

## CONFERENCE MEMORANDUM

**Project:** Santa Clara River Estuary Special Studies      **Conf. Date:** 11/10/09  
**Client:** City of Ventura      **Issue Date:** 11/24/09  
**Location:** Ventura City Hall  
**Attendees:** See attached sign-in sheet      Carollo: Lydia Holmes, Elisa Garvey, Sarah Deslauriers, Jim Hagstrom  
Stillwater: Noah Hume  
**Purpose:** November Stakeholder Workshop  
**Distribution:** Attendees, Tracy Clinton, Scott Dusterhoff      **File:** 8144B.00

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**Discussion:**

The following is our understanding of the subject matter covered in this conference. If this differs with your understanding, please notify us.

**Presentation/Discussion:**

1. Special Studies Overview—Lydia Holmes (Carollo) provided background information on the purpose of the meeting and the information we hope to obtain from the stakeholders. She also provided an overview of the Special Studies and how the three studies (Estuary Subwatershed Study, Recycled Water Study and Wetlands Study) are related and a general schedule for completion. She introduced, in concept, the potential resulting scenarios of the Estuary Subwatershed Study in terms of the volume and quality of the discharge, and presented a matrix of how wetlands and recycled water could be used in these scenarios. Following this overview, Vicki Musgrove (City) provided a overview of the Heal the Bay Appeal (see below).
2. Heal the Bay Appeal –Vicki Musgrove (City) provided information on the Heal the Bay appeal. The appeal is directed at the State Water Resources Control Board (SWRCB) and involves the Los Angeles Regional Water Quality Control Board’s (LARWQCB) adoption of the City of San Buenaventura Ventura Water Reclamation Facility Discharge to the Santa Clara River Estuary (Order No. R4-2008-0011 (“Permit”)). The appeal claims that “this discharge has been, and continues to be, in violation of the SWRCB Policy for the Enclosed Bays and Estuaries of California and that the Permit should be remanded.”
  - a. What’s the potential outcome of this potential issue? (Paul Jenkins, Surfrider)
    - i. (Vicki Musgrove, City) The future is uncertain at this time. It is possible that the permit could be remanded and that some of these Special Studies would not be needed.
  - b. Are you going to stop the study? (Paul Jenkins, Surfrider)
    - i. (Vicki Musgrove, City) No, the studies will continue as required by the permit.
  - c. What about using a different approach - e.g. reuse? (Danny Moscaritolo, Remediation Earth, Inc.)
    - i. (Lydia Holmes, Carollo) Actually looking at this in the reuse market study we are presenting today.

3. Recycled Water Study – Elisa Garvey (Carollo) presented an overview of the study including identification of urban, agricultural, and groundwater recharge demands, regulatory requirements, pipeline and treatment alternatives and costs.
  - a. Why was the study limited to 5 miles? (Gerhardt Huber, County of Ventura)
    - i. (Elisa Garvey, Carollo) The 5-mile radius is required per the permit.
  - b. Is there enough water to meet 3.7 mgd potential reuse today? If so, from where? (Peter Kokiousis, Remediation Earth, Inc.)
    - i. (Elisa Garvey, Carollo) Yes, treatment plant is processing sufficient water to meet this reuse demand.
  - c. Current demand currently being met with other sources? (Paul Jenkins, Surfrider)
    - i. (Elisa Garvey, Carollo). Most of the urban demands were developed from the potable water billing records. Therefore, yes, these demands are currently being met with the potable supply.
  - d. Electricity/operation costs considered? RO specifically. Why are we jumping to RO if we may not need it? (Dan Moscaritolo, Remediation Earth, Inc.)
    - i. (Elisa Garvey, Carollo) Effluent needs to be brought to acceptable standards for agricultural reuse. The issue is salt removal, which requires RO. Lydia Holmes (Carollo) noted later that electrodialysis could also be used for salt removal.
  - e. L.A. County water softening retrofit program has had good success, however you looked at RO. Did you look at other less expensive options? What percentage of crops in the area doesn't have that limitation? (Kirsten James, Heal the Bay)
    - i. (Elisa Garvey, Carollo) Explored potential reduction other agencies achieved (e.g. Monterey) through source control for water softeners. We don't think it is possible to achieve 190 mg/L chloride reduction through source control only. Source control could be used to reduce the amount of flow that is processed by an RO system.
    - ii. (Elisa Garvey, Carollo) We focused on types of crops grown in this region currently, which are not very salt tolerant crops. Other information could be provided on more tolerant crops. Lydia Holmes (Carollo) noted that the objective would be to provide water that would not require growers to change crops.
  - f. 14 mgd - Is that build-out of the plant? Are you assuming we are going to double existing average flow for these options? (Paul Jenkins, Surfrider)
    - i. (Lydia Holmes) We are using the permitted capacity of the plant. The study does not include looking into how flows will be changing in the future.
  - g. Referring to Oxnard area (south of Berry property), commented on crops and sensitivity to salinity levels. Noted that sod, which is grown in some areas south of the Estuary, is more salt tolerant (John Matthews, Berry Property Attorney)
  - h. Are any of these options proposing to pump groundwater from the Santa Clara River to dilute effluent? (Richard Sweet, Friends of the Santa Clara River)
    - i. (Elisa Garvey, Carollo) No. The diluent water is diverted from UWCD.
    - ii. (Dan Detmer, UWCD) Approximately 40,000 ACF over the year.
  - i. Is this highly seasonal? (Paul Jenkins, Surfrider)

- i. (Elisa Garvey, Carollo) Groundwater recharge would potentially be seasonal because UWCD has other priorities in the summer months.
  - j. AB 1366 gave authority to local government to manage the water softeners in the city. (Don Tsai, RWQCB)
  - k. Other things we need to consider? (Lydia Holmes, Carollo - to the audience)
    - i. Did you consider seasonal levels (volume, timing, etc)? (Virginia Gardner, Entrix)
      - 1. (Elisa Garvey, Carollo) Yes, the analysis considers seasonal variation for the various types of demands.
    - ii. Centralized treatment systems are very expensive. \$35M could be cut in half by graywater reuse and decentralizing systems. Climate change impacts need to be considered for best use and conserving our water. (Paul Jenkins, Surfrider)
      - 1. (Lydia Holmes, Carollo) In the 1970's, there was a big push for centralizing systems. Discussion of package treatment/point of use needs and the fact that the investment has already been made at the VWRf to meet tertiary standards took place.
    - iii. The study did not take a subwatershed approach in addressing these demands. If City would treat water on-site that would provide multiple benefits. (Paul Jenkins, Surfrider)
      - 1. (Lydia Holmes, Carollo) We did not conduct this analysis by subwatershed.
- 4. Wetlands Study - Lydia Holmes and Sarah Deslauriers (Carollo) and Noah Hume (Stillwater Sciences) presented an overview of the study, including a brief introduction to wetlands and natural processes, analysis of the existing ponds, water quality analysis to determine the opportunities for improvement, performance of other similar wetland systems, development of both onsite and offsite treatment opportunities, and habitat opportunities.
  - a. Dan Pfeifer (City) gave brief status on Nitrification/Denitrification upgrades underway and to be completed by March 2011.
    - i. What is the nitrogen level going to be after plant improvements? (Gerhardt Hubner, County of Ventura)
      - 1. (Dan Pfeifer, City) Total inorganic nitrogen (TIN) expected to be less than 8-mg/L average monthly. Permit limit is 10 mg/L TIN.
  - b. Riverine wetlands are losing ground. Lot of agriculture conversion. In county we need a mitigation bank. There is not a good process for meeting mitigation requirements. Consider setting up mitigation banks to offset costs. (Manjunath Venkat, AECOM)
    - i. (Lydia Holmes, Carollo) Discussed permitting issues with treatment wetlands versus mitigation bank credits. If wetlands are used to meet lower water quality limit required by the NPDES permit, then can't also use wetlands as a mitigation bank.
  - c. What is the cost of constructing the wetlands? (Don Tsai, RWQCB)
    - i. (Lydia Holmes, Carollo) We are working on selecting the appropriate removal rate constant to determine sizing in order to get information that is needed for estimating costs.

- d. Need to think about the carbon footprint of treatment wetlands options. (Don Tsai, RWQCB)
    - i. (Lydia Holmes, Carollo) Yes, would be useful to compare alternatives.
  - e. Please clarify what are the SOAR issues related to agriculture lands being considered for treatment wetlands. (Catherine McCalvin, TNC)
    - i. (Lydia Holmes and Sarah Deslauriers, Carollo) - explained that preservation of agriculture lands is a goal of the policy, however land can be restored or used for purposes that are the same as adjacent lands. Also noted that there are options to work with SOAR policies.
    - ii. (Catherine McCalvin, TNC) Note that TNC does not consider SOAR to be in conflict with this type of use.
  - f. Would like to see more of the supply side as part of the equation/studies. There should be an integrated (regional) water management plan that could address issues across the board. Not going to get to 14 mgd. (Paul Jenkins, Surfrider)
    - i. (Lydia Holmes, Carollo) The VWRP permitted capacity (14 mgd) is used as a comparative basis for estimating costs.
  - g. Everything should be tied back to water supply. (Paul Jenkins, Surfrider)
  - h. The issue here is not water supply - the issue is discharge. Habitat for Least terns needs to be considered and maintained in open water areas. While wetlands can provide Least tern habitat we need to keep in mind that they use the open water areas of the treatment ponds to for foraging. (Reed Smith, Ventura Audobon Society)
  - i. Is there a hybrid approach to reclaimed water and wetlands? (Gerhardt Huber, County of Ventura)
    - i. (Lydia Holmes, Carollo) Notes that yes there are in-between scenarios. We just presented the bookends of the options here. We still need the results of the estuary monitoring study.
5. Summary - Lydia Holmes (Carollo) provided a summary of the findings from the Recycled Water Study and the Wetlands Study. She again reviewed how the studies are related and returned to the matrix for discussion purposes. After additional questions below, Lydia asked the stakeholders to put "dots" on the wetlands and matrix wall maps to represent specific preferences or values.
6. What are you taking away from today's workshop?
- a. Chloride is higher than expected. (Jim Kentosh, UWCD)
  - b. Could be issues with groundwater objectives. (Dan Detmer, UWCD)
  - c. In future, really need to think about what the brine treatment options are. (Don Tsai, RWQCB)
  - d. State Parks are an obvious location for some of the water? There is a good point about conservation. County is looking at continued increase in water supply. (Virginia Gardner, Entrix)
  - e. Consider redundancy in pipelines for RW and Wetlands. (Nat Cox, Channel Coast District)
    - i. (Lydia Holmes, Carollo) In the future, when there is potentially a hybrid solution, we need to consider redundancy in pipeline cost estimates.
  - f. Did not hear any mention of emerging contaminants. (Paul Jenkins, Surfrider)

- i. (Lydia Holmes, Carollo) Noted these were referenced as “trace constituents” in the slides and that there are different design guides for removal of these compounds.
  - ii. Trace constituents are also not regulated at this time. Discussed the issue of investing in a system that would be under additional future regulations.
- g. Includes EDCs and pharmaceuticals? (Jason Weiner, Ventura Coastkeeper)
  - i. (Lydia Holmes, Carollo) Yes, trace constituents also include EDCs and pharmaceuticals.
- h. Concerned with water quality in estuary - wants trace constituents to be a large part of the study. What constitutes an enhancement by the discharge. (Jason Weiner, Ventura Coastkeeper)
  - i. (Lydia Holmes, Carollo) Looking at constituents that we know are there and what opportunities are there for reduction. We focused on nitrate. Trace constituents have compound specific removal mechanisms. The study is not trying to go through a list of trace constituents by compound and determine the removal mechanisms for each of these compounds.
  - ii. (Noah Hume, Stillwater Sciences) Noted that compounds are not regulated at this point. While wetlands may provide some additional removals, we cannot put an end numeric metric on what can be achieved.

**Prepared By:**



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Lydia Holmes