WEST YOST ASSOCIATES

ATTACHMENT A

COMMENTS ON ATTACHMENT 1 TO THE TENTATIVE ORDER AMENDING ORDER R5-2007-0113 WASTE DISCHARGE REQUIREMENTS AND MASTER RECLAMATION PERMIT FOR THE CITY OF LODI WHITE SLOUGH WATER POLLUTION CONTROL FACILITY SAN JOAQUIN COUNTY

This document presents comments on the Tentative Order Amending the Waste Discharge Requirements Order R5-2007-0113 (Tentative Order) for the City of Lodi (City) White Slough Water Pollution Control Facility (WPCF). The Central Valley Regional Water Quality Control Board (Regional Board) currently regulates surface water discharge, land discharge and other reuse operations associated with the WPCF under Waste Discharge Requirements (WDR) Order No. R5-2007-0113[1]. Once adopted, the amended Waste Discharge Requirements Order R5-2007-0113 will regulate land discharge and other reuse operations at the WPCF.

The Tentative Order was issued for public comment by the Regional Board on July 19, 2013, and Comments on the Tentative Order must be submitted by August 19, 2013. For clarity, comments are categorized in three sections: Major Comments, Factual Changes, and Minor Editorial Comments.

MAJOR COMMENTS

Title 27 Exemptions

The findings and conclusions presented in the Tentative Order with respect to applicable WPCF Title 27 exemptions do not fully incorporate the findings and conclusions presented in State Water Resources Control Board Order WQ 2009-0005, as amended by Order WQ 2012-0001 (Order WQ 2012-0001). In addition, the Tentative Order does not fully consider the technical information that has been provided with respect to existing operations and their ability to ensure that discharges from the WPCF comply with the Basin Plan groundwater objectives. The City has the following specific comments regarding this matter.

I. Application of the Conditional Exemption to Effluent Storage Ponds and Agricultural Fields

The Tentative Order states that the City's Effluent Storage Ponds and reuse on the Agricultural Fields **are not** exempt from Title 27. However, such a statement is not correct. Rather, the Effluent Storage Ponds and reuse on the Agricultural Fields are not "*unconditionally*" exempt from Title 27, but must satisfy the conditions of Title 27, section 20090(b) to be exempt. (See Order WQ 2012-0001, p. 9.) Pursuant to Title 27, Section 20090(b), "wastewater" is exempt from Title 27 so long as the activity meets, and continues to meet all preconditions. The specific language of Section 20090(b) is as follows:

[1] The Regional Board is concurrently adopting a new NPDES permit that, once adopted, will regulate discharges to surface water. The City is submitting comments on the Tentative NPDES Order separately from this document.

> *(b) Wastewater – Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:*
>
> *(1) the applicable [regional water quality control board] has issued [waste discharge requirements], or waived such issuance;*
>
> *(2) the discharge is in compliance with the applicable water quality control plan; and*
>
> *(3) the wastewater does not need to be managed . . . as a hazardous waste.*

As a preliminary matter, conditions (b)(1) and (b)(3) are clearly satisfied for Lodi's facilities that are in question here. Thus, to be exempt discharge from the Effluent Storage Ponds and reuse on the Agricultural Fields will be exempt from Title 27 as long as the City can demonstrate compliance with the Regional Board's Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan). The City is confident that such a demonstration can currently be made for the Effluent Storage Ponds, and is likely to be made in the near future for the discharges to the Agricultural Fields as additional information is developed.

As documented in a number of submissions to the Regional Board, the City has expended significant efforts to improve the practices at the WPCF, which are helping the City to come into compliance with the Basin Plan groundwater requirements. These improvements include:

- (2012) Installing biosolids dewatering facilities thus eliminating the applications of biosolids slurry to the Agricultural Fields and resulting in return of a significant portion of the biosolids nitrogen loads to the treatment facilities (in lieu of land application);
- (2012) Implementing a surface water supply project, resulting in a significant reduction in the municipal effluent salinity levels;
- (2011) Eliminating discharges of biosolids lagoon supernatant and DAF subnatant to the Effluent Storage Ponds;
- (2009) Upgrading the WPCF treatment facilities to provide reliable nitrification and denitrification, thus significantly reducing nitrogen concentrations in the Effluent Storage Ponds and in the wastewater applied to the Agricultural Fields;
- (2008) Retaining the services of a certified agronomist to assist with management of the Agricultural Fields; and
- (2008) Making improvements to the record-keeping practices for the Agricultural Fields to ensure all applications are within agronomic rates.

These improvements have resulted in significantly improved water quality in the Effluent Storage Ponds, and as discussed further below have resulted in compliance with the Basin Plan for releases from the Effluent Storage Ponds. However, a number of these improvements that will reduce and improve the City's control of discharges to the Agricultural Fields have only begun to impact the City's operations this year, and additional groundwater monitoring is needed to determine if additional improvements will be necessary to achieve Basin Plan compliance. Nevertheless, given the City's commitment to meeting the Basin Plan, including applicable groundwater objectives, and to ensure clarity in the WDRs, ***the City requests that the Order be modified to clearly state that Title 27 exemption may be achieved if compliance with the Basin***

Plan is demonstrated. This distinction is particularly important for the discussions regarding the Compliance Schedule for Title 27.

II. Misapplication of Title 27 to Effluent Storage Ponds

The Tentative Order states that "*the exemption pursuant to Title 27, section 20090(b) also does not apply because the Effluent Storage Ponds are unlined; therefore, wastewater contained in the ponds percolates to the underlying groundwater.*" (Tentative Order, p. F-7.) However, Order No. 2012-0001 (page 20) clearly indicates that the existence of liners is not determinative with respect to compliance with Title 27. Specifically, Order No. 2012-0001 states:

> *The City has several options to address the waste releases from the storage ponds to ensure consistency with Title 27. The City can line the ponds to prevent waste releases to groundwater. Alternatively, the City can improve the quality of wastewater discharged to the ponds in order to ensure that waste releases comply with Basin Plan groundwater objectives.*

Thus, it is incorrect to state that Title 27 exemptions do not apply just because Effluent Storage Ponds are unlined. In fact, as detailed further below, the City has expended considerable effort to install a biosolids dewatering system that has eliminated significant high strength discharges to the Effluent Storage Ponds. Accordingly, ***the City requests that the Tentative Order be modified to remove any statements that indicate lining the Effluent Storage Ponds is the only option for satisfying the Title 27 conditions for obtaining an exemption under Section 20090(b).***

III. Discharges from Effluent Storage Ponds Comply with the Basin Plan

The Tentative Order states that "*Monitoring data obtained from the ponds indicate that some constituents do not comply with the applicable water quality control plan*." As part of the "water quality control plan," and as indicated in the quote above from Order No. 2012-0001, the water quality in the Effluent Storage Ponds needs to ensure that "*waste releases comply with Basin Plan groundwater objectives*." Considering *only* the quality of the water/waste that is discharged into the Effluent Storage Ponds in evaluating compliance with groundwater objectives (which apply to the receiving water not the effluent) is improper because it does not account for any attenuation, treatment or control by underlying soils. Therefore, a determination of whether waste releases from the Effluent Storage Ponds comply with Basin Plan groundwater objectives needs to consider the water quality concentrations in downgradient wells as groundwater moves away from the WPCF.

Further, and as stated in Order No. 2012-0001 (p. 11):

> *The narrative and numeric objectives in the Basin Plan presumptively apply to groundwater unless the Central Valley Water Board has evidence in the record indicating that naturally occurring background concentrations exceed the objectives. A discharger who contends that naturally occurring background concentrations exceed the otherwise applicable objectives bears the burden of providing evidence to the Central Valley Water Board that supports this contention. Once the Central Valley Water Board is presented with this evidence, the board must then determine if it is sufficient to demonstrate that naturally occurring background concentrations exceed the objectives. If it is, then the naturally occurring background concentration of the constituent becomes the de facto objective. Absent evidence to the contrary, however, the numeric and narrative groundwater objectives in the Basin Plan apply.*

Accordingly, the evaluation of whether waste releases from the Effluent Storage Ponds comply with Basin Plan groundwater objectives needs to also consider background concentrations. If the City can provide sufficient evidence with respect to background concentrations, and the Central Valley Water Board agrees that the evidence is sufficient to demonstrate that the background exceeds the objective, then the background concentration becomes the de facto objective. To this end, the City submitted an extensive evaluation with respect to background water quality to the Central Valley Water Board in 2010. (See Background Groundwater Report, West Yost, 2010 (Background Groundwater Report).

Based on the evidence and information in Background Groundwater Report, for most constituents, waste releases from the WPCF do not exceed Basin Plan groundwater objectives and/or do not cause underlying groundwater to exceed applicable groundwater objectives. (Background Groundwater Report, p. 5-2 to 5-5). For other constituents (*e.g.*, salinity, nitrate, manganese), the background concentrations exceed the water quality objectives and the Central Valley Water Board has found that the background concentration is in fact the de facto water quality standard. For some of those constituents, and especially salinity constituents, waste releases from all of the WPCF facilities are not exceeding background concentrations because quality of water in both the Effluent Storage Ponds and in the water/biosolids applied to the Agricultural Fields is well below background. However, there are two constituents (nitrate and manganese) where data from onsite wells indicates that releases from the WPCF activities may have the potential to exceed background concentrations. (Nitrate in three onsite wells, and manganese in six onsite wells.)

With respect to nitrate, the Background Groundwater Report documented that the *total inorganic nitrogen* concentrations in the Effluent Storage Ponds are not statistically greater than the concentrations observed in <u>any of</u> the onsite wells; and therefore, the Effluent Storage Ponds are not a likely source of the nitrate background exceedances observed in three of the onsite wells (Background Groundwater Report, p. 5-6);. With respect to manganese, the City determined that additional manganese data was needed to determine if the Effluent Storage Ponds are a source of the manganese background exceedances observed in the onsite wells (Background Groundwater Report, p. 5-7 and 5-8).

Additional technical details regarding the potential for discharges from the Effluent Storage Ponds to be the cause of the of nitrate and manganese background exceedances is presented in included in the Technical Memorandum titled: *Nitrate and Manganese Groundwater Quality Impacts Associated with Wastewater Releases from the Effluent Storage Ponds at the City of Lodi White Slough Water Pollution Control Facility* (Effluent Storage Pond TM), which is being provided to the Regional Board along with this comment document.

As shown in the Effluent Storage Pond TM, the total inorganic nitrogen concentrations in the Effluent Storage Ponds are both significantly lower than the levels observed in the onsite wells of concern and they are not statistically greater than observed background nitrate concentrations. Therefore, nitrogen releases from the Effluent Storage Ponds comply with the Basin Plan groundwater objectives because such releases would not the cause of exceedances above background levels.

As documented in the Effluent Storage Pond TM, the City has collected additional manganese data since the Background Groundwater Report was developed. This data supports the findings also presented in the Effluent Storage Pond TM that the Effluent Storage Ponds are highly unlikely to be the cause of elevated levels of manganese in the monitoring wells. Specifically, the manganese concentrations in groundwater clearly decrease by *four orders of magnitude* from upgradient to downgradient of the Effluent Storage Ponds (and decrease by five orders of magnitude from the western to eastern boundaries of the City's property). This indicates that processes upgradient of the Effluent Storage Ponds are the likely source of manganese on the WPCF prosperity, and releases of high quality water from the Effluent Storage Ponds are likely to help mitigate impacts associated with this upgradient source.

Given evidence that the City has provided to the Central Valley Water Board in both the Background Groundwater Report and in the Effluent Storage Pond TM with respect to releases and information associated with the Effluent Storage Ponds, ***the City contends that the potential source of groundwater degradation at the WPCF site is land application on the Agricultural Fields. Further, based on the information summarized above, the Effluent Storage Ponds are in compliance with the Basin Plan and its groundwater objectives; and therefore, meet the conditions of section 20090(b) for exemption from Title 27. The City requests that the Tentative Order be modified accordingly.***

IV. Application of Title 27 to the Agricultural Fields

The Fact Sheet to the Tentative Order improperly implies that Title section 20090(h) of Title 27 is the exemption that would otherwise apply to wastewater applications on the Agricultural Fields. (Tentative Order, p. F-8.) Order No. 2012-0001 specifically states that the applicable Title 27 exemption for wastewater applied to the Agricultural Fields is 20090(b). (The City recognizes that this may be a typographical error.) Thus, the Fact Sheet must be corrected.

V. Application of Title 27 to Land Application of Dewatered Biosolids

The Title 27 exemption associated with the land application of dewatered biosolids to the Agricultural Fields is not properly addressed in the Tentative Order. Specifically, in the discussion of Title 27 in the Fact Sheet, the application of dewatered biosolids is treated the same as wastewater applications on the Agricultural Fields. However, the City contends that their newly implemented practice of applying dewatered biosolids to the Agricultural Fields should not be classified as a "wastewater" under the Title 27 exemptions. As stated in Order No. 2012-0001 (p. 10):

> *The Board concludes, however, that the wastewater exemption is more appropriate than the soil amendment exemption. The biosolids slurry and supernatant are applied to land as part of a wastewater mixture, as noted previously. In addition, the soil amendment exemption applies to decomposable wastes, and the wastewater mixture applied to land includes waste components that are likely not decomposable, such as metal finishing wastes and a considerable amount of non-nutritive salts.*
>
> *Based on the foregoing discussion, the Board concludes that it is the wastewater, rather than the sewage, exemption that could apply to the discharge.* (emphasis added)

When Order No. 2012-0001 was originally adopted in 2009, the City did apply liquid biosolids to the Agricultural Fields along with a mixture of wastewater. However, since 2012 the City has eliminated liquid biosolids applications and has started applying dewatered biosolids to the properties. Application of dewatered biosolids involves tilling the biosolids into the Agricultural Fields between cropping cycles as a means of building the soil and adding required nutrients[2]. The EPA 503 Regulations define "land application" of biosolids as:

> *(h) Land application is the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.*

Section 20090(f) of Title 27 exempts from Title 27 Soil amendments in the following circumstances: "use of nonhazardous decomposable waste as a soil amendment pursuant to applicable best management practices, provided that [regional water quality control boards] may issue waste discharge or reclamation requirements for such use." As explained, the use of dewatered biosolids does act as a soil amendment. Accordingly, application of dewatered biosolids complies with the conditions of section 20090(f), and is therefore exempt from Title 27. ***The City recommends that Tentative Order and the Fact Sheet be revised to clarify that land application of dewatered biosolids as a separate practice from the irrigation activities is not appropriately classified as "wastewater" under the Title 27 exemption outlined in Section 20090(b), and should fall under the "soil amendment" exemption outlined in Title 27 Section 20090(f) or the "reuse" exemption outlined in Title 27 Section 20090(h).***

VI. Application of Title 27 to Sludge Lagoons

The Tentative Order improperly suggests that the Sludge Lagoons are exempt from Title 27 under 20090(b) because they are concrete lined. However, as with the Effluent Storage Ponds, lining is not a specific precondition of Title 27. Further, the Sludge Lagoons are used to hold digested, liquid biosolids prior to dewatering and storage in the City's covered drying bed areas. (The dewatered biosolids are then subsequently land applied.) No industrial wastes are discharged into the Sludge Lagoons and supernatant from the Sludge Lagoons is returned to the headworks for treatment. Most importantly, for the purposes of Title 27, the Sludge Lagoons should be characterized and classified as "treatment or storage facilities associated with municipal wastewater treatment plants. In that the Sludge Lagoons are treatment or storage facilities associated with a wastewater treatment plant, they are unconditionally exempt from Title 27. Therefore, ***the Sludge Lagoons are part of the treatment facilities and are unconditionally exempt from Title 27 in accordance with Section 20090(a)***.

[2] It should be noted that the dewatered biosolids have significantly lower nitrogen loading to the Agricultural Fields than liquid biosolids, and a typical application event provides less than 10 percent of the total crop nitrogen demands. Moreover, each field only receives only on application event per year. Thus biosolids applications have essentially been eliminated as a source of nitrate impacts to groundwater.

VII. Compliance Schedule Associated with Title 27

The Tentative Order includes a compliance schedule associated with Title 27 requirements. The inclusion of such a schedule is consistent with Order No. 2012-0001. (Order No. 20012-0001, p. 19.) However, the City is concerned that the five year compliance schedule for meeting the preconditions of Title 27 (or to come into compliance with Title 27) may not be adequate given the uncertainties associated with the exceedances of the manganese secondary MCL in some of onsite monitoring wells.

As discussed above, exceedences of manganese and nitrate in the onsite wells may be attributed by land application on the Agricultural Fields. As discussed herein and documented in a number of submissions to the Regional Board, the City has made significant efforts toward reducing the Agricultural Field nitrogen loadings. Moreover, it is expected that with the collection of additional groundwater data the City will document that current practices are not contributing to degradation in onsite groundwater and compliance with the Basin Plan requirements for nitrate will be demonstrated. However, identifying and eliminating the cause of elevated manganese levels may take additional time.

The City does not apply manganese to the agricultural fields in levels that could cause the exceedances observed in some of the onsite wells. Moreover, the elevated manganese levels only occur in the wells located in the northwestern quadrant of the City's properties. Therefore, the City believes that the elevated manganese levels could be attributable to naturally occurring groundwater conditions (*i.e.,* high groundwater levels caused by natural mounding conditions located at the eastern border of the City's property, combined with naturally high manganese levels in onsite soils). However, although one of the background wells does demonstrate dissolved manganese levels that exceed the secondary MCL, the existing background wells do not exhibit levels that are as high as onsite wells.

The City acknowledges that elevated BOD levels associated with cannery applications could be contributing to anoxic/anaerobic conditions in the soil (and thus the release of manganese into the shallow groundwater). However, the fact that elevated manganese levels are only present in the northwestern quadrant of the City's property indicates that this is not a widespread issue. Moreover, the northwestern quadrant is the most upgradient portion of the City's property (see Effluent Storage Pond TM) and none of the downgradient onsite wells demonstrate elevated manganese levels. In fact, WSM-12, which is located at the eastern edge of the City's property, has dissolved manganese concentrations that are ***five*** orders of magnitude lower that the highest concentration wells on the City's property (and four orders of magnitude lower than the secondary MCL). Therefore, even if the City's practices are the contributing to the onsite exceedances of the secondary MCL, these exceedances are isolated and are not resulting in offsite water quality impacts.

The only means of testing whether BOD loadings on the City's properties were the cause of elevated dissolved manganese levels (or the elevated levels are due to naturally-occurring conditions) would be to eliminate the elevated BOD discharges to this property and observe changes to the onsite groundwater quality. However, it would be necessary to purchase additional land east or south of the City's existing properties to ensure that cannery wastewater can continue to be applied at reasonable rates that are protective of groundwater quality before

such a test could occur. Moreover, such a modification would have considerable cost to the City with little added benefit given the limited potential for offsite impacts.

The City is also in the process of evaluating options for expanding the storage ponds and land application area to further expand the land application of treated effluent. If implemented, this project could have significant impacts on how the City applies wastewater in the northwestern quadrant of the Agricultural Fields. However, because such a project would include both expansion of the City-owned properties and construction of new storage and land application areas, implementing such a project could not reasonably be complete in a five year window.

Finally, the City understands that future Basin Plan amendments may be put before the Regional Board as part of the CV-SALTS that would specifically apply to the challenges that the City is facing with respect to manganese:

1. Defining an appropriate locations for demonstration of groundwater compliance thus allowing for documentation of soil attenuation and changes that occur between first encountered groundwater and where the groundwater is used; and
2. Eliminating the secondary MCLs from the Basin Plan's groundwater quality objectives.

If either of these regulatory actions were to occur, the elevated levels of manganese in some of the onsite wells would no longer be considered non-compliant with the Basin Plan.

For these reasons, ***the City respectfully requests that the Title 27 compliance schedule be extended to 2023.*** This extension will provide adequate time for the CV-SALTS program changes to be implemented and, the City to take additional actions to control manganese - should it still be necessary.

To address the concerns outline above, the following specific modifications to the Tentative Order are requested[3,4]:

Page 3, Findings (II), Facility Description (B)

> *Biosolids are thickened with a dissolved air floatation (DAF) thickener, treated by anaerobic digestion, and stored in the Facility's lined Sludge ~~stabilization ponds~~ Lagoons. The ~~stabilized~~ digested biosolids are dewatered by rotary press. The dewatered biosolids are applied to the Agricultural Fields as a soil amendment between cropping cycles.*

[3] Note that some minor factual changes are also indicated in the suggested text edits below.
[4] Additional edits to the Tentative Order

Page 4, Findings (II), Title 27 (G)

G. Title 27. *Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. Discharges of wastewater to land, including but not limited to evaporation ponds or percolation ponds, are exempt from the requirements of Title 27, CCR, based on section 20090 et seq. The Facility includes the Effluent Storage Ponds, application of wastewater and dewatered biosolids the Agricultural Fields ~~Areas~~ and sludge lagoons. The sludge lagoons and application of dewatered biosolids on the City's Agricultural Fields are unconditionally exempt from Title 27. However, the Facility's storage ponds and ~~reuse~~ application of wastewater on the Agricultural Fields are not unconditionally exempt from Title 27, because untreated industrial wastewater is applied. Based on evidence provided by the Discharger, the Regional Board finds that the Effluent Storage Ponds do meet the preconditions for exemption from Title 27 because background groundwater quality is not exceeded as a result of this activity. However, discharge of wastewater to the Agricultural Fields is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality. The City has made a number of recent improvements with respect to discharge of wastewater to the Agricultural Fields, and additional monitoring and evaluation is needed to determine if the preconditions for the wastewater exemption under Title 27 are satisfied. This Order requires either demonstration of the preconditions for the wastewater exemption under Title 27 for the Agricultural Fields or compliance with the regulatory requirements of Title 27. Additional details on Title 27 exemptions are in the Fact Sheet, Section IV. F.*

Page 12, Provisions (VI), Compliance Schedule for Title 27 Requirements (C.5.a.i)

i. ***Corrective Action Plan/Implementation Schedule. By 1 November 2015,*** *the Discharger shall submit to the Central Valley Water Board a corrective action plan and implementation schedule to assure compliance with the preconditions for the wastewater exemption under Title 27 and/or assure compliance with the regulatory requirements of Title 27 for the ~~Effluent Storage Ponds and the~~ application of wastewater to the Agricultural Fields. At minimum, the corrective action plan shall consider ~~lining the effluent storage ponds and~~ treating the industrial influent wastewater.*

ii. ***Progress Reports****. The Discharge shall submit annual progress reports, 1 November Annually, beginning 1 November 2016, until final compliance.*

iii. ***By 3 October ~~2018~~2023****, the Discharger shall comply with the preconditions for the wastewater exemption under Title 27 or with the regulatory requirements of Title 27 for the ~~Effluent Storage Ponds and~~ application of wastewater to the Agricultural Fields (see Attachment F, section IV.C for more details).*

Page F-6, Rationale for Effluent Limitations and Discharge Specifications (IV), Groundwater (B.1.a)

a. Groundwater. *The Discharger utilizes Effluent Storage Ponds, ~~and~~ reuses municipal and industrial wastewater for irrigation of the Agricultural Fields, and applies dewatered Class B biosolids as a soil amendment to the Agricultural Fields. This Order requires the Discharger to limit the hydraulic, total nitrogen, and BOD loadings to the extent of the plant uptake to assure that pollution or nuisance will not occur. This Order also requires the Discharger to comply with groundwater limits for certain pollutants of concern (see Section V.B. Groundwater Limitations) for protection of the beneficial uses of the groundwater and to ensure that degradation does not occur. Furthermore, this Order requires continued groundwater characterization and requires*

the Discharger to implement BPTC for the Agricultural Fields because the groundwater monitoring results show that the discharge of wastewater to the Agricultural Fields is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality. State Water Resources Control Board Water Quality Order 2009-0005 determined that the monitoring performed prior to the adoption of the Order was inadequate to show that the Effluent Storage Ponds and the wastewater applied to the Agricultural Fields ~~Areas do not~~ meet the wastewater exemptions in Title 27. Since the adoption of the State Water Resources Control Board Water Quality Order 2009-0005 the Discharger has provided evidence that supports the conclusion that the Effluent Storage Ponds are not threatening to cause groundwater to contain waste constituents in concentrations statistically greater than background water quality. Thus, this Order requires a compliance schedule for the Discharger to either demonstrate that the Agricultural Fields qualify for exemption or meet the regulatory requirements of Title 27.

Pages F-3, Facility Description (II), Description of Wastewater and Biosolids Treatment or Controls (A.4)

4. The Facility's treatment process consists of comminutors, mechanical grit removal, primary sedimentation, conventional activated sludge with nitrification and denitrification, secondary sedimentation, tertiary treatment through cloth media filtration, and ultraviolet pathogen deactivation. Sludge is anaerobically digested and stored in the Facility's lined Sludge ~~stabilization pond~~ Lagoons. The ~~stabilized~~ digested biosolids are dewatered by a rotary press. The dewatered solids are applied as a soil amendment between cropping cycles to approximately 790 acres of the Discharger's agricultural fields. The Discharger owns 1034 acres; however, only 790 acres ~~are being farmed~~ receive land application of either wastewater or biosolids. Of this ~~farmed~~ area (hereinafter The Agricultural Fields), approximately 225 acres receive biosolids on an annual basis. The biosolids application area is rotated throughout The Agricultural Fields from year to year. The Agricultural Fields are used to grow fodder and feed crops that are not used directly for human consumption. The tailwater and stormwater from The Agricultural Fields are captured and returned to the Facility's storage ponds. Currently, a network of 20 monitoring wells monitor groundwater beneath The Agricultural Fields as well as the Facility.

Pages F-7 and F-8, Rationale for Effluent Limitations and Discharge Specifications (IV), Title 27 (C.1)

1. Title 27. *Discharge of wastewater to ~~land~~ the Agricultural Fields, and the operation of ~~treatment and/or storage ponds~~ Effluent Storage Ponds associated with the Facility can be allowed without requiring compliance with Title 27 regulations only if 1) the discharge is regulated by Waste Discharge Requirements, 2) any groundwater degradation complies with the Basin Plan and Resolution No. 68-16 (Antidegradation Policy), and 3) it does not violate water quality objectives.*

Title 27 contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies siting and construction standards for containment of classified waste, and requires extensive monitoring of groundwater. Generally, no degradation of groundwater quality by any waste constituent is acceptable under Title 27 regulations. However, some discharges to land are conditionally exempt from Title 27 regulations.

Discharges of domestic sewage or treated effluent to land, including but not limited to evaporation ponds or percolation ponds, are exempt from the requirements of Title 27, CCR, based on section 20090(a). The Facility includes discharges of wastewater to ~~contains storage facilities and agricultural reuse fields. These facilities include~~ the Effluent Storage Ponds and~~,~~ the Agricultural Fields, ~~Areas, and~~ temporary storage of treated biosolids in the sludge lagoons, and beneficial reuse of dewatered biosolids on the Agricultural Fields. The State Water Resources Control Board issued Water Quality Order 2009-0005 (Lodi Order) in July 2009, which was subsequently amended by Water Quality Order 2012-0001 in February 2012 in response to the California Sportfishing Protection Alliance (CSPA) petition that the Effluent Storage Ponds did not meet the exemptions for Title 27. The State Water Board's February 2012 amendment modified the Lodi Order by changing the State Water Board's interpretation of the Title 27 exemption for post-treatment facilities. The amended Lodi Order finds that the unconditional sewage exemption (Section 20090(a)) applies to post-treatment facilities (1) are used to store treated municipal wastewater prior to ultimate disposal or reuse, (2) do not receive any other wastes other than authorized on-site storm water flows, and (3) are under the control of the municipal treatment plant.

The Central Valley Water Board's findings regarding Title 27 exemptions are discussed below.

~~The discharge authorized herein, and the treatment and storage facilities associated with the discharge, are not exempt from the requirements of title 27 as follows:~~

Effluent Storage Ponds (Storage Ponds). *The Effluent Storage Ponds hold undisinfected secondary treated effluent, untreated industrial flows, storm water, and agricultural return water and thus are not exempt pursuant to Title 27, section 20090(a) because they store untreated industrial flows. The Effluent Storage Ponds are unlined; therefore, the treated wastewater potentially percolates to the underlying groundwater. Groundwater analytical monitoring results obtained downgradient of the Effluent Storage Ponds (MW-8, MW-4, and MW-7) indicate that all constituents comply with the applicable water quality control plan. Therefore, the exemption pursuant to Title 27, section 20090(b) ~~also~~ does ~~not~~ apply because the quality of wastewater discharged to the ponds ensures that waste releases comply with Basin Plan groundwater objectives. ~~Effluent Storage Ponds are unlined; therefore, wastewater contained in the ponds percolates to the underlying groundwater. Monitoring data obtained from the ponds indicate that some constituents do not comply with the applicable water quality control plan. This Order includes a compliance schedule to meet the regulatory requirements of Title 27.~~ The Effluent Storage Ponds are ~~not~~ exempt from the requirements of Title 27 CCR, pursuant to Title 27 CCR section 20090~~(a) and~~ (b).*

Wastewater Applied to the Agricultural Fields/Reuse*. During the agricultural season (about April through September), the Discharger irrigates the Agricultural Fields with the untreated food processing wastewater blended with secondary treated municipal effluent. ~~Additionally, the Discharger applies dewatered biosolids on the City owned land that surrounds the Facility.~~ Groundwater characterization shows exceedences of manganese and nitrate that may be attributed by the Discharger. The reuse of treated wastewater, untreated industrial wastewater, stormwater and agricultural runoff ~~and biosolids~~ on the agricultural fields are not exempt from Title 27 pursuant to Section 20090~~(h)~~(b) and this Order includes a compliance schedule to meet the regulatory requirements of Title 27.*

> ***Biosolids Applied to the Agricultural Fields:*** *The Discharger land applies dewatered Class B biosolids to selected agricultural fields between cropping cycles as a soil amendment. The use and disposal of biosolids comply with existing Federal and State laws and regulations, including permitting requirements and technical standards in Code of Federal Regulation (CFR) Part 503. Previous disposal practices included mixing biosolids subnatant and supernatant with the irrigation water as well as applying liquid slurry of biosolids directly to the agricultural fields. The Facility improvements completed in 2012, include an additional lined sludge lagoon, fan press dewatering and lined covered sludge storage area. All subnatant and supernatant are discharged to the headworks for treatment and no longer applied to the Agricultural Fields. Additionally, the biosolids slurry is no longer applied to the agricultural fields. Only dewatered biosolids are applied to the agricultural fields. The land application of biosolids on the agricultural fields is exempt from Title 27 pursuant to Section 20090(f).*[5]
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> ***Sludge Lagoons****. ~~The Discharger land applies dewatered Class B biosolids to selected agricultural fields. The use and disposal of biosolids comply with existing Federal and State laws and regulations, including permitting requirements and technical standards in Code of Federal Regulation (CFR) Part 503. Previous disposal practices included mixing biosolids subnatant and supernatant with the irrigation water as well as applying liquid slurry of biosolids directly to the agricultural fields. The Facility improvements completed in 2009, include an additional lined sludge lagoon, rotary dewatering and lined covered sludge storage area. All subnatant and supernatant are discharged to the headworks for treatment and no longer applied to the Agricultural Fields. Additionally, the biosolids slurry is no longer applied to the agricultural fields. Only dewatered stabilized biosolids are applied to the agricultural fields.~~ The City operates two, concrete-lined sludge lagoons as part of the solids handling operations. Liquid, digested biosolids are held in the lagoons prior to dewatering. Supernatant from the lagoons is discharged to the headworks of the treatment plant. Because the sludge lagoons ~~lined~~ are a necessary part of the Facility's wastewater treatment system, the sludge lagoons are exempt from Title 27 pursuant to Section 20090(a).*

Pages F-15, Rationale for Provisions (VII), Compliance Schedule for Title 27 Requirements (A.5.a)

> ***a. Compliance Schedule for Title 27 requirements.*** *Discharges to the Agricultural Fields ~~and Effluent Storage Ponds~~ do not meet the requirements of Title 27. This Order includes a compliance schedule for the Discharger to come into compliance by 3 October 2023 ~~2018~~.*

BPTC Requirements

The City understands that the purpose of the Best Practicable Treatment or Control (BPTC) requirements in the Tentative Order is to identify and implement the facility improvements needed to reduce the concentrations of nitrate and manganese in the onsite wells below the applicable Basin Plan objectives (where the applicable objectives are the background concentrations). As documented above and further detailed in the Effluent Storage Pond TM, the Effluent Storage Ponds do not have the potential to cause onsite groundwater to exceed the background concentrations for nitrate and manganese.

[5] Alternately, the City would suggest that the exemption under Title 27 Section 20090(h) is also applicable.

The Tentative Order defines BPTC as follows (p. A-1):

> *BPTC is a requirement of State Water Resources Control Board Resolution 68-16 – "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (referred to as the "Antidegradation Policy"). BPTC is the treatment or control of a discharge necessary to assure that, "(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained." Pollution is defined in CWC Section 13050(I). In general, an exceedance of a water quality objective in the Basin Plan constitutes "pollution".* (emphasis added)

Moreover, the Basin includes the following information with respect to State Water Board Resolution No. 68-16:

> *Pursuant to this policy, a Report of Waste Discharge, or any other similar technical report required by the Board pursuant to Water Code Section 13267, must include information regarding the nature and extent of the discharge and the potential for the discharge to affect surface or ground water quality in the region. This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives. The extent of information necessary will depend on the specific conditions of the discharge. For example, use of best professional judgment and limited available information may be sufficient to determine that ground or surface water will not be degraded. In addition, the discharger must identify treatment or control measures to be taken to minimize or prevent water quality degradation*. (emphasis added)

Therefore, in accordance with the State Water Board Resolution No. 68-16 and the definition provided in the Tentative Order, BPTCs are needed only when degradation has been identified with respect to a given discharge of waste. Therefore, ***because the discharge of wastewater from the Effluent Storage Ponds is not causing groundwater degradation with respect to the applicable objectives (i.e., background concentrations), the City contends a BPTC evaluation for the Effluent Storage Pond is not required.***

Finally, as discussed above, the City is concerned that 5 years is not adequate to come into compliance with the Basin Plan objectives for manganese. For the same reasons as outlined above in the City's request to extend the Title 27 compliance date, ***the City also requests that the timeline for completing BPTCs for manganese controls be extended until 2023.*** This time will allow for the City to evaluate the causes of onsite manganese exceedances above background and subsequently implement any additional BPTCs identified as necessary for Basin Plan compliance.

To address the concern outline above, the following specific modifications to the Order are requested (these are in addition to modifications suggested above for Fact Sheet Section IV.B.1.a):

Page 9, Provisions (VI), Best Practical Treatment or Control (BPTC) (C.1.a)

> *a.* ***Best Practical Treatment or Control (BPTC).*** *The Antidegradation Policy requires that a discharge will not result in water quality impacts that exceed applicable water quality objectives or background water quality unless the Discharger provides best practicable treatment or control of the discharge and it can be demonstrated that the degradation is to the maximum benefit of the people of the state. The Discharger's land application to the Agricultural Fields ~~activities are~~ is a threat to groundwater*

quality. To determine compliance with Groundwater Limitations contained in this Order, and to evaluate whether the Discharger is meeting BPTC in accordance with the Antidegradation Policy, the Discharger must continue to fully characterize background groundwater and complete the BPTC Evaluation:

The groundwater monitoring results show that the discharge of waste to the Agricultural Fields is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality. The Discharger submitted a December 2010, City of Lodi Water Pollution Control Facility Best Practicable Treatment and Control Evaluation Work Plan. The Work Plan included an initial BPTC evaluation for the storage ponds, irrigation facilities and biosolids application facilities. This, combined with additional information submitted by the Discharger as part of the renewal of this Order, demonstrated that the Effluent Storage Ponds are not a cause of groundwater degradation at the site, and additional BPTC evaluation of this facility is not required. By 1 February 2015, the Discharger shall submit a BPTC Evaluation that sets forth a comprehensive technical evaluation of the Agricultural Fields waste applications ~~each component of the facilities' waste management system~~ to determine best practicable treatment or control for each the waste constituents of concern. The Discharger must complete the evaluation and implement the recommendations with the following schedule:

Task	***Compliance Date***
Begin Evaluation	*1 August 2014*
Complete Evaluation	*1 December 2014*
Submit BPTC Report	*1 February 2015*
Begin Implementation of BPTC Recommendations	*1 May 2015*
Complete construction of BPTC Recommendations	*1 May 2017*
Complete construction of BPTC Recommendations for Manganese Controls	*1 May 2023*

Page F-12, Rationale for Monitoring and Reporting Requirements (IV), Wastewater in Storage Ponds Monitoring (D.3)

5. Reclamation Monitoring – Wastewater in Storage Ponds Monitoring Locations PND-001 through PND-004 (MRP, Section VII.B.). *The Discharger currently maintains high quality water in ~~storage of wastewater~~ in the Discharger's unlined ponds which adequately protects groundwater quality. ~~does not appear to meet BPTC. A frequently implemented control method is to store wastewater in High Density Polyethlyene lined ponds to prevent pollutants in the impounded discharge from migrating to groundwater. These unlined ponds may pose a threat to polluting the underlying groundwater.~~ Evidence in the record includes the Discharger's 2011 Groundwater Investigation Report, Water Pollution Control Facility Existing Conditions Report and subsequent details submitted as part of the renewal of this Order, which reported sources and pollutant concentrations in the ponds ~~that may have caused~~ are not the cause of elevated pollutant concentrations in the underlying groundwater as indicated by down-gradient monitoring wells analytical results. ~~Therefore~~ To ensure water quality in the ponds is maintained, this Order requires the Discharger to monitor wastewater in the ponds and includes a regular schedule discharge monitoring in the attached Monitoring and Reporting Program. The*

monitoring reports are necessary to assess the potential for degradation of the water quality of the underlying groundwater~~, to determine the most appropriate BPTC, and to derive appropriate numerical groundwater quality objectives for the Facility that are consistent with the Basin Plan~~.

The additional pond monitoring (i.e., DO, pH, Freeboard, and Available Storage Volume) are required to ensure compliance with Section 13050(m) of the California Water Code.

Page F-13, Rationale for Provisions (VII) Background Groundwater Quality and Groundwater Degradation Assessment Study (A.1.a)

a. Background Groundwater Quality and Groundwater Degradation Assessment Study. *The Antidegradation Policy requires that a discharge will not result in water quality impacts that exceed applicable water quality objectives or background water quality unless the Discharger provides best practicable treatment or control of the discharge and it can be demonstrated that the degradation is to the maximum benefit of the people of the state. The Discharger's land application activities to the Agricultural Fields are a threat to groundwater quality. The Discharger conducted studies to characterize the industrial wastewater, storage pond water and groundwater. The results of the monitoring were provided in a January 2011 report titled, City of Lodi White Slough Water Pollution Control Facility (additional supporting information was provided as part of the renewal process for this Order), Background Groundwater Quality Characterization Report. This report shows southeast of the facility is a cone of depression from pumping groundwater that tends to drive groundwater flow easterly. Additionally, the entire area is surrounded by agricultural lands, as well as, confined animal facilities. The groundwater study concluded monitoring wells exceeded background for boron, chloride, electrical conductivity, fixed dissolved solids, manganese, nitrate, sodium, total dissolved solids, phosphorus and potassium. The groundwater study also concluded that boron, manganese, nitrate, phosphorus and potassium exceedences may be the result of the Facility's wastewater application on the Agricultural Fields ~~activities~~ based on the composition of the irrigation water, pond water and biosolids slurry. To determine compliance with Groundwater Limitations contained in this Order, and to evaluate whether the Discharger is meeting BPTC in accordance with the Antidegradation Policy, the Discharger must continue to fully characterize background groundwater quality as follows:*

(i) Best Practical Treatment or Control (BPTC). *The groundwater monitoring results show that the discharge of waste is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality. The Discharger submitted a December 2010, City of Lodi Water Pollution Control Facility Best Practicable Treatment and Control Evaluation Work Plan. The Work Plan included an initial BPTC evaluation for the storage ponds, irrigation facilities and biosolids application facilities. Several of the recommendations in the Work Plan such as the construction of the biosolid facilities and additional monitoring for manganese have been completed. Other completed actions to protect groundwater include repair of leaking influent industrial and domestic sewer line into the Facility; biosolids are dewatered prior to land application; the biosolids supernatant and subnatant are no longer applied to the land and instead redirected to the Facility headworks; an additional lined sludge lagoon has been constructed; a certified agronomist oversees the irrigation; and the major cannery, PCP screens its cannery waste that reduces the BOD and nitrogen loadings to the land application areas. Additional groundwater monitoring for nitrate since the biosolids construction is needed to determine what if any additional BPTC*

measures are required. Similarly, additional monitoring and evaluation of elevated levels of ~~for~~ manganese is needed to determine what BPTC measures are needed. The Discharger shall submit, within 15 months following adoption of this Order, a BPTC Evaluation that sets forth a comprehensive technical evaluation of ~~each component of the facilities' waste management system~~ the Agricultural Field land application system to determine best practicable treatment or control for each the waste constituents of concern. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed 1 year.

Task	Compliance Date
Begin Evaluation	1 August 2014
Complete Evaluation	1 December 2014
Submit BPTC Report	1 February 2015
Begin Implementation of BPTC Recommendations	1 May 2015
Complete construction of BPTC Recommendations	1 May 2017
Complete construction of BPTC Recommendations for Manganese Controls	1 May 2023

Applicable Groundwater Quality Objectives

The Tentative Order includes a specific list of constituents for the Groundwater Limitations. (See Tentative Order, p. 8.) The inclusion of the specific list is improper for several reasons. First, many of the values identified are based on agricultural goals (*e.g.*, chloride and boron), which the State Board has indicated need to be determined on a site specific basis considering a number of site conditions. Second, it is not necessary for the order to specifically identify each identified constituent. In fact, most similar permits in the Central Valley include a narrative statement that incorporates the Basin Plan objectives without specifically identifying the constituents. Accordingly, the City recommends that Provision V.A.1.c simply state as follows:

> *Shall not cause the groundwater within influence of the Facility and the Agricultural Fields to contain waste constituents in excess of the concentrations specified below or natural background quality, whichever is greater:*
>
> *(i) Nitrate as nitrogen of 10 mg/L.*
> *(ii) Total Coliform Organisms of 2.2 MPN/100 mL over any 7-day period.*
> *(iii) For constituents identified in Title 22, the MCLs quantified therein.*

Effluent Storage Pond Dissolved Oxygen Operating Requirements

The Pond Operating Requirement to maintain dissolved oxygen (DO) content in the upper zone (1 foot) of wastewater in the Effluent Storage Ponds (VI.C.2.a.iii) is not appropriate. As indicated in the Tentative Order, this requirement is meant to ensure compliance with Pond Operating Requirement VI.C.2.a.ii for objectionable odors and to prevent "nuisance" conditions. However, the WPCF does not have a history of objectionable odors for the Effluent Storage Ponds. In addition, the Effluent Storage Ponds are used for wastewater treatment (which could

require DO level maintenance to help ensure adequate treatment is being provided). Accordingly, the Effluent Storage Ponds are not equipped with the facilities needed to maintain DO levels above 1 mg/L.

For all of these reasons, requirements to maintain specific DO levels in the City's Effluent Storage Ponds are not appropriate, and the City thus requests removal of these requirements in Provision VI.C.2.a.iii. The City does not object to DO monitoring in the Effluent Storage Ponds. *In the outside chance that objectionable odors are identified in the future*, the City could use pond DO data to determine if low DO conditions are a potential cause of the odor issues. (Note that the City maintains high quality waters in the storage ponds, and low DO conditions are not expected to occur.)

Agricultural Fields' Area Specifications for Irrigation During Rainfall

The Agricultural Fields Area Specification VI.C.3.c.iv. states:

> *iv. Irrigation using recycled water shall not be performed within 24 hours of forecasted rain, during rainfall, within 24 hours after any measurable rainfall event, or when the ground is saturated.*

The Agricultural Field soils will be very dry during the irrigation season between irrigation events, and a rainfall event that occurs during this period may not result in any appreciable runoff or cause saturated ground conditions. Moreover, even if a small amount of runoff were generated due to rainfall, it would be captured in the City's extensive tail water collection system. Therefore, this specification is overly prescriptive. Recent permits adopted by the Regional Board (Ironhouse Sanitary District, Order No. R5-2013-0010; City of Galt, Order No. R5-2010-0099) only include a requirement that irrigation be limited to periods when the ground is not saturated. ***Therefore, the City requests that Agricultural Fields Area Specification VI.C.3.c.iv be revised to eliminate restrictions associated with rainfall events.***

The following specific change to the Tentative Order is needed to address this request:

Page 11, Provisions (VI), The Agricultural Fields' Area Specifications (C.3.c.iv)

> *iv. Irrigation using recycled water shall not be performed ~~within 24 hours of forecasted rain, during rainfall, within 24 hours after any measurable rainfall event, or~~ when the ground is saturated.*

Monitoring of Land Discharge to Agricultural Fields for Total Suspended Solids

Monitoring of the wastewater discharged to the Agricultural Fields for Total Suspended Solids (TSS) is an unnecessary use of the City's resources. While other parameters that will be monitored correspond to Land Discharge Specifications, there is no such specification or limitation for TSS. Monitoring and reporting TSS data would thus serve no useful purpose. ***The City therefore requests that the TSS monitoring requirement be removed from Table E-4***.

Groundwater Monitoring Requirements

The City finds that the groundwater monitoring locations and their functions need to be clarified in the Tentative Order to ensure proper implementation of groundwater monitoring requirements. While the City has several existing monitoring wells on or near the WPCF site, not all of these wells are appropriate for background or compliance monitoring of the City's activities. As discussed in the City's January 2011 *Background Groundwater Quality Characterization Report*, the following three wells were identified as appropriate background wells: WSM-16, WSM-17, and WSM-18. In addition, consistent with the current WDRs, the following wells have not been monitored during the current permit term for water quality but only for groundwater elevation (to determine gradient): WSM-10, WSM-11, WSM-13, RMW-1, RMW-2, and RMW-3. This is because these wells are not sited in a location that provides a characterization of the City's activities. The remaining wells are appropriate as compliance wells for the annual evaluation of groundwater quality impacts. Continued monitoring of groundwater elevations in all of the wells is appropriate for the proposed quarterly assessment of groundwater flow direction and gradient.

For the reasons specified above, and to clarify the purpose of each well, the City requests that Item VI.A.1 of the Monitoring and Reporting Program be changed to a format similar to that used in the Tentative Order for the Lake Berryessa Resort Improvement District Wastewater Treatment Facility issued in May 2013 by the Regional Board.

The following specific changes to the Tentative Order are needed to address this request:

Monitoring and Reporting Program (Attachment E), Page E-6, Receiving Water Monitoring Requirements – Groundwater, Item VI.A.1

A. Groundwater Monitoring Locations

1. *The Discharger shall monitor the groundwater in existing monitoring wells as indicated in the following table of existing monitoring wells with footnotes designating the purpose of each well: ~~WSM-1, WSM-2, WSM-4 through WSM-18, RMW-1through RMW-3, or additional monitoring wells as approved by the Executive Officer.~~*

WSM-1[1]	WSM-2[1]	WSM-4[1]	WSM-5[1]	WSM-6[1]	WSM-7[1]	WSM-8[1]	WSM-9[1]
WSM-10[2]	WSM-11[2]	WSM-12[1]	WSM-13[2]	WSM-14[1]	WSM-15[1]	WSM-16[3]	WSM-17[3]
WSM-18[3]	RMW-1[2]	RMW-2[2]	RMW-3[2]				

[1] Compliance well.
[2] Existing well not suitable for use as a compliance well. Existing well shall be monitored only for groundwater elevation and gradient direction.
[3] Background well not used for compliance monitoring.

Prior to construction and/or sampling of any additional groundwater monitoring wells, the Discharger shall submit plans and specifications to the Regional Water Board for review and approval.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Samples shall be collected and analyzed using standard USEPA methods. Except as noted in the table above, g~~G~~roundwater monitoring shall include, at a minimum, the following:

Biosolids Monitoring Requirements

The biosolids monitoring requirements in the Tentative Order are not appropriate for the permitted land application practices. The constituents indicated in the biosolids monitoring requirements (*i.e.*, Title 22 metals and priority pollutants) are not consistent with the Land Discharge Specifications Section IV.A (pgs. 6-7) of the Tentative Order – nor are they consistent with EPA 503 regulations. ***The biosolids monitoring requirements should thus be revised to require monitoring that is consistent with the Land Discharge Specifications and with EPA 503 monitoring requirements for land application of Class B biosolids.***

The following specific changes to the Tentative Order are needed to address this request:

Monitoring and Reporting Program (Attachment E), Page E-7, Other Monitoring Requirements (VII), Biosolids (A.1)

1. ***Monitoring Location BIO-001***

    a. *~~A composite~~ Sample~~s~~ of ~~sludge~~ biosolids shall be collected ~~annually~~ at Monitoring Location BIO-001 and analyzed as indicated in Table E-9 and in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989.~~, and tested for priority pollutants listed in 40 CFR Part 122, Appendix D, Tables II and III (excluding total phenols).~~*

Table E-10. Biosolids Monitoring Requirements

Parameter	***Units***	***Sample Type***	***Minimum Sampling Frequency***
Quantity	*dry tons*	*--*	*1/application*
Solids Content	*percentage*	*--*	*1/application*
Disposal Location	*--*	*--*	*1/application*
Arsenic	*mg/kg*	*Composite[1,4]*	*1/quarter*
Cadmium	*mg/kg*	*Composite[1,4]*	*1/quarter*
Copper	*mg/kg*	*Composite[1,4]*	*1/quarter*
Lead	*mg/kg*	*Composite[1,4]*	*1/quarter*
Mercury	*mg/kg*	*Composite[1,4]*	*1/quarter*
Molybdenum	*mg/kg*	*Composite[1,4]*	*1/quarter*
Nickel	*mg/kg*	*Composite[1,4]*	*1/quarter*
Selenium	*mg/kg*	*Composite[1,4]*	*1/quarter*
Zinc	*mg/kg*	*Composite[1,4]*	*1/quarter*
Organic Nitrogen	*mg/kg (dry)*	*Composite[2,4]*	*1/quarter[3]*
Ammonia Nitrogen	*mg/kg (dry)*	*Composite[2,4]*	*1/quarter[3]*
Nitrate Nitrogen	*mg/kg (dry)*	*Composite[2,4]*	*1/quarter[3]*
Plant Available Nitrogen (PAN)[4]		*Composite[2,4]*	*1/quarter[3]*
Total Phosphorus	*mg/kg (dry)*	*Composite[2,4]*	*1/quarter[3]*
Total Potassium	*mg/kg (dry)*	*Composite[2,4]*	*1/quarter[3]*

1 Samples may be collected either the biosolids storage lagoon or the stockpiled biosolids.
2 Samples to be collected from stockpiled biosolids.
3 If a biosolids application event is scheduled to occur during a given quarter, monitoring should be completed prior to application event.
4 Calculate PAN using the procedure, volatilization factors, and mineralization rates described in USEPA's Guide for [Biosolids] Land Appliers (EPA/831-B-03-002b).
5 Composite samples mean several grab samples combined.

~~***b.*** *A composite sample of sludge shall be collected annually at Monitoring Location BIO-001 in accordance with USEPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the metals listed in Title 22.~~

~~***c.***~~***b.*** *Sampling records shall be retained for a minimum of* ***5 years****.* ~~*A log shall be maintained of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log must be complete enough to serve as a basis for part of the annual report.~~

Note that the addition of the above table will require re-numbering of subsequent tables in the Monitoring and Reporting Program.

Monitoring Requirements for Supplemental Irrigation Supply

The Tentative Order does not include any monitoring requirements for supplemental irrigation supply; however, Attachment E of the Tentative Order includes reporting requirements for the supplemental irrigation supply (Section VIII.B.5.a, pg. E-9 and Section VIII.E.1.b, pg. E-12). ***Therefore, the City requests that the relevant monitoring requirements for the supplemental irrigation supply be specified to ensure City staff will collect the samples needed to satisfy the reporting requirements.***

The following specific changes to the Tentative Order are needed to address this request:

Page E-2, Monitoring Locations (II), Table E-1. Monitoring Station Locations

Table E-1. Monitoring Station Locations

Monitoring Location Name	Monitoring Location Description
…	…
BIO-001	Representative sample location for biosolids
IRR-001	Representative sample location for each source of supplemental irrigation supply prior to mixing with land discharge.

Page E-4, Land Discharge Monitoring Requirements (IV), Table E-4. Land Discharge to Agricultural Fields Monitoring Requirements

Table E-4. Land Discharge to The Agricultural Fields Monitoring Requirements

Parameter	*Units*	*Sample Type*	*Minimum Sampling Frequency* [2]
Flow	*mgd & inch/acre/day*	*Metered or Calculated*[1]	*Continuous*
…	…	…	…

1. *The total flow directed to The Agricultural Fields shall be calculated as the sum of the flow pumped from storage ponds (metered), ~~and~~ Industrial Line flow (metered), and Supplemental Irrigation Supply (metered).*

Page E-4, Land Discharge Monitoring Requirements (IV)

B. Land Discharge to Agricultural Fields - Monitoring Location IRR-001

1. The Discharger shall monitor Supplemental Irrigation Supply discharged to the Agricultural Fields at IRR-001 as required in Table E-5. Sampling is not required during periods when Supplemental Irrigation Supply is not discharged to The Agricultural Fields.

Table E-5. Supplemental Irrigation Supply

Parameter	*Units*	*Sample Type*	*Minimum Sampling Frequency*
Flow	*mgd*	*Metered*	*Continuous*
Total Dissolved Solids	*mg/L*	*Grab*	*1/Year*

Note that the addition of the above table will require re-numbering of subsequent tables in the Monitoring and Reporting Program.

Page E-10, Reporting Requirements (VIII), Annual Self-Monitoring Reports (D.1)

> 1. *The results from annual monitoring of the Industrial Influent (Section III.B) and Supplemental Irrigation Supply (Section IV.B)*

FACTUAL CHANGES

Waste Discharge Requirements

Cover Page, Table 2. Discharge Location

The Assessor's Parcel Numbers (APN) listed for the Wastewater Treatment Plant is inaccurate. The APN should be corrected to 055-130-15. In addition, the APN for the Land Application Areas is not entirely accurate because the parcel with APN 055-150-17 is not a Land Application Area. That APN should be removed from the table.

Definitions (Attachment A)

Page A-2, Wastewater

The definition for "Wastewater" is not consistent with the City's current practices. Specifically, biosolid supernatant, DAF subnatant, and liquid slurry of biosolids are no longer applied (as indicated in the discussion in the Fact Sheet (Attachment F), Section IV.C.1 on the Sludge Lagoons (Page F-8)). The definition should thus be modified as follows:

> ***Wastewater*** *is defined as either the discharge of: (1) treated municipal wastewater, (2) industrial wastewater, ~~(3) biosolid supernatant, (4) DAF subnatant,~~ (3~~5~~) stormwater runoff, (4~~6~~) return agricultural tailwater, ~~(7) biosolids,~~ or (5~~8~~) any combination of (1) through (4~~7~~).*

Monitoring and Reporting Program (Attachment E)

Page E-3, Table E-3. Industrial Influent Monitoring; Page E-4, Table E-4 Land Discharge to The Agricultural Fields Monitoring Requirements; Page E-6, Table E-7. Pond(s) Monitoring Requirements

The "metals" and "standard minerals" constituent lists in the footnotes of each of the subject monitoring tables are not consistent.

Table footnotes that list constituents to be monitored for "Metals" or "Heavy Metals" should be as follows:

> *Heavy metals (or metals) shall include analyses for Arsenic, Cadmium, Chromium, Copper, Dissolved Iron, Dissolved Lead, Dissolved Manganese, Mercury, Molybdenum, Nickel, Selenium, and Zinc. Mercury analysis requires use of "clean technique."*

Table Footnotes that list constituents to be monitored for "Standard Minerals" should be as follows:

> *Standard minerals shall include the following: boron, bromide, calcium, chloride, fluoride, iron, magnesium, manganese, nitrate as nitrogen, potassium, phosphorus, sodium, sulfate, total alkalinity (including alkalinity series), and total hardness as CaCO3, and include verification that the analysis is complete (i.e., cation/anion balance).*

Page E-8, Reporting Requirements (VIII), General Monitoring and Reporting Requirements (A.5)

The discussion of determining compliance with effluent limitations for *priority pollutants* is not applicable to the Tentative Order. Moreover, there are not any AWEL (average weekly effluent limitations) prescribed in the Tentative Order. Finally, a discussion of an arithmetic mean or median is not appropriate when considering compliance with maximum daily effluent limitations (MDEL). Therefore, the City contends that either Section VIII.A.5 should be removed from the Tentative Order, or it should be modified as follows:

> *5. Multiple Sample Data. When determining compliance with an AMEL~~, AWEL, or MDEL for priority pollutants~~ and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:*

Page E-9, Reporting Requirements (VIII), Monthly Self-Monitoring Reports (SMRs) (B.1)

Section VIII.B.1 of Attachment E indicates when SMRs are due, which is redundant with Table E-9 (pg. E-11). In addition, the item is under "Monthly Self-Monitoring Reports (SMRs)" but includes details on reporting quarterly and annual monitoring results. For clarity, this item should be removed.

Page E-11, Reporting Requirements (VIII), Annual Self-Monitoring Reports (D.5)

Items 5, 6, 7 listed under in the Annual SMRs section are, in fact, general reporting requirements relevant to monthly and quarterly SMRs, as well. Placing these items only in the Annual SMRs section does not provide clear direction to City staff. Therefore, these items should either be moved under Section VIII.A (General Monitoring and Reporting Requirements) of the Monitoring and Reporting Program or placed under a new, separate heading.

Fact Sheet (Attachment F)

Page F-11, Rationale for Monitoring and Reporting Requirements (VI), Groundwater (C.1.c)

This section appears to not have been modified from the previous version of the WDRs and should be updated as follows:

> *c. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with Resolution No. 68-16. Economic analysis is only one of many factors considered in determining best practicable treatment or control. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background beyond the existing impacts discussed herein, this permit may be reopened and modified. ~~Until groundwater monitoring is sufficient,~~ This Order contains Groundwater Limitations that allow*

groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened and specific numeric limitations established consistent with Resolution 68-16 and the Basin Plan.

Page F-14, Rationale for Provisions (VII), Construction, Operation, and Maintenance Specifications (A.2.a)

This section addresses the Effluent Storage Ponds, and reference to "Treatment" should be removed. In addition, the Pond Operation Requirements do not address requirements that pertain to percolation. Therefore, a discussion of the pond lining is not appropriate in this section of the fact sheet. The following specific changes are recommended:

*a. **~~Treatment~~** **Effluent Storage** **Pond Operation Requirements**. Section 13050 of California Water Code (CWC) prohibits wastewater, either discharged or impounded, to create a nuisance. Anaerobic conditions (lacking oxygen) within ponds tend to produce aesthetically undesirable odors, and impounded waters improperly managed can breed mosquitoes. Furthermore, as previously disclosed, ~~all ponds (except the sludge lagoon) at the Facility~~ the Effluent Storage Ponds are unlined, so impounded wastewater may percolate to the underlying groundwater. Low pH values cause metals to dissolve, allowing them to percolate into the groundwater. Many metals are priority toxic pollutants, and when transported into groundwater, could elevate concentration levels and violate the Basin Plan's groundwater toxicity objective. Therefore, this provision is necessary to comply with CWC Section 13050.*

MINOR EDITORIAL COMMENTS

Waste Discharge Requirements

Page 2, Findings (II), Background (A)

***A. Background.** In February 2012 the Discharger submitted a ROWD to renew Order R5-2007-0113 and National Pollutant Discharge Elimination System (NPDES) Permit*

Page 4, Findings (II), Antidegradation Policy (F) and Title 27 (G)

***F. Antidegradation Policy.** The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements the state antidegradation policy. As discussed in detail in the Fact Sheet (Attachment F, Sections III.C.2~~3~~. and IV.B.1~~D.4~~.), this Order requires compliance with the antidegradation provisions of State Water Board Resolution No. 68-16.*

***G. Title 27.** Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. Discharges of wastewater to land, including but not limited to evaporation ponds or percolation ponds, are exempt from the requirements of Title 27, CCR, based on section 20090 et seq. The Facility includes the Effluent Storage Ponds, the Agricultural Fields Areas and sludge lagoons. The sludge lagoons are exempt from Title 27. However, the Facility's storage ponds and reuse on the Agricultural Fields*

are not exempt from Title 27, because untreated industrial wastewater is applied. This Order requires compliance with the regulatory requirements of Title 27. Additional details on Title 27 exemptions are in the Fact Sheet, Section IV.~~F~~C.1.

Page 6, Effluent Limitations and Discharge Specifications (IV), Land Discharge Specifications (A)

A. Land Discharge Specifications

The Discharger shall maintain compliance with the following land discharge specifications as described in the attached MRP (Attachment E). Loading calculations shall be performed as specified in the attached MRP (Attachment E), Section ~~X.B.6~~VIII.B.5. All reports shall be prepared under the direct supervision of a certified agronomist and signed by the registered professional.

Flow Schematic (Attachment C)

The flow schematic included in the Tentative Order appears to be horizontally inverted.

Monitoring and Reporting Program (Attachment E)

Multiple Tables in Attachment E

Many of the monitoring tables Table E-1 includes an extra column on the left site that is blank and should be deleted. In addition, many tables include columns for "Required Analytical Test Method." This column should only be included if a test method must be used to ensure effluent limitations are satisfied and the required method is not detailed in 40 CFR 136.

Page E-9, Reporting Requirements (VIII), Monthly Self-Monitoring Reports (SMRs) (B.5.a)

Groundwater will be monitored quarterly and is thus does not include monthly results. The reference to groundwater monthly results should be removed from Item VIII.B.5.a.

Page E-10, Reporting Requirements (VIII), Monthly Self-Monitoring Reports (SMRs) (B.5.i)

*i. **Nitrogen loading rates** for other sources (i.e., fertilizers and biosolids) shall be calculated for each irrigation field on a monthly basis using the daily applied load and the estimated daily application area.*

Page E-10, Reporting Requirements (VIII), Quarterly Self-Monitoring Reports (C.1)

1. The results from quarterly monitoring of the Municipal Influent (Section III.A) Industrial Influent (Section III.B), Effluent Storage P~~p~~onds (Section V.B), and groundwater (Section VI.A) in tabular format.

Page E-10, Reporting Requirements (VIII), Annual Self-Monitoring Reports (D.1)

1. The results from annual monitoring of the Industrial Influent (Section III.B) and Supplemental Irrigation Supply (Section IV.B)

Page E-10, Reporting Requirements (VIII), Annual Self-Monitoring Reports (D.2)

> 2. *An evaluation of the groundwater quality beneath the wastewater treatment facility and land application area, and determination of compliance with the groundwater limitations of the WDRs based on statistical analysis for each constituent monitored for each compliance well. Include all calculations and data input/analysis tables derived from use of statistical software, as applicable.*

Page E-12, Reporting Requirements (VIII), Annual Self-Monitoring Reports (D.7), Table E-9

The sampling frequencies "2/Year" and "1/Permit term", which are included in Table E-9, are not elsewhere used in the permit. For clarity, the rows for these frequencies should be removed from Table E-9. (Note, Table E-9 will need to be re-numbered to Table E-11 if the other comments listed above are incorporated.)

Fact Sheet (Attachment F)

Page F-4, Applicable Plans, Policies, and Regulations (III), California Environmental Quality Act (CEQA) (B)

CEQA is not referenced elsewhere in the Tentative Order, including the referenced section. Item III.B should thus be removed from the Tentative Order's Fact Sheet.

Page F-5, Applicable Plans, Policies, and Regulations (III), State Regulations, Policies, and Plans (C)

> ***C. State ~~and~~ Regulations, Policies, and Plans***
>
> 1. ***Water Quality Control Plans****.*
>
> *…*
>
> *Therefore, this Order also contains land discharge specifications, which are also necessary to protect the beneficial uses of the underlying groundwater (receiving water), as discussed in more detail in Section IV.C.2~~F~~. of this Fact sheet.*
>
> 2. ***Antidegradation Policy.*** *The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements the State antidegradation policy. As discussed in detail in the Fact Sheet (Attachment F, Section IV.B.1~~D.4.~~) the discharge is not consistent with the antidegradation provisions of State Water Board Resolution 68-16. This Order requires the Discharger to implement Best Treatment and Control (BPTC) measures to protect groundwater. This Order requires BPTC to be implemented under a strict schedule.*

Page F-6, Rationale for Effluent Limitations and Discharge Specifications (IV), Groundwater (B.1.a)

*a. ~~.~~**Groundwater.** The Discharger utilizes storage ponds and reuses municipal and industrial wastewater for irrigation of the Agricultural Fields. This Order requires the Discharger to limit the hydraulic, total nitrogen, and BOD loadings to the extent of the plant uptake to assure that pollution or nuisance will not occur. This Order also requires the Discharger to comply with groundwater limits for certain pollutants of concern (see Section V.A~~B~~. Groundwater Limitations)*

Pages F-7 and F-8, Rationale for Effluent Limitations and Discharge Specifications (IV), Title 27 (C.1)

***The Agricultural Fields/Reuse.** During the agricultural season (about April through September), the Discharger irrigates agricultural fields with the untreated food processing wastewater blended with secondary treated municipal effluent. Additionally, the Discharger applies dewatered biosolids on the City owned land that surrounds the Facility. Groundwater characterization shows ~~exceedences~~ exceedances …*

Pages F-10, Rationale for Receiving Water Requirements (V)

4. The level of groundwater quality is ~~dependant~~ dependent upon background conditions. Groundwater monitoring has been conducted at the Facility, but the site's groundwater quality is highly variable due to the complexities of regional and local influences, as well as the Facility's land application practices. Therefore, this Order requires the Discharger to continue to characterize background groundwater quality to determine whether the discharge continues to degrade groundwater below water quality objectives (See Provision VI.2.c.d~~)~~. This Order requires the Discharger to evaluate and implement BPTC since the groundwater monitoring results show that the discharge of waste is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality.

Pages F-10, Rationale for Monitoring and Reporting Requirements (VI), Receiving Water Monitoring (C)

C. Receiving Water Monitoring (MRP, Section VI~~VIII~~)

Pages F-12, Rationale for Monitoring and Reporting Requirements (VI), Other Monitoring Requirements (D)

D. Other Monitoring Requirements

1. ***Discharges to Land – Monitoring Location LND-001 (MRP, Section IV~~VI~~).*** *…*

2. ***Reclamation Monitoring (MRP, Section V~~VII.~~ A.).*** *…*

3. ***Reclamation Monitoring – Wastewater in Storage Ponds Monitoring Locations PND-001 through PND-004 (MRP, Section V~~VII~~.B.).*** *…*

Pages F-13, Rationale for Provisions (VII), Background Groundwater Quality and Groundwater Degradation Assessment Study (A.1.a)

a. ***Background Groundwater Quality and Groundwater Degradation Assessment Study.*** *… The groundwater study also concluded that boron, nitrate, phosphorus and potassium ~~exceedences~~ exceedances may be the result of the Facility's activities based on the composition of the irrigation water, pond water and biosolids slurry…*

EDITS TO THE TENTATIVE ORDER
AMENDING ORDER R5-2007-0113-01
WASTE DISCHARGE REQUIREMENTS AND MASTER RECLAMATION PERMIT
FOR THE CITY OF LODI
WHITE SLOUGH WATER POLLUTION CONTROL FACILITY
SAN JOAQUIN COUNTY

This document presents proposed edits to the Tentative Order Amending the Waste Discharge Requirements Order R5-2007-0113 for the City of Lodi (City) White Slough Water Pollution Control Facility (WPCF). These edits are consistent with Attachment A, which provides comments on Attachment 1 to the Tentative Order Amending the Waste Discharge Requirements Order R5-2007-0113.

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

1. On 14 September 2007, the Central Valley Water Board adopted Waste Discharge Requirements Order R5-2007-0113, prescribing waste discharge requirements for the White Slough Water Pollution Control Facility, San Joaquin County. For the purposes of this Order, the City of Lodi is hereafter referred to as "Discharger" and the White Slough Water Pollution Control Facility is hereafter referred to as "Facility."

2. The Discharger owns and operates two separate wastewater collection systems, a municipal wastewater line and an industrial wastewater line that collects primarily food processing wastewater from Pacific Coast Producers, a local cannery. The Facility's wastewater treatment system consists of a head works with comminutors, mechanical grit removal, primary sedimentation, conventional activated sludge with nitrification and denitrification, secondary sedimentation, tertiary treatment using cloth media filtration, and ultraviolet light pathogen deactivation (UV Disinfection).

3. Order R5-2007-0113 (NPDES No. CA0079243), allows year-round discharges of tertiary treated, UV disinfected municipal wastewater to Dredger Cut, a water of the United States and part of the Sacramento-San Joaquin Delta. However in general, the Facility only discharges to surface water during the months of September through June. Typically during the summer months (mid-~~June~~April through early-September), undisinfected secondary treated municipal wastewater is pumped to the Facility's 40-acres of unlined storage ponds and is used to irrigate the Discharger's agricultural fields. The Discharger's agricultural fields cover approximately 790 acres adjacent to the Facility and are used for fodder, fiber, or feed crops that are not directly used for human consumption (hereinafter The Agricultural Fields). Throughout the year, the Discharger also supplies tertiary treated municipal wastewater (Recycled Water) to Northern California Power Agency (NCPA) and San Joaquin County (SJCo) Vector Control District. Approximately 1.0 – 1.5 million gallons per day of Recycled Water is used as cooling water makeup for NCPA. The SJCo Vector Control District uses approximately 45 million gallons per year of Recycled Water for its mosquito fish rearing ponds.

4. On 7 July 2009, the State Water Resources Control Board (State Water Board) adopted Water Quality Order 2009-0005 (Lodi Order), which was subsequently amended on 7 February 2012 by WQ 2012-0001, remanding Order R5-2007-0113 to the Central Valley Water Board, in part for reconsideration and revision of the exemption of land disposal activities of section 20090 of the Title 27 of the California Code of Regulations (Title 27).

5. In February 2012, the Discharger submitted a Report of Waste Discharge (ROWD) to renew Order R5-2007-0113 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079243, which regulated discharges to Dredger Cut, discharges to land, and water reclamation.

6. In the February 2012 ROWD, the Discharger requested separate permits to be issued by the Central Valley Water Board for the surface water and land discharges. Due to the complexities of the discharges to land for this Facility, separate permits for the surface water and land discharges is practical.

7. On X October 2013, the Central Valley Water Board adopted Waste Discharge Requirements Order R5-2013-XXXX (NPDES Permit No. CA0079243), which allows year-round discharges of tertiary treated, UV disinfected municipal wastewater to Dredger Cut.

8. In order to continue the regulation of the land discharges and water reclamation, this Order amends Order R5-2007-0113 to remove all NPDES requirements for the surface water discharge and makes some necessary updates to the land discharge requirements. These updates include: (1) addition of monitoring requirements for the industrial influent for total nitrogen, ammonia, nitrate plus nitrite and standard minerals; (2) updates to the Title 27 findings and addition of compliance schedule in accordance with State Water Board WQ 2012-0001; (3) modifies the daily biochemical oxygen demand (BOD) loading rate to the Agricultural Fields; and (4) updates to the antidegradation findings and addition of requirement to submit Best Practicable Treatment or Control (BPTC) study for the land discharges. These changes are discussed in more detail in the Findings 9 – 12, below. The land discharge waste discharge requirements will be fully evaluated and new waste discharge requirements will be issued in the future by the Central Valley Water Board.

9. Additional Monitoring Requirements. Groundwater monitoring results show that the discharge of waste is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality for nitrate and manganese. This amendment of Order R5-2007-0113 includes additional monitoring for the industrial influent for total nitrogen, ammonia, nitrate plus nitrite, and standard minerals (which include total manganese). This monitoring will assist in understanding the sources of excess nitrogen and manganese in the groundwater.

10. Title 27. Discharges of domestic sewage or treated effluent to land, including but not limited to evaporation ponds or percolation ponds, are exempt from the requirements of Title 27, CCR, based on section 20090(a). The Facility contains storage facilities and agricultural reuse fields. These facilities from where discharges to land may occur include the Effluent Storage Ponds, the Agricultural Fields and sludge lagoons. The State Water Board's Lodi Order found that the unconditional sewage exemption (Section 20090(a)) applies to post-treatment facilities that (1) are used to store treated municipal wastewater prior to ultimate disposal or reuse, (2) do not receive any other wastes other than authorized on-site storm water flows, and (3) are under the control of the municipal treatment plant. Based on the Lodi Order and the Discharger's groundwater monitoring results, this Order amends the Title 27 findings contained in Order R5-2007-0113 for the discharges to land as follows:

- *Effluent Storage Ponds. The Effluent Storage Ponds are not exempt from the requirements of Title 27 CCR, pursuant to Title 27 CCR section 20090(a) ~~and (b)~~. The Effluent Storage Ponds hold undisinfected secondary treated effluent, untreated industrial flows, storm water, and agricultural return water, and thus are not unconditionally exempt pursuant to Title 27, section 20090(a) because they store untreated industrial flows. The Effluent Storage Ponds are exempt from the requirements of Title 27 CCR, pursuant to Title 27 CCR section 20090 (b). The conditional exemption pursuant to Title 27, section 20090(b) ~~also does not~~ applies~~y~~ because ~~the Effluent Storage Ponds are unlined; therefore, wastewater~~*

~~contained in the ponds percolates to the underlying groundwater and~~ *monitoring data obtained from the ponds indicate that* ~~*some*~~ *all constituents* ~~*do not*~~ *comply with the applicable water quality control plan.*

- *Wastewater Discharges to the Agricultural Fields*~~*/Reuse*~~*. During the agricultural season (typically April through September), the Discharger irrigates agricultural fields with untreated food processing wastewater blended with undisinfected secondary treated municipal effluent.* ~~*Additionally, the Discharger applies dewatered biosolids on the Agricultural Fields.*~~ *Groundwater characterization shows exceedences of manganese and nitrate that may be attributed by the Discharger. Therefore, the reuse of treated wastewater, untreated industrial wastewater, storm water, and agricultural runoff* ~~*and biosolids*~~ *on the agricultural fields are not exempt from Title 27 pursuant to Section 20090*~~*(h)*~~*(b).*

- *Dewatered Biosolids Discharges to the Agricultural Fields. Twice per year between cropping cycles, the Discharger applies dewatered Class B biosolids on the Agricultural Fields as a soil amendment. The use and disposal of biosolids comply with existing Federal and State laws and regulations, including permitting requirements and technical standards in Code of Federal Regulation (CFR) Part 503. Previous disposal practices included discharging Dissolved Air Flotation subnatant and Sludge Lagoon supernatant to the Effluent Storage Ponds, as well as, adding a liquid slurry of biosolids with wastewater and applying directly to the agricultural fields. The Facility improvements completed in 2009 include an additional lined sludge lagoon, rotary dewatering, and lined covered sludge storage area. All subnatant and supernatant are now pumped to the headworks of the Facility for treatment and no longer discharged to the Effluent Storage Ponds. Additionally, the biosolids slurry is no longer applied to the agricultural fields. Only dewatered stabilized biosolids are applied to the agricultural fields. This practice is exempt from Title 27 pursuant to Section 20090(f)*[1]*.*

- *Sludge Lagoons.* ~~*The Discharger land applies dewatered Class B biosolids to selected agricultural fields. The use and disposal of biosolids comply with existing Federal and State laws and regulations, including permitting requirements and technical standards in Code of Federal Regulation (CFR) Part 503. Previous disposal practices included discharging Dissolved Air Flotation subnatant and Sludge Lagoon supernatant to the Effluent Storage Ponds, as well as, adding a liquid slurry of biosolids with treated wastewater and applying directly to the agricultural fields. The Facility improvements completed in 2009 include an additional lined sludge lagoon, rotary dewatering, and lined covered sludge storage area. All subnatant and supernatant are now pumped to the headworks of the Facility for treatment and no longer discharged to the Effluent Storage Ponds. Additionally, the biosolids slurry is no longer applied to the agricultural fields. Only dewatered stabilized biosolids are applied to the agricultural fields. Because the sludge lagoons are lined*~~*, The City operates two, concrete-lined sludge lagoons as part of the solids handling operations. Liquid, digested biosolids are held in the lagoons prior to dewatering. Supernatant from the lagoons is discharged to the headworks of the treatment plant. The concrete-lined sludge lagoons are a necessary part of the Facility's wastewater treatment system and are exempt from Title 27 pursuant to Section 20090(a).*

Since the discharges to the ~~*Effluent Storage Ponds and*~~ *Agricultural Fields do not comply with Title 27, the amendment of Order R5-2007-0113 includes a compliance schedule for the Discharger to meet the regulatory requirements of Title 27 no later than 3 October* ~~*2018*~~*2023.*

[1] Alternately, the City would suggest that the exemption under Title 27 Section 20090(h) is also applicable.

11. Biochemical Oxygen Demand (BOD) Loading. The Discharger submitted the draft "White Slough WPCF Organic Loading Study Technical Report" dated March 2009, which evaluated the increased loading of BOD to the agricultural fields. Control and Test Fields were loaded with varying BOD loads of five pounds per acre-day to 250 pounds per acre-day. The results showed that up to 250 pounds of BOD per acre-day could be applied without any impacts to the groundwater or any nuisance odors. Therefore, the Land Discharge Specifications of Order R5-2007-0113 is amended to allow an increase in the daily BOD loading rate to the agricultural fields from 100 pounds per acre-day to 200 pounds per acre-day.

12. Antidegradation. The groundwater monitoring results show that the discharge of waste is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality for nitrate and manganese. In order to comply with State Water Board Resolution No. 68-16, the Discharger must implement BPTC for the Agricultural Fields. This Order amends Order R5-2007-0113 by adding a requirement for the Discharger to finalize a BPTC evaluation for the Agricultural Fields and implement its recommendations no later than 1 May 2016 for nitrate and 1 May 2023 for manganese.

13. Issuance of modifications to the Waste Discharge Requirements Order are exempt from the California Environmental Quality Control Act (Public Resources Code section 21000, et seq.) in accordance with California Water Code section 13389.

14. 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:

As shown in Attachment 1 and discussed in the above findings, Waste Discharge Requirements Order R5-2007-0113 is amended to (1) remove all NPDES permit requirements; (2) add monitoring requirements for the industrial influent for total nitrogen, ammonia, nitrate plus nitrite, ~~and~~ standard minerals; (3) update the Title 27 findings and add compliance schedule in accordance with amended State Water Board WQ 2009-0005; (4) modify the daily BOD loading rate to the Agricultural Fields; and (5) update antidegradation findings and add requirement to submit Best Practicable Treatment or Control study for the Agricultural Fields. Some editorial and clarifying changes were also made to the Order.

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 CWC 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.