

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2006-0130

CEASE AND DESIST ORDER
REQUIRING
CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION
MULE CREEK STATE PRISON WASTEWATER TREATMENT PLANT
AMADOR COUNTY

TO CEASE AND DESIST
FROM DISCHARGING CONTRARY TO REQUIREMENTS

The Regional Water Quality Control Board, Central Valley Region, (hereafter referred to as "Regional Water Board") finds that:

1. Waste Discharge Requirements (WDRs) Order No. 5-00-088, adopted by the Regional Water Board on 28 April 2000, prescribes requirements for the California Department of Corrections and Rehabilitation (CDCR) Mule Creek State Prison wastewater treatment plant (WWTP), and wastewater conveyance systems from the Preston Youth Correctional Facility and California Department of Forestry Fire Academy.
2. The CDCR Mule Creek State Prison, Preston Youth Correctional Facility, and California Department of Forestry are jointly responsible for compliance with the WDRs. However, this Order pertains to issues at the Mule Creek State Prison WWTP, and therefore is issued solely to the CDCR (hereafter referred to as Discharger).
3. The WWTP is about one mile north of the City of Ione on Highway 104, in Section 13, T6N, R9E, MDB&M.

**DESCRIPTION OF FACILITIES
AS FOUND IN THE WASTE DISCHARGE REQUIREMENTS**

4. The current WDRs allow an average dry weather discharge flow rate of up to 740,000 gallons per day (gpd) and a peak wet weather discharge flow rate not to exceed 2.2 million gpd.
5. The wastewater treatment plant consists of an oxidation ditch, two clarifiers, chlorination facilities, a filter belt press operation for dewatering sludge, sludge drying beds, a 4,000-gallon sodium hypochlorite storage tank, a 525 acre-foot storage reservoir, and 296 acres of irrigated land. Wastewater effluent is disposed of via spray irrigation on the land and by evaporation/percolation from the effluent storage reservoir. In addition, Mule Creek State Prison is under contract to deliver a minimum of 80 acre-feet and up to a maximum of 130 acre-feet of wastewater annually to the Amador Regional Sanitation Authority's (ARSA's) wastewater treatment and disposal system.
6. There are three main sources of wastewater entering the treatment plant: wastewater generated from the prison, including prison industries (i.e., meat packing, laundry facilities, and coffee

ground processing), wastewater generated from Preston Youth Correction Facility, and wastewater from the California Department of Forestry Fire Academy. The WDRs state that average wastewater flow volume from Preston is 153,000 gpd with peak flows up to 239,000 gpd. The WDRs state that winter wastewater flows from the Forestry Fire Academy average 2,000 gpd. During the summer months, when training classes are in session, the flows increase to approximately 10,000 to 20,000 gpd. Influent flows from Preston and the Forestry Fire Academy are measured by flow meters; however, they are not individually reported in the Discharger's monthly monitoring reports.

7. The Discharger is responsible for the operation and maintenance of the WWTP, the 525-acre foot storage reservoir, the sprayfields, and all conveyance lines on its property. The Discharger is also responsible for maintaining the sewer line between Preston's Pump Station #1 and the wastewater treatment plant.
8. The Preston Youth Correctional Facility is responsible for the operation and maintenance of the two lift stations, the bar screen, and the sewer line between its two pump stations.
9. The California Department of Forestry is responsible for the maintenance of all conveyance lines and appurtenances associated with the transport of wastewater from the Academy's property to Mule Creek State Prison's property line, including the pipe crossing above Mule Creek.

HISTORY OF VIOLATIONS

10. On 25 July 2006, the Discharger's treatment plant operator notified Regional Water Board staff via telephone that effluent was being discharged in violation of the WDRs. Specifically, the operator stated that the effluent limits for total coliform organisms and BOD were being exceeded. The operator stated that the treatment plant was being hydraulically overloaded due to overcrowding in the prison, and that he was trying to implement improvements to bring the WWTP into compliance.
11. On 14 August 2006, the Discharger's treatment plant operator contacted staff to provide an update, stating the plant effluent still did not comply with the effluent limits in the WDRs.
12. On 15 August 2006, Regional Water Board staff received a call and e-mail from ARSA's wastewater treatment plant operator stating that he had toured the Discharger's wastewater treatment plant on 8 August 2006 and found that the plant was severely overloaded, resulting in wastewater not being adequately treated. Solids were bypassing the treatment system and being discharged onto land.

16 August 2006 Inspection Violations

13. Staff conducted a compliance inspection of the Discharger's facility on 16 August 2006.
14. During the inspection, the Discharger's staff provided Regional Water Board staff a letter describing the treatment plant problems. In summary, the letter stated (1) that the treatment plant

was poorly designed, (2) that the plant's equipment and sprayfields are undersized, causing treatment and irrigation problems, and (3) that the continued increase in the prisoner population has resulted in increased flows that the treatment plant cannot handle. The letter also stated that the secondary clarifiers are being hydraulically overloaded every day, to the point that organic solids are continually being discharged from the plant.

15. Several violations of the WDRs were found during the inspection, including bypass of wastewater from the treatment system and discharge of wastewater to a surface drainage course. These violations were detailed in an inspection report dated 25 August 2006, and are further described below.
16. Discharge Prohibition A.2 of the WDRs states "*Bypass or overflow of untreated or partially treated waste is prohibited.*" During the inspection, staff noted that the secondary effluent produced by the plant was of poor quality and that solids were overflowing the weirs within the secondary clarifier units. Solids flowed into the wet well for the spray irrigation system. Wastewater treatment plant staff indicated that solids carryover through the weir was most likely the result of hydraulic overloading. Solids carryover is considered a bypass of partially treated waste and is a violation of Prohibition A.2.
17. Discharge Prohibition A.1 of the WDRs states "*Discharge of wastes to surface waters or surface water drainage courses is prohibited.*" Discharge Prohibition A.7 states "*Excessive irrigation with reclaimed water that results in runoff of reclaimed water... is prohibited.*" Discharge Specification B.4 states, "*The waste discharge shall at all times remain in the designated disposal area.*" During staff's 16 August 2006 inspection, the Discharger stated that a spill had occurred at the spray disposal fields the night before the inspection. Approximately 20,000 gallons of wastewater was spilled into Mule Creek because a sprayfield pump was left on overnight, resulting runoff from the fields. Staff observed runoff flowing into a surface drainage course that flows into Mule Creek. Because of the location of the spill and the fact that Mule Creek was not flowing at the time of the inspection, the spill was contained within the Mule Creek State Prison property and did not flow off site. However, the discharge was a violation of Prohibitions A.1 and A.7, and Discharge Specification B.4.
18. Provision H.6 of the WDRs states, "*CDC shall comply with the 'Standard Provisions and Reporting Requirements for Waste Discharge Requirements', dated 1 March 1991, which is attached hereto and made part of this Order by reference. This attachment and its individual paragraphs are commonly referenced as 'Standard Provision(s)'. During staff's inspection, the Discharger stated that another spill had occurred at one of the spray disposal fields approximately three weeks before. The spill occurred when a sprayfield distribution line broke, allowing approximately 12,000 gallons of treated effluent to flow into Mule Creek. Staff was not notified of the spill. According to the Discharger, Mule Creek was not flowing at the time of the spill, and the spill was reportedly contained within the Mule Creek State Prison property. The spill was a violation of Prohibitions A.1 and A.7, and Discharge Specification B.4. Lack of reporting is a violation of Provision H.6.*"

Flow Limit and Effluent Violations

19. A review of the Discharger’s self monitoring reports from the months of June 2005 through June 2006 was conducted following the 16 August 2006 inspection, and a number of additional violations of the WDRs and monitoring and reporting program were found, relating to violations of the flow limit and effluent limits.
20. Discharge Specification B.1 of the WDRs states “*The average dry weather discharge flow rate shall not exceed 0.74 mgd [740,000 gpd].*” Staff’s review of the monthly self-monitoring reports found that the average dry weather flow rate was exceeded in the months of July, September, and October 2005, and May and June 2006, when flows ranged from 757,000 to 814,000 gallons per day. These flows are a violation of the WDRs. The Discharger did not notify Regional Water Board staff of the flow limit exceedences, in violation of Provision H.6 of the WDRs.
21. On 18 September 2006, the Discharger’s treatment plant operator notified Regional Water Board staff that they had recently calibrated the treatment plant’s flow meter, and found that the meter was not reading correctly. It was determined that the actual flows could be as much as twenty percent higher than reported. The operator stated that he had ordered a new flow meter, and anticipated it would be installed by the end of September 2006. It is not known if a new meter has yet been installed.
22. Discharge Specification B.11 of the WDRs states, “The WWTP storage reservoir shall have sufficient capacity to contain all reclaimed wastewater flow, design seasonal precipitation, seasonal ancillary inflow, and infiltration during the wet season. Design seasonal precipitation shall be based on total annual precipitation using a return of 100 years, distributed monthly in accordance with historical rainfall patterns.” Discharge Specification B.13 states “On or about 15 **October** each year, the available storage reservoir capacity shall at least equal the volume necessary to comply with Discharge Specification B.11 and 12.” Because the average dry weather flow limit prescribed in the WDRs has been exceeded, and staff’s inspection found that the effluent storage reservoir was approximately half full, staff is concerned that the Discharger may not be in compliance with Discharge Specification B.11, and may not be able to maintain two feet of freeboard (required by Discharge Specification B.12) in the effluent storage reservoir in the 2006/2007 wet season.
23. Effluent Limitations C.1 states, “*Effluent discharged to the storage reservoir in excess of the following limits is prohibited:*

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Monthly Median</u>	<u>Daily Max</u>
Total Coliform Organisms	MPN/100 ml	-	23	230
Total Suspended Solids	mg/l	40	-	80
Total Setttable Solids	mg/l	-	-	0.2
BOD ¹	mg/l	40	-	80
Total Dissolved Solids	mg/l	450	-	-

¹ 5-day, 20⁰ Celsius Biochemical Oxygen Demand”

Review of the monthly self-monitoring reports indicates that the total coliform organisms and BOD effluent limits were exceeded in the month of May 2006. Preliminary lab data submitted by the Discharger for the months of July and August 2006 also shows that the monthly average and daily maximum total coliform organisms limitations were exceeded for both months, and the BOD limit was exceeded in August. This preliminary lab data also shows that the total suspended solids limit was exceeded for the month of August.

24. Provision H.5 of the WDRs states, “*CDC shall comply with Monitoring and Reporting Program No. 5-00-088, which is part of the Order, and any revisions thereto, as ordered by the Executive Officer.*” Review of the monthly self-monitoring reports and case file indicates that some of the monitoring reports have not been submitted, and some of the monitoring as required by the MRP has not conducted. Prior to staff’s 16 August 2006 inspection, staff had no record that the monitoring reports for the months of February, March, April, or June 2006 had been submitted. In addition, there was no record that the annual monitoring report for 2005 was submitted. During staff’s inspection, staff requested that the Discharger submit the missing monitoring reports. The Discharger submitted the monitoring reports on 22 August 2006. However, surface water monitoring results were not submitted with any of the monitoring reports.

Additional Violations

25. On 21 September 2006, the Amador County Environmental Health Department notified Regional Water Board staff that they had observed tailwater runoff from the Discharger’s sprayfields entering Mule Creek. In response, staff immediately called the Discharger and requested that they investigate the complaint. On the evening of 21 September 2006, the Discharger notified staff that a spill did in fact occur at the sprayfield in question. The Discharger estimates that approximately 5,000 gallons spilled into Mule Creek due to over saturation of the sprayfields. Mule Creek was dry at the time of the spill and wastewater was contained within the state prison property. The spill was a violation of Prohibitions A.1 and A.7, and Discharge Specification B.4.
26. On 21 September 2006, the Discharger notified staff that a spill had occurred at a second sprayfield, and it had also entered Mule Creek. The spill was approximately 3,000 gallons, and was also caused by saturated conditions. The Discharger stated that it removed wastewater from the Mule Creek drainage by placing loose dirt in the creek to soak up the water, and removing and placing the saturated dirt in the sprayfields. The spill was a violation of Prohibitions A.1 and A.7, and Discharge Specification B.4.
27. On 28 September 2006, the Discharger notified staff that a 750-gallon spill occurred from the filter belt press wet well located at the sludge drying facility. The spill occurred because the wet well did not have an alarm system to notify plant personnel if the well was full. The spill entered a storm drain which discharges into a surface water drainage course that flows into the Mule Creek. The surface drainage course was dry at the time of the spill, and wastewater did not flow into Mule Creek. The Discharger removed the spilled wastewater that was present in the drainage course. The spill was a violation of Prohibitions A.1 and A.7, and Discharge Specification B.4.

Staff are still waiting for the formal spill reports for this spill. Per the Standard Provisions, written reports are to be submitted within 14 days of a spill.

28. On 29 September 2006, staff conducted an inspection of the Discharger's spray disposal fields. Staff noted numerous current and potential compliance issues within the sprayfields, including: spray heads being within the required 100-foot setback from creeks and drainages; sprayfields saturated from over-irrigation; overgrown vegetation within the sprayfields which limits the fields from properly being inspected and maintained; lack of tailwater control to prevent discharges into surface waters; lack of access to numerous sprayfields; and seepage from the storage reservoir. These issues are violations of Discharge Specifications B.5 and Reclamation Requirements D.4, D.5, and D.6. An inspection report and Notice of Violation were prepared.
29. The Groundwater Limitation of the WDRs states that the discharge of waste shall not cause the underlying groundwater to contain waste constituents in concentrations greater than background water quality (except for coliform, which may not exceed 2.2 MPN/100 ml for any seven-day period). To date, the Regional Water Board has not required the Discharger to install groundwater monitoring wells to determine if the discharge of waste complies with the Groundwater Limitation. However, it is now appropriate to require the installation of monitoring wells, as local shallow groundwater is within 20 feet of ground surface, it appears that the storage reservoir is seeping, and this Order requires the Discharger to make long-term improvements to its storage and disposal facilities. Those improvements must have a reasonable assurance of compliance with the Groundwater Limitation.

RESPONSE TO VIOLATIONS

30. On 28 August 2006, Regional Water Board staff met the Discharger to discuss the wastewater violations at the facility. The Discharger stated that increases in prisoner population have caused wastewater flows to increase beyond the permitted limit. The Discharger also stated that they were looking at mitigation measures to reduce the volume of wastewater inflows and to improve the quality of the effluent. Mitigation measures could include installing flushometers on toilets, limiting the number of showers that can be taken a day, reducing wastewater from the prison industries, and adding polymer to the wastewater treatment system to increase solids settling rates.
31. On 5 September 2006, a Notice of Violation (NOV) was issued to the Discharger. The NOV required the Discharger to submit a number of reports, including: a "*Wastewater Inflow and Reduction Evaluation Report*", a water balance showing whether the WWTP has sufficient treatment, storage, and disposal capacity to comply with the requirements of the WDRs, a description of how the Discharger will consistently comply with the Monitoring and Reporting Program, a description of how the Discharger will consistently comply with the Effluent Limitations, a "*Tailwater Containment Report*", and a "*Long Term Wastewater Facilities Upgrade and Financing Plan*."
32. On 1 September 2006, Mule Creek State Prison staff notified Regional Water Board staff that four days earlier they began adding polymer to the wastewater treatment system and that polymer

seemed to be working, such that solids were settling out in the secondary clarifiers and based on visual observations, believed that that the effluent limits would be met.

33. On 27 September 2006, the Discharger submitted a memorandum to Regional Water Board staff stating that there may not be sufficient storage capacity in the effluent storage reservoir for the winter of 2006/2007. The memo cited three reasons for the potential lack of storage capacity: (1) the wastewater treatment, storage, and disposal system was not designed to handle flows from the current prison population; (2) 20% of the sprayfields are within the firing range and are not used due to access issues; and (3) vehicle breakdowns and maintenance issues have prevented the operators from inspecting, repairing, and maintaining sprayfield equipment.
34. On 10 and 16 October, the Discharger submitted the reports required by the 5 September 2006 NOV. The reports are summarized as follows:
 - The *Wastewater Inflow and Reduction Evaluation Report* indicates that the average inflow to the treatment plant the month of August and first two weeks of September 2006 is approximately 782,000 gpd. The report states that the Discharger has reduced flows by installing push-button shower valves in four buildings and has installed “electronic water savings devices” in one building. It has written letters to Preston and the Department of Forestry requesting that water conservation measures be implemented. Although the details are not provided, the Discharger states that it will reduce flows at the laundry and meat plant by 30% by April 2007, reduce flows from the showers in 15 buildings by 18% by December 2007 (if funding is approved), and reduce the flows in toilets and sinks in 15 buildings by 30% by July 2007. In addition, the Discharger states that it will install water cannons around the effluent storage reservoir to increase evaporation rates, and that it will install water cannons in the sprayfields to increase disposal rates.
 - The *Wastewater Inflow and Reduction Evaluation Report* states that if the effluent storage pond is in danger of encroaching upon the required minimum of two feet of freeboard, then the Discharger “will review” trucking of wastewater to another wastewater treatment plant. The Discharger has already identified a trucking vendor and is in the process of identifying a wastewater plant that could accept its wastewater.
 - The *Water Balance* shows that the facility does not have enough storage and disposal capacity. For the current flows and a 100-year annual precipitation event, an additional 108 million gallons of disposal and 31.1 million gallons of storage capacity are needed. With 20% water conservation, the facility has enough storage capacity but lacks 45 million gallons of disposal capacity in a 100-year annual precipitation event. With 30% water conservation, the facility has enough storage capacity but lacks 13 million gallons of disposal capacity in a 100-year annual precipitation event.
 - The Discharger states that it will implement procedural changes to ensure compliance with the Monitoring and Reporting Program.

- The report states that reduction of the wastewater inflow and continued use of polymer in the wastewater treatment plant will ensure compliance with the Effluent Limitations.
- The *Tailwater Containment Report* states that the Discharger will make improvements to the sprayfields by installing tailwater control berms and ditches, and removing sprinkler heads within low-lying areas of the sprayfields. This work has begun, and the Discharger estimates that all improvements will be completed by 30 June 2007. To replace the loss of disposal capacity from removing sprinkler heads in low-lying areas, the Discharger plans to install spray cannon type heads in several areas. Additionally, the Discharger states that it will inspect the sprayfields on an hourly basis when being used. Regional Water Board staff understand that the Discharger currently assigns one person to manage the sprayfields, and are uncertain whether this one person is sufficient to make hourly inspections and maintain the sprayfields. Therefore, it is appropriate to require the Discharger to complete and submit a staffing analysis report.

REGULATORY CONSIDERATIONS

35. As a result of the events and activities described in this Order, the Regional Water Board finds that the Discharger has caused or permitted waste to be discharged in such a manner that it has created, and continues to threaten to create, a condition of pollution or nuisance. The Regional Water Board also finds that the Discharger is discharging waste in violation of WDRs No. 5-00-088 as described in the above Findings.
36. Surface water drainage from the WWTF is to Mule Creek, a tributary to Sutter Creek, which is in turn tributary to Dry Creek, and then the Sacramento-San Joaquin Delta.
37. The Regional Water Board's Water Quality Control Plan (Fourth Edition) for the Sacramento River and San Joaquin River Basins (Basin Plan) establishes the beneficial uses of the waters of the Sacramento-San Joaquin Delta. These beneficial uses are municipal and domestic supply; agricultural supply; industrial process and service supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration for aquatic organisms; spawning, reproduction, and/or early development; wildlife habitat; and navigation. The beneficial uses of underlying groundwater are municipal and domestic water supply, agricultural supply, and industrial service and process supply.
38. Section 13301 of the California Water Code states in part: "*When a regional board finds that a discharge of waste is taking place or threatening to take place in violation of the requirements or discharge prohibitions prescribed by the regional board or the state board, the board may issue an order to cease and desist and direct that those persons not complying with the requirements or discharge prohibitions (a) comply forthwith, (b) comply in accordance with a time schedule set by the board, or (c) in the event of a threatened violation, take appropriate remedial or preventive action.*"
39. Section 13267(b) of the California Water Code states: "*In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste within its region, or any citizen*

or domiciliary, or political agency or entity of this state person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”

40. The Discharger owns and operates the facility subject to this Order. Monitoring reports and other technical reports are necessary to determine compliance with the Waste Discharge Requirements and with this Order.
41. The issuance of this Order is an enforcement action by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act, pursuant to Section 15321(a)(2), Title 14, California Code of Regulations.
42. On 8 December 2006, in Rancho Cordova, California, after due notice to the Discharger and all other affected persons, the Regional Water Board conducted a public hearing at which evidence was received to consider a Cease and Desist Order.
43. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board to review the action in accordance with Section 2050 through 2068, Title 23, California Code of Regulations. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, CA, 95812-0100, within 30 days of the date on which the Regional Board action took place. Copies of the law and regulations applicable to filing petitions are available at www.swrcb.ca.gov/water_laws/index.html and also will be provided upon request.

IT IS HEREBY ORDERED that, pursuant to Sections 13301 and 13267 of the California Water Code, the California Department of Corrections and Rehabilitation, its agents, successors, and assigns, shall implement certain measures, and identify and implement facility improvements, in accordance with the scope and schedule set forth below to ensure long-term compliance with WDRs Order No. 5-00-088 or any revisions to those WDRs.

Each document submitted under this Order shall bear the following certification signed by the Discharger:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

1. With the exception of Discharge Specification No. B.1 of WDRs Order No. 5-00-088 (pertaining to the dry weather inflow to the wastewater treatment plant) the Discharger shall **immediately** comply

with all aspects of WDRs Order No. 5-00-088. Prior to **31 January 2007**, the Discharger shall not exceed a monthly average dry weather influent flow of 782,000 gpd (i.e., the flow generated in August 2006). As of **31 January 2007**, the Discharger shall not exceed a monthly average dry weather influent flow of 740,000 gpd (i.e., the WDR flow limit). As of **30 August 2007**, the Discharger shall not exceed 85% of the flow measured in August 2006. As of **30 January 2008**, the Discharger shall not exceed 75% of the flow measured in August 2006. If the *Flow Meter Calibration Report*, as required by item No. 13 in this Order, shows a different influent flow value for August 2006, then the August 2007 and January 2008 influent flow reductions shall be based on the revised calculated flow.

2. The Discharger shall **immediately** begin reporting all sanitary sewer overflows and any overflows from any treatment, storage, or disposal component in compliance with the Standard Provisions and Reporting Requirements (an attachment to the WDRs). In particular, this requires verbal notification within 24 hours of a spill, and a written spill report within 14 days. The Discharger shall also notify the Office of Emergency Services (OES), the County Environmental Health Department, and the California Department of Fish and Game as appropriate.
3. By **30 January 2007**, the Discharger shall submit and immediately implement a *Spill Contingency Plan* containing the interim measures necessary for preventing unauthorized discharges to surface watercourses from the effluent storage pond. The Spill Contingency Plan shall remain in effect until all elements of the Long Term Wastewater Facilities Upgrade have been completed. The Spill Contingency Plan must, at a minimum, consider additional water conservation measures to reduce wastewater flows, provisions for transporting wastewater offsite for disposal, and provisions for temporarily increasing the capacity of the storage reservoir. The cost and funding mechanism for each contingency measure must be identified. The Spill Contingency Plan must identify the selected alternatives and for each alternative, specify all necessary materials, staffing, and equipment required for implementation.

Sprayfield Improvements

4. The Discharger shall **immediately** begin monitoring spray disposal areas on an hourly basis when the disposal areas are used, and the results shall be included in the monthly monitoring report. Evidence of erosion, field saturation, irrigation runoff, or the presence of nuisance conditions shall be noted in the report.
5. By **30 April 2007**, the Discharger shall submit a *Sprayfield Improvement Report and Management Plan* showing that it has made improvements and implemented measures to comply with all prohibition and specifications required by the WDRs. The report at a minimum shall (1) explain how the sprayfields will be managed to prevent runoff into surface water drainages and/or into the buffer areas; (2) describe all physical improvement (i.e., tailwater control ditches, berms, etc.) made to the sprayfields to prevent tailwater runoff from entering Mule Creek and its tributaries, and clearly show that no other improvements are necessary to prevent tailwater from entering Mule Creek; (3) describe all improvements (i.e., capping off of sprinkler heads, etc.) that have been made to ensure that tailwater, wetted areas from irrigation, and spray mist from the sprinkler heads does not encroach within the 100-foot buffer zone from creeks and drainages; (4) describe fully how the water cannons will be managed to prevent ponding, spray drift outside the boundary

of the sprayfields, and overflow into surface waters; (5) describe how the sprayfields that are within the firing range will be managed and inspected at the same frequency as the other sprayfields; (6) provide a map showing the locations of all sprayfields, irrigation lines, spray heads and their relationship to all surface drainage course and creeks, and all physical improvements made to control tailwater runoff; (7) describe what improvements/measures that have been made/implemented to allow access to all sprayfields, such that the sprayfields can be properly inspected and maintained; (8) show that vegetation surrounding each sprinkler head has been removed so that the head functions properly and can be easily inspected and maintained; (9) describe how vegetation will be managed in the future such that spray irrigation sprinklers and piping can be inspected and maintained to prevent saturated conditions and tailwater runoff; (10) explain the methods for turning on and off the spray irrigation system; and (11) show that all tailwater collection systems are out of seasonal waterways.

6. By **30 April 2007**, the Discharger shall submit a *Staffing Analysis Report* for the wastewater storage and disposal system. The analysis shall include a review of current staffing levels, allocation of staff tasks, an analysis of whether current staff allocation is adequate, and if necessary, describe the shortfalls and make recommendations for future staffing needs. If the analysis indicates additional staff are necessary, then the report shall also include a *Staffing Contingency Plan* describing the steps the Discharger shall take in the short term and long term to assure that it has enough staff to perform the necessary operation and maintenance activities associated with the wastewater storage and disposal system. If the analysis indicates additional staff are necessary, then the *Staffing Contingency Plan* shall also contain a proposed timeline for acquiring the necessary staff.

Flow Reductions

7. By **30 December 2006**, the Discharger shall submit a report describing the installation of water cannons around the effluent storage reservoir. The report shall describe the number of cannons installed, the expected disposal rate, how the cannons will be managed to control spray drift outside of the reservoir, and an operating plan (i.e., when the cannons will be operated, how long each day, the conditions that will prevent operation, etc.)
8. By **30 August 2007**, the Discharger shall submit a report showing that it has reduced the influent flows (measured at the flow meter after the clarifier) by 15% in relation to flows measured in August 2006. The report shall describe the improvements made or actions taken and shall show that this is a permanent flow reduction.
9. By **30 January 2008**, the Discharger shall submit a report showing that it has reduced the influent flows (measured at the flow meter after the clarifier) by 25% in relation to flows measured in August 2006. The report shall describe the improvements made or actions taken and shall show that this is a permanent flow reduction.

Treatment Plant Improvements

10. By **30 January 2007**, the Discharger shall submit a report certifying that it has installed an alarm feature on the filter belt press wet well to notify WWTP staff of potential overflows of the wet well.

11. By **30 March 2007**, the Discharger shall submit an *Effluent Flow Meter Installation and Calibration Report*. The report shall (1) certify that a new effluent flow meter has been installed after the clarifier, is operational, and is accurately recording effluent flows from Mule Creek State Prison, (2) provide the location where the meter has been installed, (3) demonstrate that the flow meters used to monitor flows from the Prison, Preston, and the Department of Forestry have been independently calibrated by a third party such that all flow meters are accurately recording influent and effluent flows, and (4) provide standard procedures for the treatment plant operators to use when taking and recording flow measurements. The report shall also provide recalculated estimated influent flow data for the months of May through February 2007, and provide the percentage that the flow meter was off during the May 2006 through February 2007 flow monitoring events.

12. By **30 April 2007**, the Discharger shall submit an *Operation and Maintenance Plan (O&M Plan)* for the wastewater treatment and application facilities. A copy of the O&M Plan shall be kept at the facility for reference by operating personnel. Key personnel shall be familiar with its contents. The O&M Plan shall provide the following:
 - i. Operation and Control of Wastewater Treatment - A description of the wastewater treatment equipment; operational controls; treatment requirements/effluent limitations; flow diagrams including valve/gate locations; operation of the treatment systems during normal operation, by-pass, shut-down, and draining procedures; potential operational problems including a troubleshooting guide.
 - ii. Sludge Handling - A description of the biosolids handling equipment, operational controls, control tests and observations related to process control, and potential operational problems including a troubleshooting guide, and disposal procedures.
 - iii. Personnel - Recommended staffing requirements, staff qualifications, training requirements and schedule, and operator certification requirements.
 - iv. Maintenance – Maintenance procedures, equipment record system, scheduling and use of the maintenance record system, inventory system, special tools, warranty provisions and expiration dates, maintenance cost and budgeting system, and maintenance schedule of all equipment including lubricants, filters, etc.
 - v. Emergency Response – A description of the vulnerability analysis including emergencies such as power outage, severe weather, or flooding. An equipment and telephone list for emergency personnel and equipment vendors. Coordination procedures with fire, police, and health department personnel, and an emergency operating plan.
 - vi. Safety – A general discussion of the hazards of collection systems, mechanical equipment, explosion, pathogens, oxygen deficiencies, chemical and electrical hazards, etc.
 - vii. Appendices – Shall include flow diagrams, valve/gate locations, a copy of the WDRs and Standard Provisions, miscellaneous form samples, manufacturers manuals, and a list of reference materials.

13. By **30 March 2008**, the Discharger shall submit an *Influent Flow Meter Installation and Calibration report*. The report shall certify that (a) an influent flow meter has been installed upstream of the oxidation ditch such that combined flows from all three facilities can be accurately

measured prior to any biological treatment process, (b) provide the location at which the flow meter has been installed, (c) demonstrate that the flow meter has been calibrated by an independent third party and is accurately reading influent flows, (d) provide standard procedures for treatment plant operators to use when taking and recording flow measurements, and (e) provide a schedule for annual recalibration of all influent and effluent flow meters.

Groundwater Monitoring

14. By **1 February 2007**, the Discharger shall submit a *Groundwater Monitoring Well Installation Workplan*. The workplan shall describe the installation of sufficient wells to allow evaluation of the groundwater quality upgradient and downgradient of the sludge drying areas, effluent storage pond, and disposal fields. The workplan shall conform to items listed in Section 1 of Attachment A to this Order (*Items to be Included a Monitoring Well Installation Workplan*).
15. By **15 July 2007**, the Discharger shall submit a *Groundwater Monitoring Well Installation Report* that describes the installation of groundwater monitoring wells installed per Regional Water Board staff's approval of a *Groundwater Monitoring Well Installation Workplan*. The well installation report shall contain items found in the second section of Attachment A.
16. Beginning with the **Second Quarter 2007**, the Discharger shall comply with the groundwater monitoring and reporting requirements contained in Attachment B of this Order.

Long Term Improvements

17. By **30 June 2007**, the Discharger shall submit a *Reservoir Seepage Evaluation Report* that provides the results of an evaluation to determine whether effluent is seeping from the dam or any other locations around the effluent storage reservoir. The report shall describe the methods that were used in determining whether effluent is seeping. If it is determined that effluent is seeping from the storage reservoir, then by **1 October 2007**, the Discharger shall submit a *Seepage Improvement and Containment Report*. The report shall describe what improvements will be made to stop the seepage of effluent, and/or describe how the wastewater will be contained to the seepage areas to prevent discharges to surface waters. The report shall also provide timelines for proposed improvements.
18. By **30 December 2007**, the Discharger shall submit a Revised Water Balance. The water balance shall provide three separate calculations, using (a) influent flows that have been reduced by 15% over the re-calculated August 2006 flow, (b) influent flows that have been reduced by 25% over the re-calculated August 2006 flow, and (c) the percentage flow reduction that provides the influent flow which results in sufficient storage and disposal capacity to comply with the WDRs.

The water balances shall be based on all flows entering the wastewater system, 100-year annual precipitation returns, and compliance with the two-foot freeboard requirement in the effluent storage reservoir. All assumptions and calculations used in preparing the water balances must be clearly identified. The water balances shall include consideration of at least the following:

- a. Wastewater flows from all sources including prison facilities, prison industries, Preston School of Industry, and California Department of Forestry;
 - b. Local precipitation data (indicate what weather station was used to obtain the data, and indicate what the total annual precipitation is for average and 100 annual year storm events, and show how that value was distributed throughout the year, by months, based on historical rainfall patterns);
 - c. Infiltration and inflow;
 - d. Local evaporation data;
 - e. Measured evaporation data from any enhanced evaporation system;
 - f. Projected percolation rates for the effluent storage reservoir;
 - g. Irrigation disposal rates that comply with the requirements of the WDRs.
19. By **30 December 2008**, the Discharger shall submit a *Flow Reduction Evaluation Report* that describes the success in reducing influent flows over the previous year. The report shall evaluate whether other measures should be taken to reduce flows in to the wastewater treatment plant, and if necessary, provide a schedule for implementation.
20. By **30 January 2008**, the Discharger shall submit a *Long Term Wastewater Facilities Upgrade and Financing Plan* for all work and improvements needed to provide adequate treatment, storage, and disposal capacity for existing and/or future expansion of Mule Creek State Prison, Preston School of Industry, and the California Department of Forestry training facility. The plan shall include the following:
- a. A detailed description of the scope and schedule of all planning, design, and construction, including improvements to existing facilities and construction of new facilities as needed to accommodate projected future influent flows through at least 2020. A phased expansion plan may be proposed; and
 - b. A preliminary capital cost estimate and a financing plan describing how the improvement project(s) will be funded.
21. By **31 December 2008**, the Discharger shall submit a *Report of Waste Discharge (RWD)* to allow WDRs to be revised to reflect the proposed upgrades. The RWD shall reflect any comments made by staff regarding the *Long Term Wastewater Facilities Upgrade and Financing Plan*. The RWD consists of the Form 200 (*Application for Report of Waste Discharge*) and a technical report that addresses all items listed in Attachment C to this Order, "*Additional Information Requirements for a Report of Waste Discharge for the WWTP.*" The Report of Waste Discharge shall clearly reference the groundwater monitoring data collected for the facility and shall demonstrate that the proposed improvements are compliant with State Water Resources Control Board Resolution No. 68-16 (the Antidegradation Policy).

Progress Reports

22. **Beginning with the first quarter of 2007**, the Discharger shall submit a *Quarterly Compliance Status Report*. These reports shall describe all work completed during the calendar quarter to comply with this Cease and Desist Order; and any new, modified, or renovated component of the treatment and disposal system. These reports shall be submitted by the **15th day of the month following the quarter for which the report is prepared (e.g., the first quarterly report is due by 15 April each year)**.

In addition to the above, the Discharger shall comply with all applicable provisions of the California Water Code that are not specifically referred to in this Order.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all technical reports shall be prepared by, or under the supervision of, a California Registered Engineer or Professional Geologist and signed/stamped by the registered professional.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.

Failure to comply with this Order or with the WDRs may result in the assessment of Administrative Civil Liability of \$1,000 to \$10,000 per day of violation, depending on the violation, pursuant to the California Water Code, including sections 13268, 13350 and 13385. The Regional Water Board reserves its right to take any enforcement actions authorized by law.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 8 December 2006.

PAMELA C. CREEDON, Executive Officer

Attachments:

- Attachment A - Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports
Attachment B - Groundwater Monitoring Requirements
Attachment C – Additional Information Requirements for a Report of Waste Discharge

AMENDED

JSK/WSW: 8 Dec 2006