California Regional Water Quality Control Board
Santa Ana Region

RESOLUTION NO. R8-2017-XXXX

Resolution Amending the Water Quality Control Plan for the Santa Ana River Basin to Revise the Water Quality Objective for Nitrate-as-Nitrogen in the Chino-South Groundwater Management Zone.

WHEREAS, the California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. An updated Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) was adopted by the Regional Board on March 11, 1994, approved by the State Water Resources Control Board (SWRCB) on July 21, 1994, and approved by the Office of Administrative Law (OAL) on January 24, 1995.

2. The Basin Plan identifies ground and surface waters within the Santa Ana Region (Region), designates beneficial uses for those waters, establishes water quality objectives for the protection of those uses, prescribes implementation plans the objectives are achieved, and established monitoring and surveillance programs.

3. The Basin Plan was amended by the Regional Board to establish revised groundwater basin boundaries and revised groundwater quality objectives on January 22, 2004. These amendments were subsequently approved by the SWRCB on September 30, 2004 and by the OAL on December 23, 2004. A water quality monitoring program adequate to implement the revised groundwater objectives was approved by the Regional Board on April 15, 2005.

4. The California Department of Health has established a Primary Maximum Contaminant Level (MCL) of 10 mg/L nitrate (as nitrogen) to protect drinking water [22 CCR §64431(a)].

5. Designated beneficial uses for the Chino-South Groundwater Management Zone (CSGMZ) include Municipal and Domestic Supply (MUN) because water pumped from the CSGMZ is used as a drinking water supply.

6. The current water quality objective for nitrate-nitrogen in the CSGMA was set at 4.2 mg/L, in accordance with SWRCB Resolution 68-16, because the volume-weighted average concentration in the baseline period (1954-73) was better than necessary to protect the MUN use.

7. Routine water quality monitoring indicates that nitrate-nitrogen concentrations in the CSGMZ have been rising steadily for the last 40 years due to legacy loads passing through the vadose zone. The current volume-weighted average concentration is now about 28 mg/L.

8. Because the average concentration of nitrate-nitrogen exceeds the water quality objective, prior precedential orders by the SWRCB (WQO 73-4) obligate the Regional Board to proscribe Waste Discharge Requirements (WDRs) that assure compliance with the applicable water quality objective.

9. In 2004, the Regional Board authorized use of a Waste Load Allocation Model (WLAM) to estimate the collective and cumulative concentration of nitrate-nitrogen, from all sources flowing into the Santa Ana River (SAR) system, and to evaluate whether water percolating from the surface streams to groundwater complies with the water quality objectives for each affected aquifer. The WLAM is periodically updated to reflect changes in land use, stormwater runoff, wastewater discharge and variations in precipitation.

10. The Regional Board has previously determined, based on site-specific studies, that 50% of the Total Inorganic Nitrogen (TIN) present in Reach 3 of the SAR overlying the CSGMZ is lost in process of passing through the vadose zone and never reaches the groundwater. The WLAM includes an adjustment (called a "nitrogen-loss coefficient") to account for such transformative losses pursuant to the SWRCB's recommendations in WQO 81-5.

11. The Regional Board has established WDRs limiting the concentration of nitrate-nitrogen in all municipal wastewater discharged to Reach 3 of the SAR overlying the CSGMZ to a volume-weighted annual average no greater than 10 mg/L. Results from the 2004 WLAM demonstrated that these WDRs would assure that water percolating from river to the CSGMZ would comply with the applicable wasteload allocation.

12. In 2015, the Basin Monitoring Program Task Force (coordinated by the Santa Ana Watersheds Authority) completed an update to the WLAM and submitted it to the Regional Board for review and approval. The new WLAM indicates that, over the long-term, the volume-weighted average concentration of TIN percolating from the SAR to the CSGMZ will continue to comply with the applicable water quality objective of 4.2 mg/L.

13. The 2015 WLAM also indicates that during prolonged droughts the volume-weighted average concentration of TIN percolating from the SAR to the CSGMZ may temporarily exceed the applicable water quality objective by 0.05 to 0.14 mg/L (approximately 1.1 to 3.3%) until the balance is restored by subsequent wet weather.

14. Federal regulations obliges the Regional Board to establish effluent limits for NPDES-permitted discharges which are consistent with the assumptions and requirements of any approved waste load allocation [40 CFR §122.44(d)(1)(vii)(B). Therefore, the Regional Board may be required to impose more stringent TIN limits in order to ensure wastewater discharges that may percolate to the CSGMZ consistently comply with the current water quality objective for nitrate-nitrogen during critical low flow conditions.

15. Highly-treated recycled water is discharged with an average TIN concentration of less than 10 mg/L. And, after applying the 50% nitrogen-loss coefficient, is expected to enter the CSGMZ with a TIN concentration no higher than 5 mg/L even under worst-case conditions when there is zero dilution from stormwater.

16. Because the average nitrate-nitrogen concentration in the CSGMZ is already 28 mg/L, percolating highly treated recycled water serves to significantly improves existing groundwater quality and it is desirable to continue that practice because it provides maximum benefit to the people of the State.

17. Recharging the CSGMZ with highly treated recycled water is consistent with the reuse goals set forth in the SWRCB's Recycled Water Policy. It is also consistent with the Sustainable Groundwater Management Act because it helps preserve and enhance safe yield of the basin.

18. Imposing more stringent effluent limits to assure consistent compliance with the current nitrate-nitrogen objective established for the CSGMZ will require significant wastewater treatment plant upgrades. The cost of such upgrades cannot be justified by the relatively small improvements in water quality.

19. Imposing more stringent effluent limits may cause permittees to relocate their wastewater outfalls further downstream in order to avoid discharging to the CSGMZ. Were this to occur, the resulting loss of recharge from recycled water would cause average nitrate-nitrogen concentrations in this basin to get worse not better.

20. The Regional Board has previously determined that revising water quality objectives for nitrate-nitrogen should be relatively simple when: (i) the new objective is not raised above 5.0 mg/L and (ii) the proposed objective represents a relatively small change in proportion to the current objective. Furthermore, the Regional Board has previously determined that when both of these conditions are met, and the proposed revision to water quality objectives complies with the state Antidegradation Policy, the burden-of-proof shifts to those who oppose the change (Res. No. R8-2010-0012, see Table A).

21. The Regional Board has considered a number of alternative approaches that would allow POTWs to continue discharging recycled water to Reach 3 of the SAR without imposing more stringent effluent limits. Raising the nitrate-nitrogen objective for the CSGMZ from 4.2 mg/L to 5.0 mg/L was determined to be the simplest and surest way to proceed. Other options were likely to cost more, take longer and/or provide less regulatory certainty.

22. The proposed Basin Plan amendment will assure reasonable protection of beneficial uses of surface and groundwaters in the Region, will not cause pollution or nuisance, will provide maximum benefit to the people of the State, and are consistent with the SWRCB's Antidegradation Policy (Res. No. 68-16).

23. The proposed amendment to the Basin Plan was developed in accordance with Section 13240 et seq. and Section 13241 and Section 13242 of the California Water Code.

24. The Regional Board has considered the costs associated with implementation of this amendment and finds the costs to be reasonable.

25. The proposed Basin Plan amendment results in no potential adverse effects, either individually or cumulatively, on fish and/or wildlife species.

26. The proposed Basin Plan amendment meets the "Necessity" standard of the Administrative Procedure Act, Government Code, Section 11352, subdivision (b).

27. The Regional Board prepared and distributed written reports (staff reports) regarding adoption of the proposed Basin Plan amendment in accordance with applicable state and federal environmental regulations (23 CCR 23 et seq and 40 CFR Parts 25 and 131 et seq).

28. The process of basin planning has been certified by the state Secretary for Resources as exempt from California Environmental Quality Act (CEQA) requirement to prepare an Environmental Impact Report or Negative Declaration (Public Resources Code, Section 2100 et seq). The Basin Plan amendment package includes staff reports, an Environmental Checklist, an assessment of potential environmental impacts, and discussion of alternatives including an economic analysis of the various alternatives. The Basin Plan amendment package and supporting documentation are functionally equivalent to an Environmental Impact Report or Negative Declaration.

29. On [INSERT DATE HERE], the Regional Board held a Public Hearing to consider the Basin Plan amendment. Notice of the Public Hearing was given to all interested persons and published in accordance with Section 13244 of the California Water Code.

30. The Basin Plan amendment must be submitted for review and approval by the State Water Resources Control Board and, then, by the Office of Administrative Law. Because the proposed Basin Plan amendment makes no changes to water quality standards for surface waters or effluent limits in any NPDES permit, EPA approval is not required. The Basin Plan amendment will become effective upon OAL approval.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Regional Board has reviewed and considered the record for this matter, including the information contained in the Substitute Environmental Document (SED), all written comments, and all oral testimony provided at the public hearing held on [INSERT DATE].

2. The Regional Board confirms the preliminary determination by the Regional Board staff that the proposed amendment could not have a significant adverse effect on the environment and hereby certifies the Environmental Checklist and supporting documentation that is part of the SED.

3. The Regional Board hereby adopts the Basin Plan amendment delineated in Attachment 1 (underline/strike-out version) and Attachment 2 ("clean" version) to this resolution which revised the water quality objective for nitrate-nitrogen in the Chino-South Groundwater Management Zone.

4. The Executive Officer is directed to forward copies of the Basin Plan amendment, and related Administrative Record, to the SWRCB in accordance with the requirements in Section 13245 of the California Water Code.

5. The Regional Board requests that the SWRCB review and approve the Basin Plan amendment in accordance with the requirements of Sections 13245 and 13246 of the California Water Code and, thereafter, forward the amendments to OAL for approval.

6. If, during its approval process, the SWRCB or OAL determine that minor, non-substantive corrections to the language of the amendments are needed for clarity or consistency, the Executive Office may make such changes and shall inform the Regional Board forthwith.

I, Kurt V. Berchtold, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of a resolution adopted by the California Regional Water Quality Control Board - Santa Ana Region on [INSERT DATE].

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Kurt V. Berchtold
Executive Officer