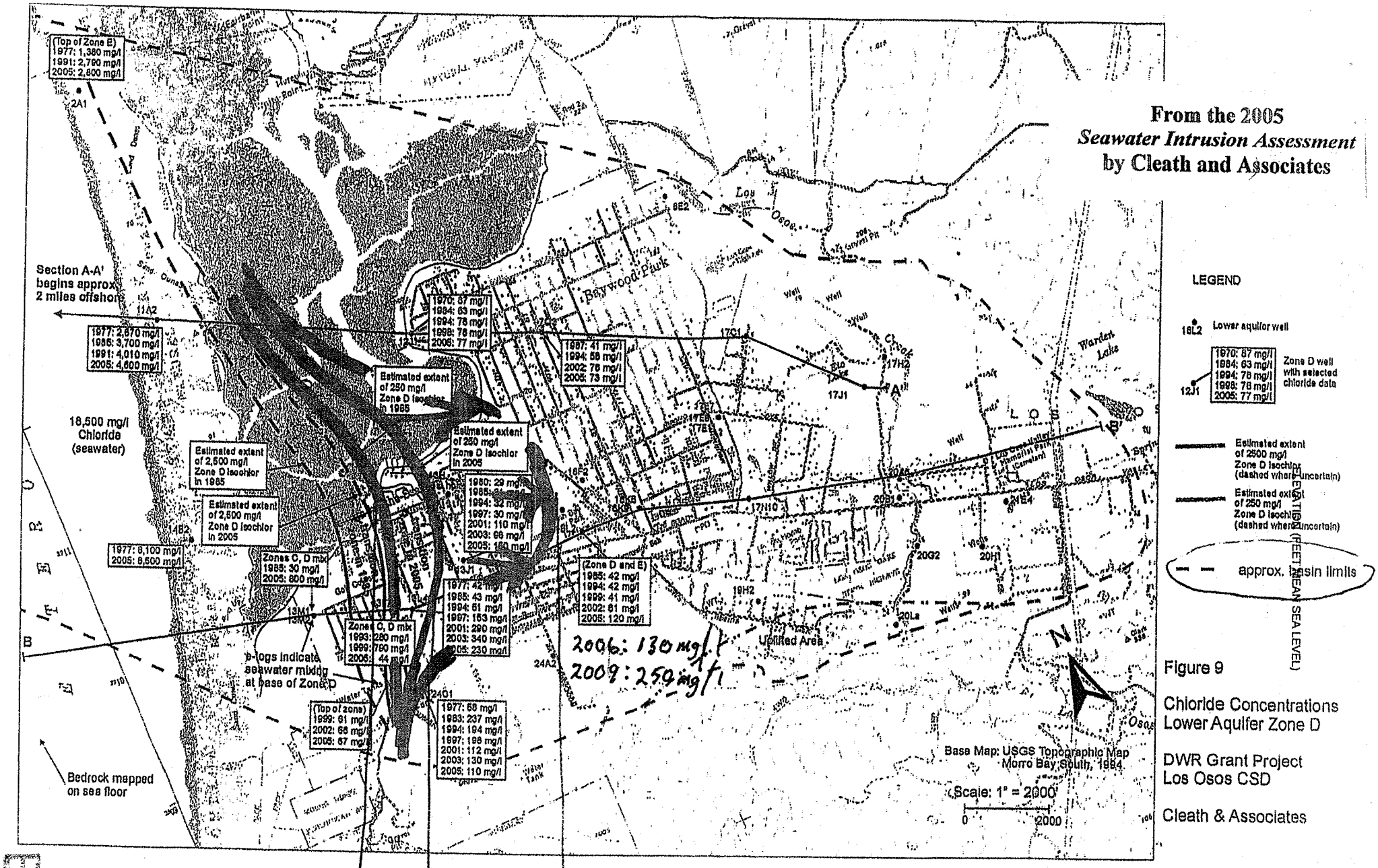


Figure 9

Chloride Concentrations
Lower Aquifer Zone D

DWR Grant Project
Los Osos CSD

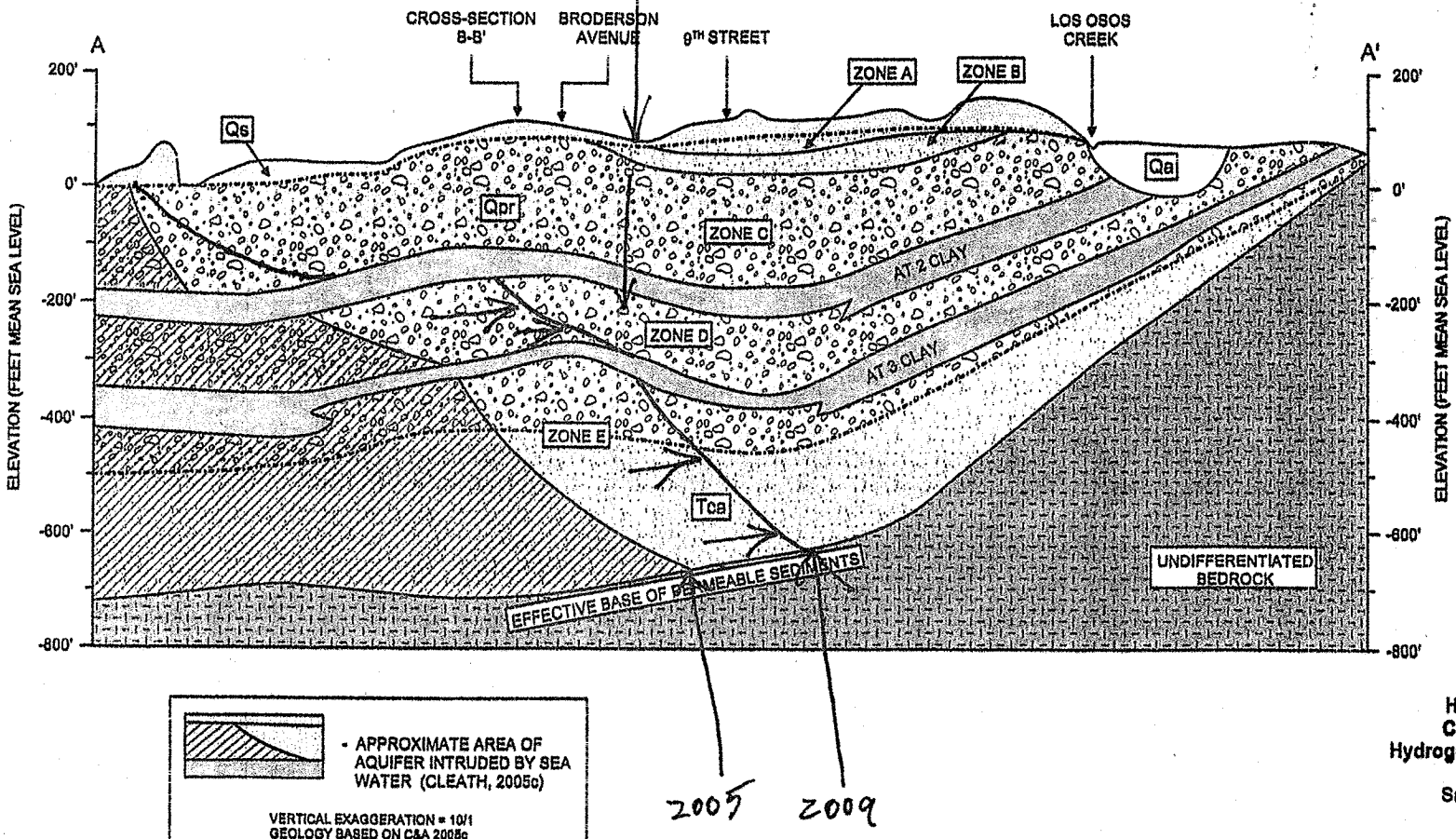
Cleath & Associates

LOS OSOS VALLEY WATER BASIN UNDERLYING THE COMMUNITY OF LOS OSOS

The progress of seawater intrusion in Zone D of the lower aquifer is shown with dark lines based on the most recent water quality data for the Los Osos Community Services District Palisades Well near the Community Center. This well is now showing 250 mg/l of chlorides (a seawater intrusion indicator); 250 mg/l of chlorides is the point at which water is not recommended for drinking, per the Cleath and Associates 2005 study. Thinner lines to left show the location of the permanent loss of the aquifer (2500 mg/l of chlorides) in 1985 and 2005. The permanent basin loss estimate for 2009 has not been released as of 6/7/09. Seawater intrusion in Zone E, the lowest aquifer, is typically further advanced.

Exhibit 1

Approximate location of the Palisades Well near the Community Center



HYDROGEOLOGICAL CROSS-SECTION A-A'
Hydrogeological Impacts Analysis
LOWWP Draft EIR
San Luis Obispo County
Los Osos, California

PLATE 3

Exhibit 3

June 22, 2009
Subject: Essential conditions for LOWWP EIR and Coastal Development permit approval

Dear Commissioners,

Thank you for organizing the Monterey Field trip and inviting the public. The opportunity for County decision makers and members of the public to learn about the benefits of wastewater recycling and reuse undoubtedly moves San Luis Obispo County closer to a sustainable water supply in the future.

Based on your Commission's review of the LOWWP, what we learned in Monterey, and recent data we received showing seawater intrusion (SWI) in the Los Osos Valley Water Basin is a more imminent threat to the basin than previously realized; we're updating our earlier recommendations to your Commission. (Our earlier recommendations are available under "Correspondence Received" on the April 30 agenda—briefly recapped in an attachment to this letter.)

The project conditions we recommend below highlight key elements of our earlier recommendations, expanding on some of them. We continue to believe a supplemental or subsequent EIR is needed to remedy serious deficiencies in the EIR, including inadequate analyses of some of the most sustainable options. However, we focus these recommendations on including more options in the design-build process and on necessary changes to the proposed project alternative. We consider the following conditions to be essential for the LOWWP to avoid harm to the water supply and area ecosystems—and for it to provide real value to the citizens paying for it.

Thank you for your thorough review of the issues and for helping to ensure the LOWWP does all it can to sustain the environment, the people, and economy of Los Osos and the area.

Essential Conditions for LOWWP EIR/Development Permit Approval

1. **A requirement that a basin-wide water management plan, integrating the LOWWP and maximizing conservation, to stop SWI and safely balance the basin within three (3) years is implemented within one year (or upon project approval, as applicable).** Recent water quality data from the Palisades Well near the middle of Los Osos shows SWI has progressed halfway through the freshwater basin since the 1980's, traveling twice as far in five years (since 2005) as it had in the previous 20 years (from 1985-2005). Therefore, immediate action is needed to prevent further destruction for the basin using the most direct and effective means available—intensive conservation. *The LOWWP provides a rare opportunity to implement intensive conservation for 85-90% of the community. This opportunity must be optimized. AB 2701 grants the County the right to address SWI at it relates to the project. Unless SWI is stopped, the project may not be able to achieve its primary environmental goal of improving basin groundwater. Therefore, ample justification exists for the project to maximize progress toward stopping SWI as part of a basin-wide plan.* Whereas, Monterey County may be able to stop SWI (balance its basins) and supply drinking water with imported water (the Salinas River) or desalination facilities, these options are infeasible for Los Osos. Furthermore, the currently-proposed "reuse/disposal" element of the LOWWP won't be implemented for at least two years (project start up). Broderson leach fields will require monitoring for another two years to determine if the work since they are not proven—and there is no back up plan. Thus, the currently-proposed "reuse/disposal" element is too risky. It must be replaced by one providing more certain, immediate, and dramatic results, along with greater flexibility. As we saw in Monterey, integrated area-wide planning is the hallmark of a successful program. Moreover, prior to the last Los Osos wastewater project, the Coastal Commission required a sustainable basin plan as a condition of project approval. Also, cooperative purveyor agreements, such as the one currently underway, have failed to stop SWI over the past 15 years because they focus more on supplying demand (pumping), than managing demand (conservation). Therefore, a basin-wide plan, integrating the LOWWP and emphasizing conservation, is reasonable—and likely the only way to stop SWI within a timeframe that preserves the basin. Finally, an integrated, basin-wide plan optimizes grant opportunities, keeps costs as low as possible, and ensures equitable cost sharing among those who benefit community-wide. **We've attached an updated overview of the integrated plan we submitted earlier to show how integrating the LOWWP into a basin-wide plan achieves the three-year goal. We've also attached basic provisions for a basin-wide plan and a list of plan benefits.**

EXHIBIT 1

2. **A requirement that the LOWWP mitigates for potential, significant negative impacts from the project to sensitive ecosystems.** Failing to acknowledge or mitigate these impacts is a blatant omission of the EIR. Some of the sites potentially impacted include the 3rd Street Marsh and Baywood Marsh—while Willow Creek Drainage is virtually certain to be harmed (see EIR, Exhibit 5.2-2 of Appendix D-1 and Appendix A of Appendix D-2). The Willow Creek Drainage provides a green belt through the community supporting large stands of trees and sensitive habitat. It supplies flows to Los Osos Valley Creek and undoubtedly recharges the basin. The EIR states that flows to Willow Creek will drop from 552 AFY to 35 AFY, yet it claims there will be no impacts (see EIR, Tables 8 & 9, pp. 25, 26 of Appendix D-2). Looking at the aerial view of the drainage (attached), you'll see that stopping flows to this ecosystem will likely have major impacts on the system and the community. Trees and other vegetation in the drainage will likely die without a year-round water source. Flows from leach fields now contribute to flows into this area, per the EIR. *Using highly-treated recycled water to support Willow Creek and other ecosystems will help mitigate for project impacts, also providing a way to use all of the recycled water from the project. Thus, mitigation for ecosystems will allow elimination of spray fields.* **We also recommend development of one or more finishing ponds, e.g., by John Todd Ecological Design (http://www.toddecological.com/). These will help regulate recycled water flows, ensure the water is the highest quality possible for ecosystems and urban reuse, and provide attractive community spaces.** If a finishing pond were constructed on the Tri-W site, for instance, it might supply nearby Sweet Springs Nature Preserve and other aquatic systems in the area, eliminate a reason for Broderson, and provide open space. Emphasizing conservation, along with LID recharge and ag exchange, the plan we recommend provides adequate recycled water, recharge, and flexibility (without spray fields and Broderson leach fields) to support ecosystems and stop SWI.

3. **A requirement that dedicated (100%) small-pipe sealed collection system options (STEP/STEG, vacuum, and low pressure) are included in the project design-build process.** Since the EIR lacks fair or thorough side-by-side analyses of these options, they must be included in the design-build process to enable informed decision making. Whereas, a hybrid gravity design could address some of the special conditions in Los Osos (e.g., high ground water, sea level rises, proximity to a protected marine environment), the proposed 95% gravity design does not. Moreover, a sealed-pipe component (e.g., sealing gravity pipes via fusion welding) is not likely to be as cost- or environmentally effective as a dedicated small-pipe system, according to our research. The LOWWP *Flow and Loads* TM estimates fusion welding will add 12% to the cost of gravity pipe installation, and the *Fine Screening Report* states that fusion welding technology is not proven technology (p. 1-9). Having sealed systems in the design-build process enables experienced companies to present the most effective systems for Los Osos, and it maximizes competition by promoting competition among technologies. According to experts such as Dr. Tchobanoglous, a gravity collection system may not function with the intensive conservation needed to balance the basin and stop SWI. Also, per the *Fine Screening Report*, the EIR, and our research; gravity systems leak more than small-pipe systems---and the leaks get worse over time. The *Fine Screening Report* and EIR assume flows for a Los Osos gravity system will be 10% greater due to inflow and infiltration (I/I) of rainwater into the system (i.e., about 70 AFY or 200 AFY over four months). This is water not recharging the ground water. In serious storms, a gravity system will have much higher peak flows (almost twice the wet weather capacity of the system). Higher peak flows, in conjunction gravity design elements (e.g., manholes and pump stations) make the system more vulnerable to destructive overflows. The system also will leak more raw waste out (called exfiltration) and it will be more destructive to install, due to deep, open trenching rather than lateral boring or shallow narrow trenching. Also, maintaining a gravity system so that leaks remain at very low levels costs more than estimated in the *Fine Screening Report* (see p.1-9). It can be assumed the Water Board will implement increasingly stringent regulations to meet its goal of zero discharge of pollution in the future, making very low levels of leaks a requirement. Thus, a gravity system in Los Osos will cause more harm to the environment than a sealed system, while it will result in higher and higher (possibly prohibitive) costs to maintain. **As we previously recommended, the design-build process must include hard estimates for the maintenance of gravity and sealed-pipe systems, and the County must not allow change orders, so that decision makers and the public can compare the true costs of system options. Also, the design-build process should allow companies to propose integrated system designs (collection, treatment, and reuse) to enable innovation and to maximize possible cost savings.**

EXHIBIT 1

4. **A requirement that a low-energy, nature based treatment system is used that minimizes solids handling.** Low energy use is essential for system sustainability. Also, laws and ordinances regulating bio-solids are becoming more stringent and cumbersome, while disposal of bio-solids at landfills is sure to be less reliable and more costly in the future. Thus, a treatment process reducing bio-solids with low-energy natural processes is essential for long-term value from the LOWWP. The AIPS and ADS pond systems (evaluated in the LOWWP *Ponds Treatment* TM) reduce solids to very low levels via natural processes. Solids handling is required only every 20 years, or so, and these systems use one third to one-half the energy of Biolac and oxidation ditches. Both have lower overall O&M costs and are not impacted by varying levels of septage. While the footprints of these systems are larger than Biolac or oxidation ditches, the AIPS system (14 acres for a system with gravity collection and 12 acres for a STEP/STEG system) will easily fit on the Giacomazzi site (38 acres total and 16-18 acres suitable) (*Fine Screening Report,* p. 6-18). The ADS system (25 acres for gravity and 21 acres for STEP/STEG) will easily fit on the Giacomazzi and Cemetery sites. John Todd Ecological Design (http://www.toddecological.com/) also offers both green-house and wetlands treatment options (not analyzed in the EIR). Last year at a presentation in Los Osos, Mr. Todd described the many co-benefits of these systems (attractive community spaces, eco-tourism opportunities, etc.), and he expressed the opinion that his treatment options would fit on less than 10 acres. **Todd Ecological treatment options, along with the AIPS and ADS pond systems, should be included in the design-build process.**

5. **A requirement for current population numbers, water-use rates, and buildout estimates to be corrected, with an intensive conservation program factored in—and project sizing reduced accordingly.** As we and others have pointed out (see our EIR comments), population and water-use figures used in the *Fine Screening Report* and EIR to size the system overestimate actual population and water use. An intensive, well-organized conservation program will reduce wastewater flows significantly more. Without adjustments in estimated flows, the system will be oversized by 25% or more. Using accurate figures will ensure the system does not place an undo cost burden on Prohibition Zone residents or cause a vicious cycle of resource overuse and unplanned growth.

6. **A requirement that spray fields are eliminated as a project option and all recycled water is used to stop SWI and support sensitive ecosystems from project start up.** Spray fields will waste the water needed to balance the basin, and disposal of water is unjustified because all of it can be used at project start up.

7. **A requirement that the proposed Tonini treatment site is eliminated as a project option and the treatment site is located near town (or in town, if treatment is handled using a nature-based system, e.g., underground wetlands, green house technologies, or Eco-Machines by John Todd Ecological Design).** The Tonini site will impact valuable farmland unnecessarily and require too much energy to pump wastewater and recycled to and from the site.

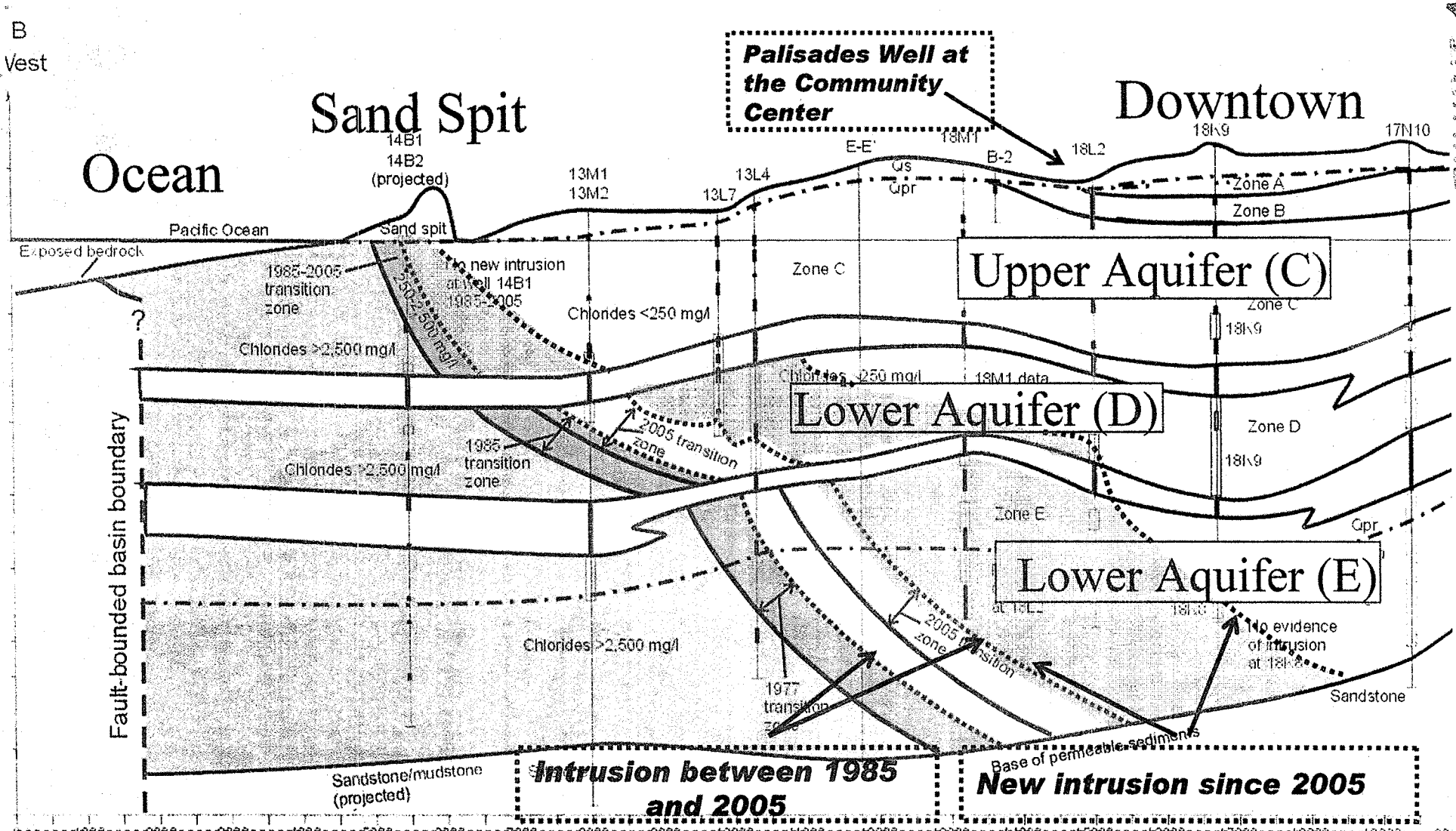
Please refer to our earlier submittals for analyses and research supporting these recommendations (see "Correspondence Received" on your April 23 and 30 agendas). Also, please refer to our EIR comments, sustainable project criteria, scoping recommendations, and project recommendations with supporting research linked on the County Public Works LOWWP website.

Thank you for your consideration and action on our recommendations.

Sincerely,
Los Osos Sustainability Group

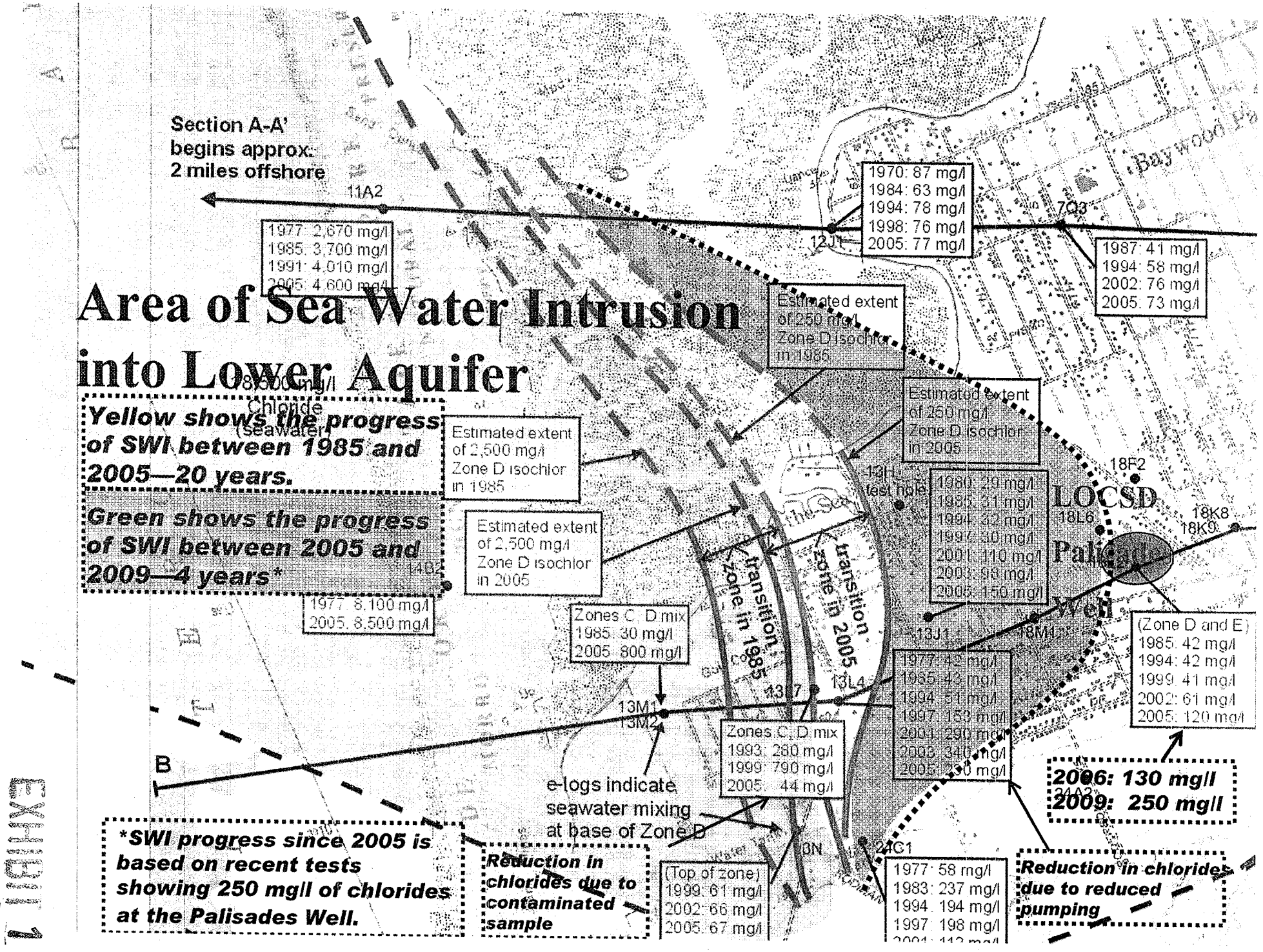
Attachments

EXHIBIT 1



Note: ***Although the LOSG did not receive data to estimate the 2500 mg/l isochlor line (where permanent aquifer loss occurs) the line is likely to now be within the 2005 transition zone. Evidence shows reduced pumping within a transition zone will allow aquifers to recover (see Well 13J1 in the previous slide). Based on the rapid progress of SWI shown by data, the LOSG is recommending intensive conservation (or water use efficiency) to preserve major portions of the lower aquifer. Conservation is the most rapid and cost-effective way to preserve the basin short of water rationing, which significantly impacts life-style. Water use efficiency is designed to minimize life-style impacts.***

EXHIBIT 7


Section A-A'
begins approx:
2 miles offshore
11A2
1977: 2,670 mg/l
1985: 3,700 mg/l
1991: 4,010 mg/l
2005: 4,600 mg/l
12J1
1970: 87 mg/l
1984: 63 mg/l
1994: 78 mg/l
1998: 76 mg/l
2005: 77 mg/l
7Q3
1987: 41 mg/l
1994: 58 mg/l
2002: 76 mg/l
2005: 73 mg/l
Area of Sea Water Intrusion into Lower Aquifer
Estimated extent of 250 mg/l Zone D isochlor in 1985
Estimated extent of 250 mg/l Zone D isochlor in 2005
18,500 mg/l Chloride (Seawater)
Yellow shows the progress of SWI between 1985 and 2005—20 years.
Green shows the progress of SWI between 2005 and 2009—4 years*
Estimated extent of 2,500 mg/l Zone D isochlor in 1985
Estimated extent of 2,500 mg/l Zone D isochlor in 2005
13H1 (test hole)
1980: 29 mg/l
1985: 31 mg/l
1994: 32 mg/l
1997: 90 mg/l
2001: 110 mg/l
2003: 98 mg/l
2005: 150 mg/l
18F2
LOCSD
18L6
18K8
18K9
Palisades Well
14B1
1977: 8,100 mg/l
2005: 8,500 mg/l
Zones C, D mix
1985: 30 mg/l
2005: 800 mg/l
transition zone in 1985
transition zone in 2005
13J1
18M1
(Zone D and E)
1985: 42 mg/l
1994: 42 mg/l
1999: 41 mg/l
2002: 61 mg/l
2005: 120 mg/l
1977: 42 mg/l
1985: 43 mg/l
1994: 51 mg/l
1997: 153 mg/l
2001: 290 mg/l
2003: 340 mg/l
2005: 430 mg/l
13L4
13M1
13M2
Zones C, D mix
1993: 280 mg/l
1999: 790 mg/l
2005: 44 mg/l
2006: 130 mg/l
2009: 250 mg/l
B
e-logs indicate seawater mixing at base of Zone D
*SWI progress since 2005 is based on recent tests showing 250 mg/l of chlorides at the Palisades Well.
Reduction in chlorides due to contaminated sample
(Top of zone)
1999: 61 mg/l
2002: 66 mg/l
2005: 67 mg/l
18N
24C1
1977: 58 mg/l
1983: 237 mg/l
1994: 194 mg/l
1997: 198 mg/l
Reduction in chlorides due to reduced pumping
EXHIBIT 1