State Water Resources Control Board
Division of Drinking Water

July 23, 2026

Damaris Hanson
Utilities Division Manager
City of Morro Bay
955 Shasta Avenue
Morro Bay, CA 93442

(Sent via email:dhanson@morrobay.ca.gov)

Subject: DDW Review Comments for Indirect Potable Reuse Monitoring/Injection Wells, Groundwater Reuse and Replenishment Project (GRRP), Title 22 Engineering Report, City of Morro Bay

Dear Ms. Hanson,

The California State Water Resources Control Board, Division of Drinking Water (DDW) received a request from City of Morro Bay (C-MB) on June 23, 2026, for review comments on the proposed monitoring/injection well(s). DDW also received an updated Title 22 Engineering Report (T22 ER) in April 2026 in response to DDW review comments dated October 6, 2025. The previous T22 ER is dated January 2025. In addition, a Technical Memorandum (memo) dated December 10, 2025, was received addressing DDW's hydrogeological comments. The memo addressed injection well(s)/monitoring well(s) location characteristics and estimated underground retention time (URT). DDW also reviewed the interim tracer study report for C-MB's Injection Well 1 (IW-1), dated November 13, 2025. The purpose of the interim tracer study is to assess the feasibility of indirect potable reuse in accordance with the Title 22, California Code of Regulations (22CCR).

DDW's review has the following comments.

1. The model URTs and flow paths presented in Table 2 of the memo do not fit with the interim tracer test results. The model shows flow paths should take about 7 months for the injected water at IW-1 to reach Morro Creek. The interim tracer test results show the tracer reached the monitoring well, 19P-04 (just South of Morro Creek) in about 2 weeks. Also, the proposed monitoring well, 20-P01 representing the downstream monitoring well for IW-1 to meet the *"no less than two weeks but no more than six months*" 22 CCR criteria has a model URT of 5.5 months, and the interim tracer test detected the tracer at 20-P01 on Day 7 after initiation of injection, which is much earlier than what is estimated by the model. It was noted that the tracer not reaching the north side of the creek (extraction well, MB-15 and piezometer 18P-02) in the four months of active tracer period. The fact that tracer was detected in 19P-04 on the south side of creek but not detected in 18P-02 on the north side of the creek indicates there is some type of barrier.

For determining if there is a hydraulic barrier (creek flow preventing north migration of water), C-MB shall perform additional tracer test when there is no flow in the creek. However, if the barrier is geologic in nature, there is a possibility that the injected water will not cross the creek area at all or would take a long time. The drilling of the planned monitoring wells, MW-C and MW-D would help in determining if the barrier is geologic in nature. C-MB shall update the model (by creating a barrier in the model near the creek) to evaluate the flow paths and travel time. The additional tracer test shall be for longer duration (ex. 12 months) to confirm the detection of tracer at the downstream monitoring points.

2. Considering the significant differences in the groundwater model and interim tracer test results, the model URTs and flow paths presented in the technical memorandum for the monitoring wells and extraction wells are not acceptable. The updated Title 22 ER shall address the following.

    a. Groundwater model shall be calibrated based on interim tracer test study results and by performing additional tracer studies and field test (pump test, test holes in the project area for geological information such as impervious strata/clay zones, etc. that can restrict or narrow the sub surface flow) for model update. The additional tracer studies shall be performed for longer duration to confirm the detection of tracer at the downstream monitoring points. The groundwater model shall be updated to reflect the proper hydrogeological and subsurface flow conditions of the project area to determine conservative URT estimates.

    b. Re-evaluate all the URTs presented in Table 2 of the memo for 22 CCR requirements using a proper calibrated groundwater model.

    c. Locate the monitoring wells based on a proper calibrated model's URTs and flow paths and aligned with 22CCR criteria. For example, it seems 19P-04 is likely to meet the downstream monitoring point criteria of *"no less than two weeks but no more than six months*", instead of the proposed 20-P01 downstream monitoring well.

3. The T22 ER shall be updated with clear identification of the proposed monitoring wells similar to Table 2 of memo but with more details, showing the monitoring well(s) representation with the respective injection wells and extraction wells and the specific monitoring well criteria of Section 60320.226, 22 CCR that is being met.

4. The interim tracer study monitoring locations from 21P-01 to 18P-02 shows there is a decrease in water level from 15.81 to 11.4 ft which represents the direction of flow is from injection to extraction wells. However, the water level depth of 15.81 ft. at 21P-01 with the nearby adjacent injection well, IW-1's water level depth of 23.74 ft seems to be a significant water depth variation considering the close proximity of the wells. Does this indicate a flow barrier of some type?

5. The documents reviewed are not consistent in describing the well(s) use. The updated Title 22 Engineering Report shall confirm which wells are being converted to monitoring wells, how many monitoring wells are being drilled and the names of injection wells. For example, C-MB's Flippos well that is used for extraction is labeled as being converted to a monitoring well, however it is included in extraction wells for modelling. In addition, extraction wells MB-1 and MB-2 have allegedly not been active for years, but they are included in extraction and will apparently be converted to monitoring wells.

6. The documents have ambiguity in the naming of the wells. In some documents, it is stated that 20P-01 and MBMWC-3 will be converted to monitoring wells, but other documentation has the converted wells as 20P-01 and 21P-01 (assuming this is another name for MBMWC-3). Also, there is a map with all three wells located. In some of the presentation slides injection wells are identified as SB instead of IW.

If you have any questions regarding this letter, please contact Mir Ali at (805) 566-9767 or via email at mir.ali@waterboards.ca.gov or me at (818) 551-2046 or via email at Ginachi.Amah@waterboards.ca.gov.

Sincerely,

Ginachi Amah

Digitally signed by Ginachi Amah
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Water Boards

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cc:(via email)
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