



October 3, 2007

Ms. Diana Messina
Senior Water Quality Control Engineer
Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

**SUBJECT: Tentative Order Waste Discharge Requirements
City of Davis Wastewater Treatment Plant**

Dear Ms. Messina:

The City of Davis ("City") appreciates the opportunity to comment on the revisions to the *Tentative Waste Discharge Requirements (NPDES Permit No. CA0079049) for the City of Davis Wastewater Treatment Plant*, as issued on August 31, 2007 ("August TO"). Overall, the City appreciates and supports the revisions that the Regional Water Quality Control Board ("Regional Water Board") staff has proposed in the August TO. In particular, the City supports an eight-year compliance schedule as compared to the other schedule options that were also noticed. The City also supports the proposed revisions to the permit regarding dioxins, manganese, metals, and other changes pertaining to effluent limitations. Finally, the City requests some further changes to provide clarification to permit and monitoring and reporting plan provisions. Our specific comments are provided below.

Compliance Schedules

The City originally requested a ten-year compliance schedule if tertiary treatment is required because the City expected to first replace its secondary treatment system and then pilot tertiary filtration process(es) after the secondary improvements were in operation for proper sizing and optimization of the tertiary process. At the time, the City believed it possible to maintain the existing overland flow system to address selenium removal prior to the addition of a conventional tertiary treatment system. However, after several months of careful evaluation and preliminary design, City staff has concluded that it is not economically feasible to maintain the overland flow system. The cost impacts to all treatment processes associated with operating a tertiary filtration system downstream of the overland flow process would be exorbitant as compared to the environmental benefit to be gained for minimal

selenium removal. Thus, the City staff finds itself in the unfortunate position of presenting to the Regional Water Board and the City a project in excess of \$150 million that does not address selenium and may in fact exacerbate the City's ability to comply with final effluent limits for selenium.

In the alternative, the City staff is further assessing water supply optimization and land reclamation projects to address selenium. The City may also explore other regulatory alternatives with regard to the application of selenium criteria to the Yolo Bypass.

Based on this decision and the need to define a project that can be completed in the allotted ten years, City staff has determined that an eight-year compliance schedule is as short as practicable to replace the City's existing secondary treatment system and build a new tertiary treatment facility. The City's eight-year compliance schedule anticipates the secondary and tertiary treatment design and construction processes proceeding in parallel, as separate contracts. The design and construction times get extended slightly under this scenario to account for the additional conflict resolution and coordination required for the two contracts proceeding in parallel, as well as to ensure that air emissions are met during construction of two projects at the same time. However, environmental clearance as well as other new project information cannot be fully accounted for in the proposed compliance schedule. For this schedule, the City anticipates compliance for all constituents, with the possible exception of selenium, at the same time and anticipates being able to complete this project within eight years of permit adoption. Thus, an eight-year compliance schedule is as short as practicable. In fact, the City's design engineers state that although doable, the eight-year schedule is very aggressive and does not allow for delay in a project of this size or complexity.

The August TO has been revised to partially reflect the City staff's preferred schedule for a project that consists of secondary and tertiary treatment design and construction running in parallel under two separate contracts. As proposed, the TO includes a compliance date of September 1, 2015, which is approximately eight years from when the City submitted its revised infeasibility analysis and anticipated permit adoption. In actuality, the City's projected compliance schedule was intended to be eight years from the date of permit adoption contingent upon uninterrupted design and construction contracts. Until the Regional Water Board takes final action, we are hesitant to move forward with planning beyond its current efforts. There is always the possibility that the Regional Water Board will adopt a different compliance schedule for which the City will need to try and reflect in project planning and scheduling. Thus, we request an eight-year compliance schedule that begins to run on the date of permit adoption. Assuming that the August TO is adopted at the October hearing, this will require some minor modifications to the currently proposed permit language. Our language modifications are provided below with the other language suggestions.

The Regional Water Board has also noticed two other options for compliance schedules. The first option would allow the City ten years to comply with effluent limitations associated with tertiary treatment and seven years for effluent limits associated with replacement of the secondary treatment system. City staff no longer considers this its preferred option because in reality the project associated with the ten-year compliance schedule (phased design and construction of secondary followed by piloting and tertiary treatment) cannot be completed in the ten years allotted. The City understands that the Regional Water Board cannot adopt an in-permit compliance schedule that is longer than ten years. To avoid being put in a position of non-compliance, staff believes the City would pursue an alternative project that can be completed in the estimated eight-year window.

The second option establishes a five-year compliance schedule from the effective date of the permit. With regard to option 2, the City is unable to comply with this option under any circumstances. As discussed in comments submitted by the City on the Regional Water Board's previous version of the TO, the City's project of replacing its current land-based secondary treatment system with a conventional treatment system is unique and creates tremendous complexities to the City's ability to comply with effluent limitations associated with conventional secondary treatment and tertiary treatment. Thus, a five-year compliance schedule would automatically place the City in jeopardy of not being able to comply with the proposed provisions of the TO.

Accordingly, the City staff has determined to the best of its ability that an eight-year compliance schedule is as short as practicable, all things considered. However, instead of specifying a specific date of September 1, 2015, we recommend that the Regional Water Board replace all such references with the phrase, "[e]ffective eight years from adoption of this Order."

Other Permit Revisions

The City supports the effluent limitation revisions as proposed in the August TO for boron, copper, dioxin and congeners, manganese, silver and mercury. For boron and manganese, the City supports these changes as the original effluent limitations were based on the agricultural water quality goals from the *Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1* (1985) ("UN Report"). As commented previously, the application of agricultural water quality goals from the UN Report are not intended to be applied as absolute values and site-specific factors such as rainfall, soil quality and type, etc. must be considered before applying the values as contained therein. Thus, the City supports the removal of effluent limitations for boron and manganese until the City can conduct a proper site-specific assessment as is required by other permit provisions.

For copper and silver, the City appreciates the Regional Water Board's efforts to determine what is reasonable worst-case hardness in order to properly calculate hardness dependent criteria. The City agrees that the values used by the Regional Water Board in the August TO properly reflect reasonable worst-case hardness. Thus, effluent limitations for copper and silver are no longer required as the City's effluent no longer has reasonable potential to exceed the applicable CTR criteria for these constituents.

With regard to dioxin and its congeners, the City supports the Regional Water Board staff's proposed approach as it appears in the fact sheet. Their determination as proposed in the August TO is consistent with the State's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* ("SIP") and should be adopted by the Regional Water Board. In particular, the City supports the Regional Water Board's determination that due to limited data, lack of formally promulgated water quality criteria for congeners other than 2,3,7,8-TCDD and lack of impairment, that it is not appropriate to establish effluent limitations for dioxin congeners at this time.

Finally, the City supports the proposed change in the mercury mass limitation as it reflects the proper calculation for mercury mass limitations.

Finding Q – Salinity Limitations

The City is concerned with the proposed language for finding Q, which applies to the salinity limitations in the permit. As currently drafted, the finding appears to bind the hands of a future Regional Water Board as it conclusively states that the Regional Water Board will adopt a final EC effluent limitation in the City's next permit. At this point in time, the Regional Water Board cannot predict what new information will become available nor can the Regional Water Board know what regulatory or policy changes may occur over the term of the permit. In lieu of language that appears to bind the hands of a future Regional Water Board, we recommend that the language be amended to reflect the Regional Water Board's intent without emphatically stating that it *will* adopt a final effluent limitation in the next permit. Thus, we recommend that the salinity findings language be amended as follows:

This Order contains interim effluent limitations for electrical conductivity (EC) ~~that are to remain in effect for the term of the Order.~~ This Order requires the Discharger to study appropriate EC, boron, sodium, and chloride levels to protect agricultural beneficial use in areas irrigated with water from the Willow Slough Bypass, Conaway Ranch Toe Drain, and/or Yolo Bypass diverted downstream from the discharge. It is the Regional Water Board's intent that A a final EC effluent limitation will be included in the subsequent renewal of this Order if the Regional Water Board finds it necessary based on new or other information that may be available. Final boron, chloride, and/or sodium effluent limitations ~~will~~ may also be included in the subsequent renewal of the Order if they are determined to have reasonable potential and cannot be adequately regulated by the EC effluent limitation.

Outside Scope of Hearing

Further Language Clarifications/Suggested Edits to August TO

Below, the City offers the following language suggestions as indicated. A short explanation for the suggested edits is provided accordingly.

VII.B. Aluminum (p. 41): The compliance determination language for aluminum should be revised to reflect that the language applies to interim limitations as well as final effluent limits. Thus, we recommend the following amendment.

Compliance with the final effluent limitations for aluminum can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by USEPA's *Ambient Water Quality Criteria for Aluminum* document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.

Compliance Schedule References: We recommend the following compliance schedule reference edits as discussed above. In addition, we have requested one additional related clarification to ensure that the interim limitations apply in lieu of all of the final effluent limitations for a specific constituent.

IV.A.1.b. (p. 11):

Effective eight-years from adoption of this Order, 1-September-2015, the average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.

IV.A.1.i. (pp. 11-12):

Effective eight-years from adoption of this Order, 1-September-2015, wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the Department of Public Health (DPH) reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22) or equivalent.

IV.A.2.b. (p. 13):

Effective eight-years from adoption of this Order, 1-September-2015, the average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.

IV.A.2.i. (pp. 13-14):

Effective eight-years from adoption of this Order, 1-September-2015, wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the Department of Public Health (DPH) reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22) or equivalent.

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IV.A.3.a. (p. 14):

During the period beginning on the effective date of this Order and ending eight years from adoption of this Order ~~1 September 2015~~, the Discharger shall maintain compliance with the following limitations at D-001, with compliance measured at Monitoring Location Eff-001 as described in the attached MRP, unless otherwise specified. These interim effluent limitations shall apply in lieu of all the corresponding effluent limitations specified for the same parameters during the time period indicated in this provision.

IV.A.4.a. (p. 15):

During the period beginning on the effective date of this Order and ending eight years from adoption of this Order ~~1 September 2015~~, the Discharger shall maintain compliance with the following limitations at D-001, with compliance measured at Monitoring Location Eff-001 as described in the attached MRP, unless otherwise specified. These interim effluent limitations shall apply in lieu of all the corresponding effluent limitations specified for the same parameters during the time period indicated in this provision.

IV.C.7.a. (p. 39):

By eight-years from adoption of this Order ~~1 September 2015~~, wastewater discharged to the Willow Slough Bypass and Conaway Ranch Toe Drain shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the Department of Public Health (DPH) reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22) or equivalent.

IV.C.7.b. (p. 39):

By eight-years from adoption of this Order ~~1 September 2015~~, the Discharger shall comply with final effluent limitations for BOD, TSS, turbidity, total coliform organisms, aluminum, ammonia, and iron.

Fact Sheet Aluminum (p. F-20), Ammonia (p. F-22), Iron (F-27):

Change all 1 September 2015 to eight years from adoption of this Order.

Pathogens (p. F-32):

Full compliance with the final effluent limitations for BOD, TSS, total coliform and turbidity are not required by this Order until five eight-years from the effective adoption date of this Order.

Land Discharge Specifications for Ponds: The City recommends that the language with regard to pH for the ponds be amended to clarify that the pH applies as the effluent enters the ponds and is not measured in the ponds. This is consistent with the State Water Resources Control Board's decision in the *City of Yuba City*, which states "[e]ffluent limitations should apply to effluent entering the ponds." (Order WQO 2004-0013 at p. 25.)

B.4. (p. 17):

Effluent entering the ponds shall not have a pH less than 6.5 or greater than 9.0.

Attachment E - Monitoring and Reporting Plan: The City requests the following changes to the monitoring and reporting plan so that the monitoring program more appropriately reflects the current treatment operations at the City's wastewater treatment plant. The City understands that many of the changes requested below may not apply once the City replaces its existing secondary treatment system and constructs conventional tertiary treatment processes.

Table E-2, footnotes 2 and 3 (p. E-3): Delete footnotes 2 and 3.

Table E-3, Settleable Solids (p. E-4): Change sample type to Grab.

Table E-4, Temperature & Dissolved Oxygen (p. E-5): Change sample type and minimum frequency to Grab and 1/week.

Table E-4, Aluminum, Total Recoverable (p. E-5): Add footnote that states the following to ensure that the City can report aluminum as total recoverable or acid-soluble:

Compliance with the final effluent limitations for aluminum can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by USEPA's *Ambient Water Quality Criteria for Aluminum* document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer. Thus, the City may report aluminum as total recoverable and/or acid soluble.

Table E-5, Temperature & Dissolved Oxygen (p. E-7): Change sample type and minimum frequency to Grab and 1/week.

Outside Scope of Hearing

Table E-5, Aluminum, Total Recoverable (pp. E-7 – E-8): Add footnote that states the following to ensure that the City can report aluminum as total recoverable or acid-soluble:

Compliance with the final effluent limitations for aluminum can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by USEPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer. Thus, the City may report aluminum as total recoverable and/or acid soluble.

Chronic Toxicity Testing (p. E-9):

~~Effluent samples shall be flow-proportional 24-hour composites and shall be representative of the volume and quality of the discharge.~~ grab samples.

Groundwater Monitoring (p. E-13):

A groundwater report shall be submitted annually once during the permit term at the time that the City files its Report of Waste Discharge, which contains a brief written description of any groundwater investigation and sampling work completed for the year, a site map showing the location of all monitoring wells, and tables showing all groundwater monitoring data collected since the wells were installed, including groundwater depth and elevation data, pH, EC and all other monitored constituents.

Wetlands Monitoring B.3. (pp. E-14 – E-15):

Samples shall be collected from the wastewater and stormwater tracts every year during February through June ~~April and May~~.

Attachment F – Fact Sheet: The City requests the edits to the fact sheets so that there is consistency between the permit provisions and the Fact Sheet.

Mercury (p. F-28):

This Order contains a performance-based mass mercury Effluent Limitation of ~~0.004~~ 0.038 lbs/month for Discharge 001 and ~~0.0042~~ 0.038 lbs/month for Discharge 002.

Table F-13 (p. F-58): Revise table as follows:

Cyanide - Interim Limitation 24
Selenium – Interim Limitation 7.7

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Ms. Diana Messina
Re: Tentative Order WDRs Davis WWTP
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Although the City and its staff still retain many reservations regarding the August TO and the City's ability to ultimately comply with the compliance schedule proposed, the proposed revisions will help to make the requirements in this permit as workable as possible. We appreciate each and all of the staff's efforts to develop a comprehensive and protective permit that reflects the unique situation for the City of Davis. Please call me at (530) 757-5676 if you have any further questions.

Sincerely,



Keith A. Smith
Utilities Engineer

cc: B. Weir, Public Works Director
J. Beatty, Superintendent
H. Steiner, City Attorney