

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
ORDER R5-2023-XXXX

AMENDING WASTE DISCHARGE REQUIREMENTS ORDER R5-2018-0081
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
CA0084476
FOR
CITY OF LINCOLN
WASTEWATER TREATMENT AND RECLAMATION FACILITY
PLACER COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Central Valley Water Board) finds that:

1. On 7 December 2018 the Central Valley Water Board adopted Order R5-2018-0081, renewing NPDES Permit No. CA0084476 and prescribing Waste Discharge Requirements (WDRs) for the City of Lincoln (Discharger) Wastewater Treatment and Reclamation Facility (Facility). WDR Order R5-2018-0081 authorizes the discharge of up to 25 million gallons per day (MGD) of treated municipal wastewater to Auburn Ravine Creek, a water of the United States, tributary to the Sacramento River within the Lower Sacramento watershed.
2. Tertiary treated effluent is either discharged to Auburn Ravine Creek at Discharge Point 001 or to on-site and off-site reclamation areas (regulated by WDR Order R5-2005-0041-01). The Discharger has the ability to divert tertiary treated effluent to the tertiary storage basins to store recycled water, store final effluent during downstream flood events, and/or store effluent that does not meet requirements of WDR Order R5-2018-0081 (e.g., receiving water temperature limits). Because the Facility is able to temporarily store tertiary treated effluent and discharge it at a later date, there are times when no discharge to Auburn Ravine Creek at Discharge Point 001 is occurring and there are times when the discharge to Auburn Ravine Creek exceeds the regulated flow capacity of the treatment works (e.g., flow is being discharged directly from the treatment process and stored, treated effluent is being discharged from the tertiary storage basins). The outfall at Discharge Point 001 currently possesses a maximum hydraulic capacity of 25 MGD, as a daily average.
3. Section V.A.15 of WDR Order R5-2018-0081 provides, among other things, the following receiving water limitations for Facility discharges to Auburn Ravine Creek:

The discharge shall not cause the following in Auburn Ravine Creek:

15. *Temperature. The annual average temperature to increase more than 5 °F compared to the ambient stream temperature and shall not cause the receiving stream temperature to rise above:*

- a. *58 °F on a monthly average and weekly median basis from 1 October through 31 May;*
- b. *64 °F at any time from 1 October through 31 May; and*
- c. *5 °F over the ambient background temperature as a daily average for the period from 1 June through 30 September.*

4. In the late 1990's, during the Environmental Impact Report (EIR) process for the Discharger's first NPDES permit, there were concerns that the temperature of the discharge could impact salmon and steelhead in Auburn Ravine Creek. The California Department of Fish and Wildlife (DFW) commented on the Final EIR regarding the mitigation measures for temperature impacts to Auburn Ravine Creek. The DFW comment was as follows,

[DFW] recommends mitigation measure 7.2(a) be modified to utilize 58°F as the recommended temperature for halting plant discharges to Auburn Ravine Creek. This figure will protect Chinook Salmon and steelhead trout.

DFW further commented that:

It is unclear from the described mitigation criteria, what plant operations would be proposed in a year when ambient water temperatures in Auburn Ravine Creek were relatively warm over an extended period of time. Regardless of monthly or seasonal fluctuations, the [DFW] recommends that the 58°F water temperature criteria be utilized for the October through May 31 time period every year.

5. In addition to the concerns expressed by DFW during the EIR process, the Discharger was concerned that the proposed discharge to Auburn Ravine would not be able to comply with the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan) water quality objective (WQO) for temperature, which allows no more than a 5°F increase from the natural ambient receiving water temperature. The Basin Plan allows modifying the averaging period for evaluating compliance with the WQO if additional limitations are included after consultation with fishery agencies.
6. In 2001, the Discharger and Central Valley Water Board staff consulted with staff of DFW and U.S. Fish and Wildlife Service to address temperature concerns for the proposed discharge to Auburn Ravine Creek and to ensure the NPDES permit included appropriate temperature receiving water limitations that would be protective of salmon and steelhead populations. A site-specific temperature study was not conducted; therefore, the receiving water temperature limitations recommended by the fishery agencies were based on conservative assumptions in order to protect beneficial uses. In October 2001, with input from the fisheries agencies, the Central Valley Water Board adopted Order 5-01-242 that included the site-specific receiving water limitations discussed in **Finding 3** of this Order, which allows a longer averaging period for compliance with the Basin Plan temperature

WQO and implemented additional receiving water limitations that addressed the mitigation measures required by the EIR.

7. In 2013, available receiving water temperature data indicated that the discharge was able to meet the Basin Plan WQO for temperature. Therefore, in February 2014, Order R5-2014-0007 was adopted containing receiving water limitations for temperature based on the Basin Plan WQO that the discharge shall not increase the receiving water temperature more than 5°F at all times. The additional temperature receiving water limitations were removed.
8. Receiving water temperature data collected between 2014 and late 2018 indicated that the discharge was able to comply with the temperature limitations based on the Basin Plan WQO for Temperature. However, the data also revealed that the temperature of Auburn Ravine Creek sometimes exceeded the former site-specific temperature limitations. Due to concerns that the limitations based on the Basin Plan WQO for temperature may not be adequately protective of salmon and steelhead, on 7 December 2018, the Central Valley Water Board adopted Order R5-2018-0081, which, as discussed above in **Finding 3**, reinstated the conservative site-specific receiving water limitations per section V.A.15.
9. The Discharger has indicated that there is insufficient storage capacity to comply with the site-specific receiving water limitations described in **Finding 3** for temperature. These receiving water limits were developed without conducting a site-specific study, so they are based on conservative assumptions.
10. On 14 January 2019 the Discharger submitted a request for a compliance schedule supporting the infeasibility of complying with the revised receiving water temperature limitations with the current storage capacity during the term of Order R5-2018-0081. The Discharger requested time to study options including determining if the receiving water temperature limits in Order R5-2018-0081 were appropriate or need to be revised based on the specific conditions in Auburn Ravine Creek surrounding and downstream of the discharge point.
11. On 22 May 2019 the Central Valley Water Board's Executive Officer issued Time Schedule Order R5-2019-1003 (TSO) allowing the Discharger until 1 June 2020 to submit a Site-Specific Temperature Study Work Plan (Work Plan) put together in consultation with National Marine Fisheries Service (NMFS) and DFW, to determine the appropriate temperature receiving water limitations for protection of salmon and steelhead spawning/migration in Auburn Ravine Creek. The TSO then required a Final Temperature Study due 1 January 2022 presenting the results collected following the specific requirements agreed to in the Work Plan. Additionally, the TSO included an optional Treatment Feasibility Study Work Plan and Schedule, with a submittal date of 1 April 2022 if Discharger determined that the current storage capacity of the Facility was not adequate under the site-specific receiving water temperature limits.

12. On 14 May 2020, the Discharger submitted the Work Plan. On 21 December 2021, the Discharger submitted the *Final Temperature Study* (Study), which examined life history information and thermal requirements for Chinook salmon and steelhead along with applicable regulatory requirements and existing habitat and temperature data.
13. The Study found that habitat conditions in the Auburn Ravine Creek below the Facility's outfall were not suitable for Chinook salmon or steelhead spawning and rearing, and the reach only functioned as a migration corridor for adults and juveniles. This is primarily because the reach does not contain suitable spawning habitat, and summer stream temperatures routinely exceed thermal preferences for both species. For these reasons DFW and NMFS concurred that a receiving water temperature limit of 58 °F to protect spawning and rearing between 1 October through 31 May is overly conservative and that limits of 68 °F between 1 October through 31 December and 64 °F between 1 January through 31 May are sufficient to protect Chinook salmon or steelhead migration.
14. Based on these findings, the Study proposed site-specific receiving water temperature limits for Auburn Ravine Creek. The discharge shall not cause the following in Auburn Ravine Creek:
 15. *Temperature. The annual average temperature to increase more than 5 °F compared to the ambient stream temperature and shall not cause the receiving stream temperature to rise above:*
 - a. 68 °F on a 7-day running average of daily maximums basis from 1 October through 31 December;
 - b. 64 °F on a 7-day running average of daily maximums basis from 1 January through 31 May; or
 - c. 5 °F over the ambient background temperature as a daily average for the period from 1 June through 30 September.

The seven-day average of daily maximums was proposed instead of the previous limits of monthly average, weekly median and daily maximum because EPA determined it to be a good indicator of both chronic and acute thermal stress.

15. The Discharger determined that the proposed temperature limits in their study would allow for sufficient storage capacity using the existing storage ponds and requested the optional *Treatment Feasibility Study Work Plan and Schedule* of the TSO not be required. On 30 June 2022 the Central Valley Water Board issued a letter to the City approving the Study and concurring that the optional *Treatment Feasibility Study Work Plan and Schedule* was not required.
16. Order R5-2018-0081 may be reopened and modified in accordance with 40 CFR § 122.62(a)(2).

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17. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) (“CEQA”) pursuant to Water Code section 13389, since the adoption or modification of a NPDES permit for an existing source is statutorily exempt and this Order only serves to modify a NPDES permit (*Pacific Water Conditioning Ass’n, Inc. v. City Council of City of Riverside* (1977) 73 Cal.App.3d 546, 555-556.).
18. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to amend Waste Discharge Requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

IT IS HEREBY ORDERED THAT:

Effective immediately upon adoption, Waste Discharge Requirements Order R5-2018-0081 (NPDES No. CA0084476) is amended solely as shown in Items a-i below:

- a. The Order number is changed from R5-2018-0081 to R5-2018-0081-01 throughout the Order.
- b. **Cover Page.** Modify the last paragraph of the cover page as follows:

I, Patrick Pulupa, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **7 December 2018 and amended by order R5-2023-XXXX on XX April 2023.**
- c. **Waste Discharge Requirements, Section V. RECEIVING WATER LIMITATIONS.** Remove the text in Section V.A.15 and replace it with following:

15. **Temperature.** The annual average temperature to increase more than 5 °F compared to the ambient stream temperature and shall not cause the receiving stream temperature to rise above:

 - a. 68 °F on a 7-day running average of daily maximums basis from 1 October through 31 December;
 - b. 64 °F on a 7-day running average of daily maximums basis from 1 January through 31 May; or
 - c. 5 °F over the ambient background temperature as a daily average for the period from 1 June through 30 September.
- d. **Waste Discharge Requirements, Section IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS.** Remove Section VI.C.1.i. Receiving Water Temperature Limits Reopener Provision.

- e. **Waste Discharge Requirements, Section VII. COMPLIANCE DETERMINATION.** Remove the text in Section VII.I and replace it with the following:

Temperature Receiving Water Limitation (Section V.A.15). Compliance with the temperature receiving water limitation for the 5°F increase in ambient stream temperature will be determined based on the difference in the temperature measured at Monitoring Location RSW-001 compared to the downstream temperature measured at Monitoring Location RSW-002, with consideration of effluent quality to evaluate whether effluent discharge caused the change. Compliance with the temperature receiving water limitations of 68°F from 1 October to 31 December and 64°F from 1 January to 31 May on a 7-day running average of daily maximums will be measured at Monitoring Location RSW-002, with consideration of effluent and upstream receiving water quality to evaluate whether effluent discharge caused the violation.

1. **Seven-day Running Average of Daily Maximums.** The 7-day running average of daily temperature maximums shall be calculated when there has been 1 or more discharges within a 7-day period. The 7-day running average of daily temperature maximums shall be determined from the daily maximums collected at Monitoring Location RSW-002 for all samples collected over the past 7-days whether discharge occurred or not. For example, if temperature samples were collected on Monday, Wednesday and Friday but discharge only occurred on Wednesday and Friday, the Discharger should determine the 7-day running average of daily maximums from the data collected on Monday, Wednesday and Friday. If there has been no discharge over the past 7 days or more, then compliance reporting for the 7-day running averages of daily maximums is not required.
 2. **Upstream Temperature Exceeds Downstream Temperature Limit.** For each day the daily maximum temperature at the upstream monitoring location (RSW-001) exceeds 68°F from 1 October to 31 December or 64°F from 1 January to 31 May, the Discharger shall determine compliance for that day with the 5°F increase between RSW-001 and RSW-002 instead of the corresponding receiving water temperature limitation of 68°F from 1 October to 31 December or 64°F from 1 January to 31 May as 7-day running average of daily maximums as required by sections V.A.15.a and b of Order R5-2018-0081-01.
- f. **Attachment F – Fact Sheet, Section I. PERMIT INFORMATION.** Add the following subsection F after subsection E as shown below.
- F. 2023 Permit Amendment.** On XX April 2023, the Central Valley Water Board adopted R5- 2023-XXXX amending Order R5-2018-0081.

Temperature Receiving Water Limitation. The Discharger conducted a site-specific temperature study in consultation with National Marine Fisheries Service (NMFS) and the California Department of Fish and Wildlife (DFW), to determine the appropriate temperature receiving water limitations. DFW and NMFS concurred that Chinook salmon and steelhead trout spawning was not occurring below the Facility's outfall and the temperature objectives will not likely impact salmonids in Auburn Ravine as a result of discharges from the Facility. Based on these findings, the Study proposed site-specific receiving water temperature limits for migration of Chinook salmon and steelhead trout in Auburn Ravine Creek.

- g. **Attachment F – Fact Sheet, Section IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS.** Add the following paragraph after paragraph six in Section IV.D.4 Antidegradation Policies as shown below:

This Order also revises the receiving water limitations for temperature based on site-specific limitations protective of Chinook salmon and steelhead trout migration, which is consistent with the antidegradation provisions of 40 C.F.R. 131.12 and State Water Board Resolution 68-16. These changes in receiving water limitations will not result in a decrease in the level of treatment or control, or reduction in water quality since no changes to the Facility are proposed.

- h. **Attachment F – Fact Sheet, Section V. RATIONALE FOR RECEIVING WATER LIMITATIONS.** Replace the text in Section V.A.1.b Temperature as follows:

- b. **Temperature.** In the late 1990's during the Environmental Impact Report (EIR) process for the first NPDES permit for the City, there were concerns that the temperature of the discharge could impact salmon and steelhead. The California Department of Fish and Game (DFG), now known as the California Department of Fish and Wildlife (DFW) commented on the Final EIR regarding the mitigation measures for temperature impacts to Auburn Ravine Creek. Site-specific receiving water temperature limits were proposed by Stantec on behalf of the City to the Regional Board as a way to comply with Department of Fish and Wildlife comments and meet the mitigation measures in the Final EIR. The DFW comment is as follows,

“ ... [DFW] recommends mitigation measure 7.2(a) be modified to utilize 58°F as the recommended temperature for halting plant discharges to Auburn Ravine Creek. This figure will protect Chinook Salmon and steelhead trout.”

DFW further commented that:

“It is unclear from the described mitigation criteria, what plant operations would be proposed in a year when ambient water temperatures in Auburn Ravine Creek were relatively warm over an extended period of time. Regardless of monthly or seasonal fluctuations, the [DFW] recommends that the 58°F water temperature criteria be utilized for the October through May 31 time period every year”.

Based on consultation with DFW, the following receiving water temperature limitation was proposed by the City to mitigate impacts of the discharge:

Temperature. *The annual average temperature to increase more than 5°F compared to the ambient stream temperature and shall not cause the receiving stream temperature to rise above:*

- *58°F on a monthly average and weekly median basis from 1 October through 31 May.*
- *64°F at any time from 1 October through 31 May.*
- *5°F over the ambient background temperature as a daily average for the period from 1 June through 30 September.*

To be able to comply with the site-specific receiving water limitations the City constructed two 90 million gallon Tertiary Storage Basins for a total of 180 million gallons of storage for when the discharge will not meet the site-specific receiving water temperature limitations, in particular during the months of October and May.

The City’s 2013 Draft EIR for construction of the regional pipeline to connect Auburn and SMD-1 (Midwestern Placer Regional Sewer Project) states that increased receiving water temperature increases are less than significant and no mitigation is needed because the NPDES permit includes the receiving water limits described above.

Review of receiving water temperature data post adoption of Order R5-2014-0007 with the delta 5°F receiving water limit demonstrates that while being able to comply with that limit the discharge did not comply with the 58°F monthly and weekly and 64°F daily maximum site-specific limits, particularly in October and May. This demonstrates the delta 5°F receiving water limitation is less stringent and may not be protective of salmon and steelhead, and current discharge practices do not meet the mitigation measures provided in the EIRs. Furthermore, Board staff contacted National Oceanic and Atmospheric Administration (NOAA) Fisheries and they suggested that 64°F was an upper limit that would produce a thermal barrier to the passage of steelhead.

The Discharger had concerns that the Facility did not have sufficient storage capacity to cease discharging, which would not allow the Facility to consistently comply with temperature receiving water limits implemented in

Order R5-2018-0081. Therefore, before moving forward with facility upgrades, the Discharger conducted a site-specific temperature study in consultation with NMFS and DFW, to determine the appropriate temperature receiving water limitations. To allow the Discharger to conduct this study and provide the results to the Central Valley Water Board, Time Schedule Order (TSO) R5-2019-1003 was issued by the Central Valley Water Board on 22 May 2019.

The Discharger submitted a site-specific study *Final Temperature Study* (Study) on 21 December 2021 to determine the appropriate site-specific receiving water temperature limitations because of the concern that the receiving water temperature limitations included in Order R5-2018-0081 were overly conservative. These receiving water temperature limitations were based on the assumption that Chinook salmon and steelhead trout were spawning and rearing downstream of the Facility's outfall. The results of the Study determined that Chinook salmon and steelhead trout spawning and rearing was not occurring below the Facility's outfall and the reach only functioned as a migration corridor for adults and juveniles. This is primarily because the reach does not contain suitable spawning habitat, and summer stream temperatures routinely exceed thermal preferences for both species. DFW and NMFS concurred that Chinook salmon and steelhead spawning was not occurring below the Facility's outfall and the temperature objectives will not likely impact salmonids in Auburn Ravine as a result of discharges from the Facility. Therefore, revised receiving water temperature limits proposed in the Study are appropriate for protecting Chinook salmon and steelhead trout migration in Auburn Ravine. DFW and NMFS concurred with the revised receiving water temperature limitations based on protection of the migration corridor.

- i. **Attachment F – Fact Sheet, Section VI. RATIONALE FOR PROVISIONS.**
Remove Section VI.B.1.h. Receiving Water Temperature Limits Reopener Provision.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resource Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday (including mandatory furlough days), the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the [law and regulations applicable to filing petitions](#) may be found on the Internet at: (http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

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I, Patrick Pulupa, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **XX April 2023**.

PATRICK PULUPA, Executive Officer