

**From:** [Santa Cruz Mid-County Groundwater Agency](#)  
**To:** [Becky Steinbruner](#)  
**Subject:** Re: Fw: Concerns re: Soquel Creek Water District Placement of Monitoring Wells for PureWater Soquel Project Injection of Recycled Water  
**Date:** Wednesday, September 8, 2021 11:47:45 AM

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Dear Ms. Steinbruner,

Thank you for your email. This is to confirm your email (2 of 3) was received. Consistent with the MGA's policy, written communications received are posted on the [MGA website](#) and Board members are informed of the written communications.

Best,

Tim Carson

On Wed, Sep 8, 2021 at 8:36 AM Becky Steinbruner <[ki6tkb@yahoo.com](mailto:ki6tkb@yahoo.com)> wrote:

Dear MidCounty Groundwater Agency Board,  
I want to make you aware of this issue regarding the Soquel Creek Water District's placement of monitoring wells for the Modified PureWater Soquel Project.

To date, I have received no response to my July 2, 2021 query below.

Sincerely,  
Becky Steinbruner  
\*\*\*\*\*

----- Forwarded Message -----

**From:** Becky Steinbruner <[ki6tkb@yahoo.com](mailto:ki6tkb@yahoo.com)>  
**To:** Packard, Harvey@Waterboards <[Harvey.Packard@waterboards.ca.gov](mailto:Harvey.Packard@waterboards.ca.gov)>  
**Cc:** Nathan Salazar <[nathan.salazar@santacruzcounty.us](mailto:nathan.salazar@santacruzcounty.us)>; Keeling, Matt@Waterboards <[Matt.Keeling@waterboards.ca.gov](mailto:Matt.Keeling@waterboards.ca.gov)>; Epp, Jennifer@Waterboards <[Jennifer.Epp@waterboards.ca.gov](mailto:Jennifer.Epp@waterboards.ca.gov)>; Bishop, James@Waterboards <[James.Bishop@Waterboards.ca.gov](mailto:James.Bishop@Waterboards.ca.gov)>; Becky Steinbruner <[ki6tkb@yahoo.com](mailto:ki6tkb@yahoo.com)>  
**Sent:** Friday, July 2, 2021, 12:24:19 PM PDT  
**Subject:** Re: Concerns re: Soquel Creek Water District Placement of Monitoring Wells for PureWater Soquel Project Injection of Recycled Water

Dear Mr. Packard,  
Thank you for sending this information.

- 1) What contaminants are already found in the background monitoring well areas?
- 2) How does the model calculate the migration of the proposed injected effluent? I note there is quite a range in prediction of particle tracking travel times. Is that all hypothetical, or were real tracking tests performed?

**Monterey SWIP Well Monitoring Wells**

*"Two monitoring wells are proposed to monitor groundwater between the Monterey SWIP well and the nearest private well (2603 Monterey Avenue), MM-1 and MM-2; both of which will monitor the Purisima A unit only. MM-1 is located approximately 1.2-months travel time from the SWIP well and is approximately 30-months upgradient of the nearest drinking water well. MM-2 is located approximately 9-months travel time from the SWIP well and is approximately 24-months upgradient of the nearest drinking water well."*  
(page 8 of report)

**Willowbrook SWIP Well Monitoring Wells**

*"Two monitoring wells are proposed to monitor groundwater between the Willowbrook SWIP well and the District's*

*Tannery well, WM-1 and WM-2; both of which will monitor the A unit only. WM-1 is located approximately 0.75-months travel time from the SWIP well and is greater than 33-months upgradient of the nearest drinking water well. WM-2 is located greater than 36-months travel time from the SWIP well and is estimated to be greater than 24-months upgradient of the nearest drinking water well.*"  
(page 9 of report)

How can two wells so close together yield such different travel times of the SWIP effluent?

Also, there is no mention of the private well located at the end of Abbey Lane, about one block to the west of the SWIP well, even though it is shown on the map on page 11 of the report.

#### Twin Lakes Church SWIP Well Monitoring Wells

*"Six monitoring wells are proposed to monitor groundwater between the TLC SWIP well and the nearest drinking water wells: Estates well and Pine Tree Lane well. Two pairs of clustered wells will be used to monitor groundwater between the TLC SWIP well and the Estates well; TLM-1A/TLM-1BC and TLM-2A/TLM-2BC. Each cluster will monitor both the Purisima A and BC units. The TLM-1A/TLM-1BC cluster is located approximately 2.5-months and 11-months travel time respectively, from the SWIP well and is over 30-months upgradient of the nearest drinking water well. The TLM-2A/TLM-2BC cluster is located more than 30-months travel time from the SWIP well and is approximately 30-months upgradient of the nearest drinking water well in the Purisima A unit (and greater than 30-months in the Purisima BC unit). Two wells will be used to monitor groundwater in the Purisima BC unit between the TLC SWIP well and Pine Tree Lane wells. TLM-3BC is located approximately 12-months travel time from the SWIP well and is greater than 24-months upgradient of the nearest drinking water well. TLM-4BC is located greater than 36-months travel time from the SWIP well and is greater than 24-months upgradient of the nearest drinking water well."*

(page 9 of report)

Where are the three Cabrillo College production wells located in relation to the SWIP? I do not see them on the map on page 12 of the report.

Thank you for helping me understand this issue. I look forward to your response.

Sincerely,

Becky Steinbruner

On Thursday, June 3, 2021, 04:01:09 PM PDT, Packard, Harvey@Waterboards

<[harvey.packard@waterboards.ca.gov](mailto:harvey.packard@waterboards.ca.gov)> wrote:

Ms. Steinbruner, attached is the technical memo referenced in my previous email.

Thanks, Harvey

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**From:** Packard, Harvey@Waterboards

**Sent:** Thursday, June 3, 2021 2:44 PM

**To:** Becky Steinbruner <[ki6tkb@yahoo.com](mailto:ki6tkb@yahoo.com)>

**Cc:** Nathan Salazar <[nathan.salazar@santacruzcounty.us](mailto:nathan.salazar@santacruzcounty.us)>; Keeling, Matt@Waterboards <[matt.keeling@waterboards.ca.gov](mailto:matt.keeling@waterboards.ca.gov)>; Epp, Jennifer@Waterboards <[jennifer.epp@waterboards.ca.gov](mailto:jennifer.epp@waterboards.ca.gov)>;

Bishop, James@Waterboards <[James.Bishop@Waterboards.ca.gov](mailto:James.Bishop@Waterboards.ca.gov)>

**Subject:** RE: Concerns re: Soquel Creek Water District Placement of Monitoring Wells for PureWater Soquel Project Injection of Recycled Water

Dear Ms. Steinbruner,

Thank you for your email regarding the location of the monitoring wells associated with Soquel Creek Water District's Pure Water Soquel project. Central Coast Water Board

(CCWB) staff participated in discussions and decision-making related to the location of monitoring wells associated with Pure Water Soquel. These discussions included staff from the State Water Board's Division of Drinking Water (DDW) and Groundwater Ambient Monitoring and Assessment Program (GAMA), Soquel Creek Water District (SCWD), and consultants for the Pure Water Soquel project. Monitoring well locations were chosen to ensure that the wells provided adequate monitoring relevant to the protection of groundwater quality and human health and were compliant with rules governing monitoring well placement included in Article 5.2, Title 22 of the California Code of Regulations (CCR), *Indirect Potable Reuse: Groundwater Replenishment-Subsurface Application*. (Article 5.3 of Title 22 of the California Code of Regulations can be accessed on the Internet via the following link:

[https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/documents/lawbook/rwregulations.pdf](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/lawbook/rwregulations.pdf).)

Decisions that culminated from the discussions between CCWB, DDW, GAMA, SCWD, and associated consultants are included in the attached draft technical memorandum.

Monitoring well locations were selected based on the requirements of Title 22 of the CCR which require that wells be located within specified travel times of injection wells. Travel times and groundwater flow paths were estimated using calibrated numerical and analytical groundwater models. Once the injection wells are developed and operational, modeled travel times will be verified using either an intrinsic or added tracer. This tracer test will be initiated prior to the end of the third month of operation, per the requirements of Title 22.

In addition to complying with Title 22 of the CCR, monitoring well locations also considered the hydrogeology (i.e. monitoring multiple aquifers) and constraints related to developing and maintaining wells in an urban environment. The well locations were chosen in part by the availability of accessible land available for the development and ongoing monitoring of these wells.

Regarding your concern that only two of the monitoring wells are located "upstream" of the injection wells, this is inconsistent with modeling results. Modeling results indicate that monitoring wells are appropriately located such that they will be completed within the recycled water injection plume and located appropriate distances away to comply with the travel time requirements. Figures 2-6, 2-7, and 2-8 of the attached technical memorandum provide a visualization of the injection wells, modeled injection plume, modeled travel times, monitoring wells, and private domestic wells.

Regarding your concerns about the private wells located near the Twin Lakes Church injection well, these private wells were identified and considered as part of the evaluation of monitoring well placement. The monitoring wells are located such that they provide adequate response retention time for the Pine Tree Lane private wells, per the requirements of Title 22.

Regarding your request to require that SCWD provide funding for private domestic wells to monitor production water quality, this additional monitoring is not required because the monitoring wells will serve this purpose. Monitoring wells are located such that they are downgradient from the injection wells and upgradient from the private domestic wells. Any water injected into the aquifer will arrive at the monitoring wells before it arrives at private domestic wells. In addition, the monitoring wells are located an appropriate distance upgradient that, in the event that off specification water is injected into the aquifer, SCWD will have adequate time to identify the presence of this off specification water in the two downgradient monitoring wells, notify potentially impacted private domestic wells, and provide replacement water prior to the arrival of the off specification water at the downgradient private supply wells.

Thanks, Harvey

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**From:** Becky Steinbruner <[ki6tkb@yahoo.com](mailto:ki6tkb@yahoo.com)>  
**Sent:** Wednesday, June 2, 2021 12:59 AM  
**To:** Keeling, Matt@Waterboards <[Matt.Keeling@waterboards.ca.gov](mailto:Matt.Keeling@waterboards.ca.gov)>; Olson, Tammie@Waterboards <[Tammie.Olson@Waterboards.ca.gov](mailto:Tammie.Olson@Waterboards.ca.gov)>  
**Cc:** Packard, Harvey@Waterboards <[Harvey.Packard@waterboards.ca.gov](mailto:Harvey.Packard@waterboards.ca.gov)>; Nathan Salazar <[nathan.salazar@santacruzcounty.us](mailto:nathan.salazar@santacruzcounty.us)>; Becky Steinbruner <[ki6tkb@yahoo.com](mailto:ki6tkb@yahoo.com)>  
**Subject:** Concerns re: Soquel Creek Water District Placement of Monitoring Wells for PureWater Soquel Project Injection of Recycled Water

**EXTERNAL:**

Dear Central Coast Regional Water Quality Control Board,

On June 1, 2021, the Soquel Creek Water District Board approved, via Consent Agenda Item #4.5, a nearly \$1.4 million contract with Maggiora Bros. to drill eight new wells to monitor the flow of injected treated sewage water into the aquifer from three energy-intensive injection wells (Twin Lakes Church, Willowbrook, and Monterey Injection Wells). Ten contractors held bid packages, but only Maggiora Bros. actually submitted a bid.

**The troubling thing is that all but two of the new monitoring wells will be located *upstream* of the injection well sites.**

How will these monitoring wells actually monitor anything at all related to the flow of the injected recycled water and possible contaminants once the water is pressure-injected into the aquifer?

How will the District be able to assure compliance with the State's required six month holding times of injected Indirect Potable Re-Use recycled water?

Please see page 30 of the Board agenda packet to see the well locations on the map:

[https://www.soquelcreekwater.org/AgendaCenter/ViewFile/Agenda/\\_06012021-251?packet=true](https://www.soquelcreekwater.org/AgendaCenter/ViewFile/Agenda/_06012021-251?packet=true)

Unfortunately, the map does not indicate the location of the injection wells themselves, but because I am familiar with them, I assure you that only TLM-4BC and TLM-2A are downstream of the Twin Lakes Church Injection Well, but all others are upstream of the Monterey and Willowbrook injection wells.

Can you please review the placement of the monitoring well locations and determine why they have been placed upstream of the injection wells?

I am concerned in particular that the Pine Tree Lane Water Mutual and Bluff Water Mutual, as well as other private wells are located adjacent to and downstream of the Twin Lakes Church Injection Well, and may be adversely affected by the recycled water injection. Please require the District to provide funding for these small water providers to test and monitor their production well water quality now and moving forward with any pressurized recycled water injection associated with PureWater Soquel Project work.

Please respond. Thank you.

Sincerely,

Becky Steinbruner

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Aptos, CA 95003

831-685-2915