



**CITY OF SANTA BARBARA**

**SUBSURFACE DESALINATION INTAKE AND POTABLE  
REUSE FEASIBILITY STUDIES**

**WORKSHOP #2  
RESPONSES TO PUBLIC COMMENTS**

**DRAFT**  
March 2016

**City of Santa Barbara**  
**Subsurface Desalination Intake and Potable Reuse Feasibility Studies**  
**WORKSHOP #2**  
**RESPONSES TO PUBLIC COMMENTS**

**TABLE OF CONTENTS**

	<b><u>Page No.</u></b>
1.0 BACKGROUND.....	1
2.0 OBJECTIVE .....	1
3.0 RESPONSES .....	1

Appendix 1: Public Comments

---

## RESPONSES TO PUBLIC COMMENTS

### 1.0 BACKGROUND

On Wednesday, January 27, 2016, Technical Advisory Panel (TAP) Workshop #2 was held at Santa Barbara City Hall from 9:30 am until 12:00 noon. Stakeholders and interested parties were invited to attend the TAP meeting. As presented in the Work Plans, public comments were collected and compiled from the meeting. Written comments were also accepted for the following two weeks, until February 10, 2016.

### 2.0 OBJECTIVE

The objective of this document is to present responses to each of the stakeholder comments received regarding material presented at TAP Workshop #2.

### 3.0 RESPONSES

Refer to Appendix 1 for a summary of all public comments that were received. Responses to the public comments are as follows.

1. Comment #1a

a. *Regarding public health impacts resulting from potable reuse:*

- 1) The protection of public health is of paramount importance with any water supply project. The City is committed to the protection of public health as its top priority. The City will follow the development of new regulations and peer reviewed science on the health effects of recycled water to make informed decisions.
- 2) The analysis of nano-contaminants and gene transfer from antibiotic-resistant microbes (including genes) is not considered in the scope of this study, however the concern raised over this topic can be reflected in the social analysis of feasible potable reuse alternatives (refer to Work Plan, Section 6.0). The City will monitor the development of new regulations and peer reviewed science on this topic to make informed decisions.
- 3) *Regarding the City's negative declaration:* The City will note and retain your comment to inform future environmental studies. (e.g., City's Long Term Water Supply Plan Update EIR).

2. Comment #1b
  - a. *Regarding public health impacts resulting from potable reuse:* See response to Comment #1a. The analysis of nano-contaminants and gene transfer from antibiotic-resistant microbes (including genes) is not considered in the scope of this study. The City relies on the State Water Resources Control Board (SWRCB) and the Division of Drinking Water (DDW) to provide regulations that protect public health, however the concern raised over this topic can be reflected in the social analysis of feasible potable reuse alternatives (refer to Work Plan, Section 6.0).
3. Comment #2
  - a. *Regarding public health impacts resulting from potable reuse:* See response to Comment #1a and #1b. The protection of public health is of paramount importance with any water supply project. The City is committed to the protection of public health as its top priority. The City will follow the development of new regulations and peer reviewed science on the health effects of recycled water to make informed decisions.
4. Comment #3a
  - a. Refer to Comment #3b. In a letter dated October 20, 2015, the Central Coast Regional Water Quality Control Board (RWQCB) approved the study's Work Plans, which specified the 10,000 AFY threshold as a criteria for this study. However, as stated in Section 1.5, the final Work Plan and in Technical Memorandum No. 1 (i.e., which will become Chapter 1 of this study's final report) the current Study provides the maximum yield that may be attained from each subsurface intake alternative. When the Long Term Water Supply Plan is updated, if desalination plays a role in the City's future supply, subsurface intakes at the required capacity can be re-evaluated using the information developed through this study to build upon.
5. Comment #3b
  - a. *Regarding the concern over the appropriateness of the 10,000 AFY threshold presented in August 2015:* On August 31, 2015, the City responded to public comments and submitted the finalized Work Plans to RWQCB. In a letter dated October 20, 2015, the Central Coast RWQCB approved the Work Plans, which accepted the 10,000 AFY threshold criteria with the following qualifications:
    - 1) "We understand that this stepwise approach in the Work Plan will allow for initial work to focus on intake capacities of various subsurface intake technologies and later work would provide further information on potentially feasible options that pass this initial screening."
    - 2) "Central Coast Water Board staff shares the concern with Heal the Ocean that within the confines of this study this 10,000 AFY threshold prevents the potable reuse alternatives from progressing past initial screening"

feasibility analysis of technical factors into feasibility analysis of non-technical social, environmental, and economic factors. Having said this, we understand that the information from this study will help with future decisions regarding direct and indirect potable reuse by the City that could reduce the need for desalination."

- 3) "The City will not perform a combined alternative analysis at this time, but the City will pursue this when it knows how its water supply needs will be affected by pending environmental and operational decisions that could reduce the availability of water from the Cachuma Reservoir or new potable reuse regulations."
- 4) "The studies must evaluate the technical feasibility of the maximum capacity of potable reuse and subsurface intake options in order to provide information on whether the alternatives could independently or combined potentially replace the screened open-ocean intake desalination facility."

The City understands that a combination of subsurface intakes, surface intakes, and potable reuse can be used to minimize the mortality of marine organisms that may result from the use of the City's current screened open ocean intake. However, this study will identify what subsurface intake alternatives are technically feasible, and the maximum yield possible, which can inform future evaluations. As indicated in the final Work Plan and Technical Memorandum No. 1, changes in the Cachuma water supply may affect the amount of water available to the City in the future. When those changes are known, it will be necessary for the City to update its Long Term Water Supply Plan. At that time, as acknowledged by the RWQCB in their acceptance of this study's Work Plans, the feasibility information developed during this study (e.g., maximum yields from subsurface intakes and potable reuse alternatives) can be used to inform these future supply alternatives evaluations.

- b. *Regarding Santa Barbara Channelkeeper's request to revise capacity thresholds of this study and to consider combinations of alternatives:* As stated in the Work Plan that was approved by the RWQCB, the City is planning to revisit its Long Term Water Supply Plan when the Cachuma decisions are rendered and the City's long term water supply needs are known. Desalination and potable reuse will both be considered. The issue of subsurface intakes can also be revisited based upon the actual desalination plant capacity that may be needed. In the meantime, the present study can be used to inform these future studies without spending time and money on evaluating capacities for a desalination plant, when the actual capacity needed is not yet known.

6. Comment #4a

- a. Noted.

7. Comment #4b

- a. *Regarding SSI Study TM03 and the designation of "Not Feasible" (NF) for initial screening criteria #3, #8, and #9:* The City, its consultant team, and the TAP agree with your comment. A determination was made to change initial screening criteria #3, #8, and #9 from NF to PF\* (i.e., PF\* = Potentially Feasible but doesn't meet the study's goals). This change will be reflected in the final version of the TM03 document (i.e., Chapter 3 of the Study's final report).
  - b. *Regarding comments on Potable Reuse Study TM02:* Noted.
- 8. Comment #5
  - a. *Regarding comments related to beach front impact, project costs and water rates:* Noted. When the City updates its Long Term Water Supply Plan, it will evaluate the possible use of desalination and potable reuse. The issue regarding the implementation of subsurface intakes will be visited again, using information developed as part of this study. Environmental, social, and economic impacts such as the issues raised by this comment will be evaluated as part of the CEQA review. The City notes and will retain your concerns to inform future studies.
- 9. Comment #6
  - a. *Regarding comments related to beach access and beach front visual impacts, and economic impacts:* Noted. When the City updates its Long Term Water Supply Plan, it will evaluate the possible use of desalination and potable reuse. The issue regarding the implementation of subsurface intakes will be visited again, using information developed as part of this study. Environmental, social, and economic impacts such as the issues raised by this comment will be evaluated as part of the CEQA review. The City notes and will retain your concerns to inform future studies.
- 10. Comment #7
  - a. *Regarding the ownership of 103 South Calle Cesar Chavez and its consideration as a possible location for a subsurface intake facility:* This property does not belong to the City. Refer to updated Work Plans and Technical Memoranda for both the SSI and Potable Reuse Studies, where all references to 103 S. Calle Cesar Chavez have been removed.
  - b. *Regarding conclusions of the Feasibility Study:* Comments are noted. As stated in the Work Plan that was accepted by the RWQCB and in Technical Memorandum No. 1, when the Cachuma decisions are rendered, the City will update its Long Term Water Supply Plan. At that time, the City will evaluate possible use of desalination and/or potable reuse. The issue of subsurface intakes for desalination plant use will be considered again in the context of the desalination plant size that the City requires. Environmental, social, and economic impacts such as these will be evaluated as part of the CEQA review. The City will note and retain your concerns to inform future studies.

11. Comment #8

- a. *Regarding comments related to beach access and beach front visual impacts:* Noted. When the City updates its Long Term Water Supply Plan, it will evaluate the possible use of desalination and potable reuse. The issue regarding the implementation of subsurface intakes will be visited again, using information developed as part of this study. Environmental, social, and economic impacts such as the issues raised by this comment will be evaluated as part of the CEQA review. The City notes and will retain your concerns to inform future studies.

12. Comment #9

- a. *Regarding open ocean intakes as a BTA for power plants (pg 1, paragraph 2):* For power plants, open ocean intakes were not BTA because the power plants can be air cooled, which is a technology method that is independent of an open ocean water intake. Desalination plants, however, require an ocean intake. Where, the only feasible intake for a desalination plant is determined to be a surface intake, the Ocean Plan Amendments (OPA) have identified a 1 mm cylindrical wedge wire screen to be BTA.

It should be noted that because the City's desalination plant is not "new or expanded", the City is not required to update their intake screens in accordance with the May 2015 OPA. The City voluntarily offered to upgrade their intake screen when their NPDES was amended by the Central Coast RWQCB in January 2015. The RWQCB accepted the City's offer and wrote the upgrade into the City's amended permit as a requirement.

- b. *Regarding City Council and RWQCB's directive (pg 1, paragraph 4):* Note that the OPA only applies to "new or expanded" facilities. The City's desalination plant is existing and permitted to a buildout capacity of 10,000 AFY. Therefore, the City's desalination plant is neither new nor expanded and OPA criteria for subsurface intake studies do not apply to the City's study.

The RWQCB accepted the City's Work Plan and project approach that included an incremental evaluation of subsurface intakes after the Cachuma decisions were known, which will better defined the City's water needs.

- c. *Regarding legal basis of the Study's target yield (pg 2, paragraph 2):* The City's plant is permitted as a 10,000 AFY facility. Additionally, because the City's desalination plant is neither new nor expanded, the OPA criteria for intake evaluations do not apply.
- d. *Regarding the comment's references to "NWRI's study" (pg 2, paragraph 2):* NWRI is providing peer review of this study. This study is being performed by the City (i.e., the City's Study).
- e. *Regarding the proposed 3,125 AFY as a true need under the OPA (A):* Refer to the City's long term water supply plan that was adopted by City Council in 2011.

This Long Term Water Supply Plan was included in the City's General Plan EIR. Desalination at a capacity of 3,125 AFY was included as part of these planning and environmental review documents. Both documents were publicly reviewed and no comments regarding the City's desalination plant were received during that public review period.

- f. *Regarding requirements of the OPA (pg 2, paragraph 3):* The OPA does not apply to an existing facility like the City's desalination plant - However, the City has evaluated what yield is actually available from various subsurface intake alternatives. As stated in the revised Work Plan that was accepted by the RWQCB on October 20, 2015 and in Technical Memorandum No. 1 (which will become Chapter 1 of the City's final report for this study), when the Cachuma decisions are known and the City can better define its new long term water supply needs, it will revisit water supply alternatives including desalination and potable reuse. Subsurface intakes can be included in that discussion.
- g. *Regarding conducting a study using a reasonable range of alternative intake design capacities (pg 3, 1st paragraph):* As stated in the Work Plan, the City will revisit water supply alternatives, including desalination and potable reuse when the Cachuma decisions are known. Subsurface intakes will be part of this discussion. The current Study provides the maximum yield that may be attained from a variety of subsurface intake alternatives. When the Long Term Water Supply Plan is updated, if desalination is to play a role in the City's future supply, subsurface intakes at the required capacity can be evaluated.
- h. Regarding the comment that this Feasibility Study should evaluate a range of alternative sites that are likely to support subsurface intakes (pg 3, paragraphs 2 and 3):
  - 1) The OPA does not apply to the City's study because the City's desalination plant is neither new nor expanded.
  - 2) The RWQCB accepted the City's Work Plan as a basis for conducting this study. The public, including CoastKeeper Alliance was given the opportunity to comment on siting criteria used for initial screening and no comments were received. The City submitted their (revised) Work Plan and public comments to the RWQCB and the RWQCB accepted the Work Plan's scope.
  - 3) Based upon the Work Plan, the study considers sites within 1/2 mile of the shore. While this boundary defines City owned land, as stated the coastal hazards report, sediment transport would limit SIG installation to an ocean depth of 50 to 100 feet. This depth does not occur until approximately 1 to 1.5-miles offshore. The coastal hazards report also provides information on fault lines - any location off of East, West, or Leadbetter Beach would cross these faults and would preclude their use as an intake based upon initial screening. Therefore, even if the boundary



of the project sites in the work plan were extended, locations further from shore would still be determined not feasible.

**APPENDIX 1 – PUBLIC COMMENTS**

## **NATIONAL WATER RESEARCH INSTITUTE**

Technical Advisory Panel (TAP) for  
City of Santa Barbara's Subsurface Desalination Intake and  
Potable Reuse Feasibility Studies

### **Public Meeting #2**

Wednesday, January 27, 2016  
9:30 am – 12:00 noon

Santa Barbara City Hall  
Council Chambers Room  
735 Anacapa Street  
Santa Barbara, California, 93101

---

### **PUBLIC COMMENTS**

---

The Public Comment period for this meeting began at 11:00 AM. Members of the public were invited to submit comment cards, which included space for the commenter's name, affiliation (e.g., regulatory agency, city resident, other), residency (City of Santa Barbara), and the comment(s). NWRI continued to collect written comments via email ([sfaubl@nwri-usa.org](mailto:sfaubl@nwri-usa.org)) through February 11, 2016.

All comments received are summarized in the following pages. A list of the comments is provided below.

- Comment #1a. Submitted by Dr. Edo McGowan at meeting (January 27, 2016).
- Comment #1b. Submitted by Dr. Edo McGowan via e-mail on February 7, 2016.
- Comment #2. Submitted by John M. Ackermann, MD, at meeting (January 27, 2016).
- Comment #3a. Submitted by Kira Redmond of Santa Barbara Channelkeeper at meeting (January 27, 2016).
- Comment #3b. Submitted by Kira Redmond via e-mail on February 11, 2016.
- Comment #4a. Submitted by James Hawkins of Heal the Ocean at meeting (January 27, 2016).
- Comment #4b. Submitted by James Hawkins via e-mail on February 11, 2016.
- Comment #5. Submitted by Steve Nipper at meeting (January 27, 2016).
- Comment #7. Submitted by Graham Lyons of Mullen & Henzell L.L.P., Attorneys at Law, via e-mail on February 9, 2016
- Comment #8. Submitted by Ed Galsterer of Santa Barbara Inn via email on February 11, 2016.
- Comment #9. Submitted by Sean Bothwell of the California Coastkeeper Alliance via email on February 11, 2016.

## **Public Comments Submitted to the Technical Advisory Panel (TAP) for City of Santa Barbara's Subsurface Desalination Intake and Potable Reuse Feasibility Studies**

### **Comment #1a**

Name: Edo McGowan

Affiliation: Self

City Resident? No

Submitted: January 27, 2016 (at meeting)

Comment: Re: Potable Reuse Study

I am interested in public health and waterborne disease and contaminants, particularly nano-contaminants and gene transfer from antibiotic-resistant microbes. He mentioned that the space program is having issues with this and the State's Expert Panel on contaminants of emerging concern recused itself on addressing it, which is a problem. He felt that the City seems to be ignoring the issue as well. "Recycled water no longer protects public health," he said, adding that "there is evidence of serious admissions by the City in looking at this." He referred to a study showing impacts to public health. He also noted that in the City's response to his public comments at Panel Meeting #1 was that an analysis of these issues is beyond the scope of the study. He said that we need to "think about filtration systems that can handle these contaminants." This issue was not addressed in the environmental impact report (EIR) for the City's recycled water plant; by ignoring it, the City has an "incomplete document."

The main comment is one of flagging the City's underlying environmental document, a negative declaration, relating to the City's desire for expanded recycled water production. The ND is a missed-call, it should have been an EIR. That error by the City may thus put an irremediable flaw into the basis of the work by NWRI, especially because the ND ignored the pass-through of antibiotic resistant and multi-antibiotic resistant microbes and their genes. It has been shown by my work, that of Dr. Judy Meyers, Dr. Amy Pruden, the Fahrenfeld paper, the work of Harwood and the WERF study by Rose, specifically considering the plant at Santa Barbara, documenting that the plant is generating and then releasing antibiotic resistant microbes and other pathogens that will fall within the range potentially adversely impacting public health. The improvements to its production of recycled water, as suggested by the City, do not correct for the pass-through of these pathogens as well as the various CECs found in sewage effluent being converted to recycled water. The City's treatment train is, as planned, insufficient to deal with the potential associated public health risks and thus hazards to be later faced by this community.

The study by NWRI's TAP, must look at and report back to the community on the pass-through, within recycled water, of pathogens, the genes of resistant organisms and antibiotic resistance generation by the sewer plant. The study by the NWRI/TPA should also discuss the inadequacy of current water quality standards, as covered by the above noted authors. As specifically noted by Harwood, the following is extracted from her abstract: The failure of measurements of single indicator organism to correlate with pathogens suggests that public health is not adequately protected by simple monitoring schemes based on detection of a single indicator, particularly at the detection limits routinely employed.

### **Comment #1b**

Submitted: February 7, 2016, via email

The study by NWRI's TAP, must look at and report back to the community on the pass-through, within recycled water, of pathogens, the genes of resistant organisms and antibiotic resistance generation by the

sewer plant. The study by the NWRI/TPA should also discuss the inadequacy of current water quality standards, as covered by the above noted authors. As specifically noted by Harwood, the following is extracted from her abstract: The failure of measurements of single indicator organism to correlate with pathogens suggests that public health is not adequately protected by simple monitoring schemes based on detection of a single indicator, particularly at the detection limits routinely employed.

---

**Comment #2**

Name: John Ackerman

Affiliation: Self

City Resident:

Submitted: January 27, 2016 (at meeting)

John Ackerman is a retired physician who said that Edo McGowan's comments reflect his concerns sufficiently regarding "a future, significant, dangerous public health issue."

---

**Comment #3a**

Name: Kira Redmond

Affiliation: Santa Barbara Channelkeeper

Submitted: January 27, 2016 (at meeting)

City Resident? YES

Kira Redman of Santa Barbara Coastkeeper referenced directives from the City Council and Regional Board, indicating that they did not direct a study to increase the capacities for these projects (i.e., the 10,000 AFY target). In particular, she was concerned that it seems the project was set up to ensure the subsurface intakes would look infeasible. The City needs to look at the actual amount of water that needs to be produced to meet demand. Due to this, the study is a disappointment.

**Comment #3b**

Submitted: February 10, 2016 via email

**SEE ATTACHMENT A**

---

**Comment #4a**

Name: James Hawkins

Affiliation: Heal the Ocean

City Resident? YES

Submitted: January 27, 2016 (at meeting)

James Hawkins of Heal the Ocean thanked the Panel and Carollo Engineers for their efforts with the feasibility studies. **He supports the work on potable reuse and looks forward to the next Panel meeting,** where potable reuse will be discussed in more detail.

**Comment #4b**

Submitted February 11, 2016 via email

**SEE ATTACHMENT B**

---

**Comment #5**

Name: Steve Nipper

Affiliation: Independent business owner

City Resident? YES

Submitted: January 27, 2016 (at meeting)

Steve Nipper is a local business/property owner and native of Santa Barbara who pays city rates for water. He was not in favor of “changing what we have here” in terms of the intake. He noted that it seemed like a “huge waste of money” and involved “changing our waterfront and increasing our water rates.” He concluded with “I don’t think any of this will be done at no charge.”

---

**Comment #6**

Name: Matthew La Vine

Affiliation: The Fess Parker Resort, General Manager

City Resident? YES

Submitted: February 10, 2016 via email

Upon review of materials related to the Subsurface Desalination Intake Work Plan and Potable Reuse Study, it is my understanding the Feasibility Study identified sites which include possible development sites on our public beaches. We adamantly oppose the proposal to place well buildings and electrical service and motor control buildings on East Beach or West Beach. The negative impact to tourism in Santa Barbara would be tremendous. The main attractions in Santa Barbara are the beautiful beaches and ocean views. This type of development would have a profound negative impact on Santa Barbara’s coastline which would give a substantial undesirable impression to our visitors and locals. In addition this proposed development would adversely affect our business thus potentially requiring the reduction of our workforce.

---

**Comment #7**

Name: Graham Lyons

Affiliation: Mullen & Henzell L.L.P., Attorneys at Law

Submitted: via e-mail on February 9, 2016

**SEE ATTACHMENT C**

---

**Comment #8**

Name: Ed Galsterer

Affiliation: The Santa Barbara Inn, General Manager

City Resident? YES

Submitted: February 12, 2016 via email

As the General Manager of the Santa Barbara Inn, located on East Beach in Santa Barbara, I was alarmed to learn of the Vertical Well Proposal, whereby eight buildings would be constructed on the beaches of Santa Barbara. Tourism is clearly one of the leading industries of Santa Barbara city and county, and constructing buildings on our pristine beaches would certainly be detrimental to tourism. The owner of the Santa Barbara Inn is therefore strongly opposed to this alternative. We sincerely urge you to adopt an alternate plan which does not adversely impact the scenic beauty of our beaches.

---

**Comment #9**

Name: Sean Bothwell

Affiliation: California Coastkeeper

Submitted: February 11, 2016 via email

**SEE ATTACHMENT D**

---

## **ATTACHMENT A**

Comment #3b

Name: Kira Redmond

Affiliation: Santa Barbara Channelkeeper

Submitted: February 10, 2016 via email





714 Bond Avenue  
Santa Barbara, CA 93103

tel 805.563.3377  
fax 805.687.5635

info@sbck.org  
www.sbck.org

#### BOARD OF DIRECTORS

Tim Robinson  
President

Julie Ringler  
Vice President

Andy Heller  
Treasurer

Robert Warner  
Secretary

Ken Falstrom

Sean Hecht

Blaine Lando

Sherry Madsen

Betty Noling

David Powdrell

Bruce Reitherman

Kalia Rork

John Simpson

Daniel Waldman

Mike Wondolowski

#### ADVISORY COUNCIL

Michael S. Brown  
President

David Anderson

Michael Crooke

Dan Emmett

Rae Emmett

Steven Gaines

Susan Jordan

Holly Sherwin

Jack Stapelmann

Paul Junger Witt

February 10, 2016

National Water Research Institute  
Technical Advisory Panel  
City of Santa Barbara Subsurface Desalination Intake and Potable Reuse Feasibility Studies

Re: City of Santa Barbara Subsurface Desalination Intake Feasibility Study

To whom it may concern:

Santa Barbara Channelkeeper hereby submits the following comments to be included in the public record of the proceedings of the Technical Advisory Panel for the City of Santa Barbara Subsurface Desalination Intake and Potable Reuse Feasibility Studies.

Santa Barbara Channelkeeper is a grassroots non-profit organization dedicated to protecting and restoring the Santa Barbara Channel and its watersheds. We, like many environmental organizations throughout California, are extremely concerned about the move by several water districts and municipalities to develop seawater desalination as a new source of water supply in response to the current drought. The environmental impacts of seawater desalination are significant and well-known, both to the climate due to the extremely high energy requirement to remove salt from seawater, as well as to the marine environment due to the impingement and entrainment of marine life from open ocean seawater intakes and the discharge of concentrated brine waste into the ocean.

Increased water conservation, water use efficiency, stormwater capture and reuse, and recycled water are far less expensive than desalination as drought response measures and have multiple economic and environmental benefits, including water quality improvements, habitat restoration, reduced energy demand and natural flood control. Channelkeeper believes that desalination should be a last resort after all the aforementioned alternatives are exhausted – which they have not been yet. Our position is that if Santa Barbara absolutely must still resort to desalination to meet any remaining shortfall in water supply, then the best, least environmentally harmful technologies available today should be used, including subsurface intakes and brine diffusers, and appropriate mitigation should be done to offset the harm it will cause to marine life.

This Technical Advisory Panel was formed in response to pressure that Channelkeeper brought to bear on the City of Santa Barbara to assess subsurface intake (SSI) alternatives out of concern for the significant marine life mortality that will occur from the City's use of its existing open ocean intake. We have been closely tracking the development of the SSI and potable reuse feasibility studies being undertaken and have voiced several concerns about the scope of work both to this Panel and to the Regional Water Quality Control Board (RWQCB). We now have the following comments on the SSI feasibility study "Basis of Design and Initial Screening" document, which we also delivered verbally to the Panel at its public meeting on January 27, 2016.

The Santa Barbara City Council's directive for the feasibility studies in question was to "explore a range of alternatives, including subsurface intakes and potable reuse options." The RWQCB's directive for the studies, laid out as a condition of the City's NPDES permit for its wastewater treatment plant and brine discharge, was to "analyze the feasibility of a range of alternatives, including subsurface intake and potable reuse options."



These directives in no way demand that the studies evaluate only a complete replacement of the existing open ocean intake nor only to deem feasible those alternatives that can produce 10,000 acre-feet per year (AFY)– more than three times the amount of desalinated water the City intends to produce (3,125 AFY). It is plain that there was some direction from the City to its consultant to make the leap from these directives to using a 10,000 AFY threshold to frame the studies' definition of "feasible."

I voiced concern about the inappropriateness of the 10,000 AFY threshold at the first public meeting of the Technical Advisory Panel in August 2015. That concern was echoed by the RWQCB in its October 20, 2015 letter to the City on the studies' scope of work. Unfortunately, however, those concerns were ignored, and the study proceeded to use the 10,000 AFY threshold, thereby all but ensuring that SSI alternatives would come out looking infeasible.

Santa Barbara's desalination plant as it is currently being recommissioned would likely never be permitted today because of what we now know about the environmental harm caused by open ocean intakes and the Ocean Plan Amendment recently enacted by the State Water Resources Control Board to address that harm. The feasibility study that would be required today pursuant to that policy had the City not sought an exemption would have demanded an evaluation of SSI alternatives for the ACTUAL amount of desalinated water to be produced as well as a combination of subsurface and surface intakes.

This SSI feasibility study as it stands is a shame and a disappointment for those who sought a sincere assessment of a true range of viable alternatives and solutions to the death of billions of marine organisms that will be caused by the City of Santa Barbara's open ocean intake. As the principal advocate for the conduct of this study in the first place, Santa Barbara Channelkeeper **respectfully requests that the study be revised to give a more fair and useful analysis of the various subsurface intake options, including analyzing their feasibility at different realistic capacity levels (3,125, 5,000, 7,500 AFY, and the amount of water that would be produced if the plant was again placed in standby mode) as well as in combination with the open ocean intake. We also ask that the potable reuse feasibility study be reframed to examine these various capacity alternatives.**

Thank you for including these comments in the official public record of the Technical Advisory Panel for the City of Santa Barbara Subsurface Desalination Intake and Potable Reuse Feasibility Studies.

Sincerely,

A handwritten signature in dark ink, appearing to read "K. Redmond", with a stylized, flowing script.

Kira Redmond  
Executive Director

Cc: Peter von Langen, Central Coast RWQCB  
Sheila Soderberg, Central Coast RWQCB  
Harvey Packard, Central Coast RWQCB  
Lisa McCann, Central Coast RWQCB  
Philip Crader, State Water Resources Control Board  
Vicky Whitney, State Water Resources Control Board

Sean Bothwell, California Coastkeeper Alliance  
Susan Jordan, California Coastal Protection Network  
Conner Everts, Desal Response Group

## **ATTACHMENT B**

Comment #4a

Name: James Hawkins

Affiliation: Heal the Ocean

Submitted: February 11, 2016 via email



1430 Chapala Street, Santa Barbara, CA 93101;  
PO Box 90106, Santa Barbara, CA 93190; Telephone (805) 965-7570; fax (805) 962-0651  
[www.healtheocean.org](http://www.healtheocean.org)

Thursday, February 11, 2016

Suzanne Faubl, Water Resources Scientist and Project Manager  
National Water Research Institute  
18700 Ward Street  
Fountain Valley, California 92708

**Re: City of Santa Barbara Subsurface Desalination Intake and Potable Reuse  
Feasibility Studies**

Dear Ms. Faubl:

HTO attended the Wednesday, January 27, 2016 public meeting of the Technical Advisory Panel and we have had the opportunity to review the materials presented at that meeting. We understand that this study is being conducted under a tight deadline, and we appreciate the diligence of all involved.

**Subsurface Desalination Intake Technical Memorandum No. 3**

Following the January 27 meeting, Heal the Ocean brought several points of clarification to Carollo Engineers regarding the Basis of Design and Initial Screening Technical Memorandum No. 3. Our questions related to the designation of the #3, #8, and #9 initial screening criteria as "Not Feasible," as defined within the study's parameters. Our inquiry into these criteria stemmed from the possibility that consideration of a smaller desalination plant than the study's screening goal of 10,000 AFY could result in a designation of "potentially feasible" for these screening criteria. This would fall under the added feasibility designation developed by the work plan: "Potentially Feasible, but does not meet study goals" (or PF\*).

We greatly appreciate Carollo's receptiveness to addressing these issues and bringing it to the attention of the Technical Advisory Panel. It is our understanding that this matter was discussed during the closed session of the Panel and that a determination was made to change #3, #8, and #9 initial screening criteria to PF\*.

While Heal the Ocean's focus is on potable reuse, and not subsurface intake technology, we believe these changes best represent the final parameters of the Work Plan and will result in a more accurate final study.

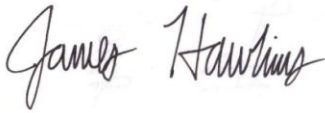
**Potable Reuse Technical Memorandum No. 2**

We found the Technical Memorandum No. 2 for potable reuse to be a comprehensive and accurate description of regulatory issues involved in pursuing a potable reuse project. We have no additions or suggested changes.

**Conclusion**

Heal the Ocean looks forward to continuing to participate in this process and to the results of the feasibility analysis on potable reuse options expected in June of this year.

Sincerely,

A handwritten signature in dark ink, reading "James Hawkins". The signature is written in a cursive, flowing style.

James Hawkins, Policy Analyst

A handwritten signature in dark ink, reading "Hillary Hauser". The signature is written in a cursive, flowing style.

Hillary Hauser, Executive Director

**ATTACHMENT C**

Comment #7a

Name: Graham Lyons

Affiliation: Mullen & Henzell L.L.P., Attorneys at Law

Submitted: February 9, 2016 via email

Mullen & Henzell L.L.P.  
ATTORNEYS AT LAW

e-mail: glyons@mullenlaw.com



February 9, 2016

**VIA E-MAIL & U.S. MAIL**

Ms. Suzanne Faubl  
Water Resource Scientist, Project Manager  
National Water Research Institute  
P.O. Box 8096  
Fountain Valley, CA 92728-8096

**Re: City of Santa Barbara Subsurface Desalination Intake and Potable Reuse  
Feasibility Studies—Public Comment Regarding Technical Advisory  
Panel Meeting #2**

Dear Ms. Faubl:

This office represents American Tradition, LLC, the owner of 103 South Calle Cesar Chavez (APN 017-113-020) and approximately three acres of vacant land currently approved for a 150-room luxury hotel at the corner of Cabrillo Boulevard and Calle Cesar Chavez. We are writing in response to the information presented at the January 27, 2016 meeting of the Technical Advisory Panel ("TAP"), including the Subsurface Desalination Intake Feasibility Study ("Feasibility Study") and the three (3) associated Technical Memoranda.

At the outset, we would like to correct a misstatement in the Feasibility Study. The Feasibility Study refers 103 South Calle Cesar Chavez as "City-owned" property and, therefore, a possible location for a subsurface intake facility. (See Section 3.2.2 and Figure 3.1). This property is owned by American Tradition, LLC, not the City. Please update the Feasibility Study to delete all references to 103 South Calle Cesar Chavez as a City-owned property or a potential subsurface intake site.

We understand the City Council directed its staff to study the feasibility of replacing the City's existing screened open ocean intake with a subsurface/onshore intake system. We also understand the Regional Water Quality Control Board ("RWQCB") requested a similar study. Staff retained Carollo Engineering and National Water Research Institute to prepare the necessary studies to analyze the feasibility of a new intake system. The Feasibility Study provides the basis for staff's response to the City Council and RWQCB.

The Feasibility Study analyzes the possible installation of a subsurface intake facility along the coast of Santa Barbara. Due to technical constraints identified in the

J. ROBERT ANDREWS  
JAY L. BECKERMAN  
JOSEPH F. GREEN  
MACK S. STATON  
GREGORY F. FAULKNER  
CHRISTINE P. ROBERTS  
MICHAEL E. CAGE  
LORI A. LEWIS  
PAUL K. WILCOX  
JARED M. KATZ  
DEBORAH K. BOSWELL  
RAMÓN R. GUPTA  
GRAHAM M. LYONS  
RAFAEL GONZALEZ  
JANA S. JOHNSTON  
LINDSAY G. SHINN  
JARED A. GREEN  
KATHARINE W. ALLEN  
NATHAN E. KLOUDA  
BRETT W. PERSMA  
BRIAN T. DALY

DENNIS W. REILLY  
STEPHEN N. YUNGLING  
OF COUNSEL

THOMAS M. MULLEN  
1915-1991

ARTHUR A. HENZELL  
RETIRED



Ms. Suzanne Faubl  
Water Resource Scientist, Project Manager  
February 9, 2016  
Page 2

mh


Feasibility Study, all but one of the possible intake sites is located on a public beach. The Feasibility Study identified five possible sites for a new intake facility and six possible technologies that could be used at the new facility and then considered whether any combination of sites and technologies could result in a “potentially feasible” project. The Feasibility Study concluded that no combination of sites and technologies could pass the basic initial screening criteria. In short, a subsurface intake facility in the City of Santa Barbara is not feasible. We have no reason to doubt this conclusion.

Given the conclusions of the Feasibility Study, we see no reason why additional resources should be spent considering a subsurface intake facility. The technical constraints imposed on such a facility essentially force the location to be on or very near the beach. Such a location will undoubtedly create significant impacts. While the Feasibility Study did not consider them, any subsurface intake facility would be subject to a host of local coastal plan policies and regulations. Given the scope of development required to produce the necessary volume of water, we do not believe such a facility could comply with the City’s development policies and regulations. Similarly, any new facility would be subject to CEQA review, which would likely identify many significant environmental impacts that cannot be mitigated. If there is any further study of a potential subsurface intake facility, these land use realities need to be taken into consideration.

As a practical matter, the type of development analyzed in the Feasibility Study would profoundly impact Santa Barbara’s coastline. The experience of visitors and locals alike would be forever changed if our beaches were lined with pump stations and well houses. As a business owner operating along the beach, our client has no doubt that any such development on the beach would negatively impact its business operation and decrease the desirability of Santa Barbara as a tourist destination.

This is simply not the type of development that is acceptable or should even be considered in Santa Barbara.

Very truly yours,



Graham M. Lyons of  
Mullen & Henzell L.L.P.

## **ATTACHMENT D**

Comment #9

Name: Sean Bothwell

Affiliation: California Coastkeeper

Submitted: February 11, 2016 via email



February 11, 2016

National Water Research Institute  
Technical Advisory Panel  
City of Santa Barbara Subsurface Desalination Intake and Potable Reuse Feasibility Studies

*Sent via electronic mail to: [sfaubl@nwri-usa.org](mailto:sfaubl@nwri-usa.org)*

**RE: City of Santa Barbara Subsurface Desalination Intake Feasibility Study**

Dear National Water Research Institute:

On behalf of California Coastkeeper Alliance, which represents 12 California Waterkeeper groups – including Santa Barbara Channelkeeper – we appreciate the opportunity to provide comments on the City of Santa Barbara Subsurface Desalination Intake Feasibility Study (Feasibility Study). While we appreciate the National Water Research Institute’s (NWRI) difficult task of determining subsurface intake feasibility for the Santa Barbara desalination facility, we believe the Feasibility Study contains numerous critical errors and omissions when interpreting the State Water Resources Control Board’s (“State Water Board”) newly adopted Desalination Ocean Plan Amendment (“Desalination OPA”).

CCKA has spent the last decade working with state and federal agencies to develop regulations to implement the federal Clean Water Act (CWA) and the California Porter-Cologne Act, to minimize the intake and mortality of marine life from open ocean intakes. Regulations adopted in 2010 by the State Water Board documented the significant impact to marine ecosystems from open ocean intakes, and required power plants along the California coast and in estuaries to employ “best technology available” (BTA) to reduce the entrainment and impingement of marine life.<sup>1</sup> The State Water Board concluded that open ocean intakes were not BTA, and required the phase-out of OTC facilities.

On May 6<sup>th</sup>, 2015, the State Water Board adopted the Desalination OPA. CCKA was a key stakeholder throughout the State Water Board’s four year stakeholder process, and participated in every step during the OPA’s development. Given our long history of working with the State Water Board to minimize the intake of marine life from industrial facilities, and our particular expertise on the statewide Desalination OPA, we feel obligated to flag the critical errors and omissions the NWRI included in its Feasibility Study.

The Santa Barbara City Council’s directive for the feasibility studies in question was to “explore a range of alternatives, including subsurface intakes and potable reuse options.” The Regional Board’s directive for the studies, laid out as a condition of the City’s NPDES permit for its wastewater treatment plant and brine discharge, was to “analyze the feasibility of a range of alternatives, including subsurface intake and potable reuse options.” In order to properly assess the feasibility of subsurface intakes for the Santa Barbara desalination facility, NWRI should follow the analysis outlined in the State Water Board’s newly enacted Desalination Ocean Plan Amendment.

---

<sup>1</sup> STATE WATER RES. CONTROL BD., WATER QUALITY CONTROL POLICY ON THE USE OF COASTAL AND ESTUARINE WATERS FOR POWER PLANT COOLING, Resolution No. 2010-0020, *available at* [http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/resolutions/2010/rs2010\\_0020.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2010/rs2010_0020.pdf).

A. *The Feasibility Study did not assess the feasibility of subsurface intakes based on Santa Barbara's "need" for desalinated water.*

The Feasibility Study states that “the target yield for each alternative is based on the *City's permitted capacity* for its existing screened, open ocean intake, which is the amount of seawater necessary to produce 10,000 acre-feet per year (AFY) of desalinated water.” This self-selected target yield has no factual or legal basis. The directive from the Regional Water Board places no requirement that the studies evaluate only a complete replacement of the existing open ocean intake nor only to deem feasible those alternatives that can produce 10,000 acre-feet per year (AFY). Furthermore, there is no legal reason to select a target yield of 10,000 AFY. In the contrary, the State Water Board's regulations dictate that the target yield should be 3,125 AFY – if not less.

The Study's “target yield” has no legal basis. A 10,000 AFY target yield isn't even the design capacity for the currently proposed Santa Barbara facility. And even if 10,000 AFY was the facility's design capacity, the Desalination OPA is clear that a design capacity above the demonstrated “need” cannot be a reason to find subsurface intakes infeasible. Ocean Plan, Chapter III.M.2.d.(1).a., states that “design capacity in excess of the need for desalinated water as identified in chapter III.M.2.b.(2) shall not be used by itself to declare subsurface intakes as not feasible.” Assuming for the time being that the City's current intake proposal of 3,125 AFY is the City's true “need”, then any intake capacity beyond that number cannot be used to justify subsurface intakes being infeasible. Therefore, the Study's reliance on a 10,000 AFY target yield is grossly overinflated. **To be consistent with the law, we request NWRI revise its Study and adjust the target yield to a maximum of 3,125 AFY.**

The City has not demonstrated that even the proposed 3,125 AFY is the true need for the city as required under the Desalination OPA. Ocean Plan, Chapter III.M.2.b.(2) requires a project proponent to:

Consider whether the identified need for desalinated water is consistent with an applicable adopted urban water management plan, or if no urban water management plan is available, other water planning documents such as a county general plan or integrated regional water management plan.

The City has made no such showing to demonstrate a need for 3,125 AFY of ocean desalinated water – and certainly not the target yield of 10,000 AFY. Therefore, **NWRI should reevaluate its Study to consider 3,125 AFY as the maximum target yield, and then analyze subsurface intakes for various sizes smaller than the maximum target yield.**

B. *The Feasibility Study failed to consider a reasonable range of alternative intake design capacities.*

The law requires ocean desalination facilities to use the best available design to minimize the intake and mortality of marine life. The State Water Board has interpreted this statutory requirement to mean the best available “size, layout, form, and function of a facility, *including the intake capacity* and the configuration and type of infrastructure, including intake and outfall structures.”<sup>2</sup> Without NWRI considering a design capacity that would best minimize the intake and mortality of marine life, the Study fails to meet the requirements of the California Water Code and the California Ocean Plan.

Beyond the failure to set a proper target yield, the Study fails to assess a reasonable range of alternative target yields. The Ocean Plan, Chapter III.M.2.d.(1)a.ii, requires that if a feasibility analysis determines subsurface intakes are not feasible for the proposed intake design capacity, then the analysis “shall

---

<sup>2</sup> Ocean Plan, Chapter III.M.2.c.

determine whether subsurface intakes are feasible for a *reasonable range of alternative intake design capacities*. NWRI simply failed to assess any target yield beyond the incorrectly, self-selected yield of 10,000 AFY. If this Study is to have any credibility in the eyes of the Regional Water Board, **NWRI should re-evaluate the feasibility of subsurface intakes using a reasonable range of alternative intake design capacities.**

C. *The Feasibility Study should evaluate a reasonable range of alternative sites that are likely to support subsurface intakes.*


We appreciate NWRI's evaluation of several alternative locations for a subsurface intake; however, the Feasibility Study failed to apply the proper criteria for determining the appropriate site alternatives. The Feasibility states that the "project site alternatives for a subsurface intake (SSI) were selected based upon (a) their proximity to the City's desalination plant, (b) proximity to the existing intake pipeline, (c) the City's existing easement for a railroad crossing, and (d) the availability of prior geotechnical data." Under the legal requirements of the Ocean Plan, these criteria are not adequate justifications for site selection.

The Study placed improper criteria on the site selections to determine subsurface feasibility. The Ocean Plan requires an evaluation of "a reasonable range of nearby sites, including sites that would *likely support subsurface intakes*."<sup>3</sup> Therefore, an evaluation of alternative sites should always begin with locations that are most likely to support subsurface intakes. This initial criteria is missing from the Feasibility Study. Furthermore, the Ocean Plan lays out the criteria one should use to evaluation alternative sites. Of those criteria to be considered, proximity to existing intake pipes, easements, and data availability are not acceptable reasons to dismiss alternative site locations that would likely support subsurface intakes. Of the Study's criteria, only "proximity to the City's desalination plant" is permissible. Therefore, **NWRI should re-evaluate a reasonable range of alternative sites that are likely to support subsurface intakes, regardless of whether they may be ideal for the City.**

\*\*\*

Seawater is more than just salty water, it is essential habitat for marine life and the foundation of a complex, poorly-understood and clearly fragile marine ecosystem. No one person or entity has the right to withdraw seawater at the expense of these invaluable public trust resources. The intake of seawater is a privilege, and one California should not just give away without the use of the very best technology to minimize marine life impacts. We look forward to working with you to ensure the final Study properly assesses the feasibility of subsurface intakes for the Santa Barbara proposal.

Sincerely,



Sean Bothwell  
Policy Director  
California Coastkeeper Alliance

---

<sup>3</sup> Ocean Plan, Chapter III.