

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF JULY 28-29, 2016
Prepared on March 15, 2016

ITEM NUMBER: —

SUBJECT: **Revision of Waste Discharge Requirements, Dunn School
Wastewater Treatment Systems, Santa Barbara County, Order No.
R3-2016-0007**

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KEY INFORMATION

Facility Name: Dunn School
Facility Owner: Dunn School
Location: 2555 West Highway 154, Los Olivos, Santa Barbara County
Type of Discharge: Domestic Wastewater
Design Capacity: 36,000 gallons per day (gpd)
Current Capacity: 33,450 gpd
Treatment Type: 17 septic systems, one recirculating sand filter system (6,000 gpd),
one AdvanTex package treatment system (6,000-15,000 gpd)
Disposal: Percolation through leachfields, seepage pits, and shallow
subsurface drip
Recycling: None
Existing Orders: Order No. 99-61

This Action: **Adopt Order No. R3-2016-0007**

SUMMARY

Dunn School (Discharger) is a 32-acre private facility with 29 faculty residences, student residences, common area restrooms, campus kitchen (with a commercial dishwashing machine), and dining hall located at 2555 West Highway 154, in Los Olivos, Santa Barbara County.

Order No. 99-61 identifies 36 septic tanks used for wastewater treatment. Since the adoption of Order No. 99-61, wastewater treatment facilities at Dunn School have improved. Three existing septic tanks now use a recirculating sand filter for treatment, and influent from ten additional septic tanks has been redirected to an AdvanTex package treatment system. Wastewater is disposed of in dry wells (28), a pressure-dosed disposal field, or a geoflow system.

The proposed Order and Monitoring and Reporting Program (MRP) No. R3-2016-0007 includes updated requirements for septic systems, the recirculating sand filter system, and the AdvanTex treatment system. The Order also includes a timeline for expansion of the wastewater collection system to connect the remaining septic systems and influent currently treated by the recirculating sand filter system to the AdvanTex treatment system.

DISCUSSION

The Discharger currently discharges 33,450 gallons per day of treated wastewater to the Santa Ynez groundwater sub-basin, in Santa Barbara County. Dunn School is regulated through Order No. 99-61. In Order No. 99-61, the treatment and disposal system consists of 36 septic tanks and 28 dry wells. Order No. 99-61 also discusses a proposed expansion to include a 6,000-gallon septic tank, recirculating sand filter, and pressure-dosed disposal field.

Groundwater Conditions

Dunn School discharges wastewater in the Santa Ynez groundwater sub-basin. The estimated average total nitrogen loading from Dunn School to the Santa Ynez groundwater sub-basin is 205 pounds per acre per year. By comparison, in a typical row crop agriculture operation, approximately 344 pounds per acre per year pass through the root zone.

Although there are no sampling wells on the Dunn School property, groundwater data from two wells within the Santa Ynez groundwater sub-basin (well two and well three, Skyline Park Water & Service, approximately 5.5 miles downgradient of Dunn School) shows nitrate concentrations ranging between 5.4 and 8.7 milligrams per liter (mg/L) nitrate as nitrogen. The average nitrate concentration in well number two is 7.6 mg/l and in well number three 7.0 mg/L nitrate as nitrogen. The wells servicing this system are between 250 and 520 feet deep with the first perforations located between 80 and 120 feet, respectively.

Nitrate concentrations in these wells, although below the drinking water standard of 10 mg/L, are elevated. *Water Quality Control Plan for the Central Coastal Basin* (Basin Plan) Table 3-8 has a median groundwater objective of 1.0 mg/L nitrate as nitrogen for the Santa Ynez groundwater sub-basin. Localized discharges from human activities (e.g., urban stormwater, domestic animals, commercial agriculture operations, onsite wastewater disposal, etc.) are potential sources of nitrogen to the Santa Ynez groundwater sub-basin.

Dunn School samples wastewater prior to discharge, but does not sample groundwater. The proposed order includes:

- A requirement that the Discharger submit a groundwater monitoring plan by June 30, 2017.
- A requirement that the Discharger submit a nitrogen reduction plan by June 30, 2017.
- A timeline schedule for connection of the remaining septic tanks to the AdvanTex treatment system consistent with the Dunn School Facilities Master plan.
- A new effluent requirement for total nitrogen (10 mg/L nitrogen as N).

Facility Modifications

In 2000, the Discharger constructed a recirculating sand filter system. The system has a design flow of 6,000 gallons per day. This system receives wastewater from six separate buildings.

In 2014, the Discharger constructed a collection system and a package treatment system (AdvanTex treatment system). The system has a design flow of 36,000 gallons per day. This system collects and treats wastewater from 17 separate buildings. The new collection and treatment system replaced ten septic systems and those septic systems were decommissioned.

To address changes at the Dunn School, Water Board staff proposes to revise both the Order and Monitoring and Reporting Program (MRP) for Dunn School. The proposed Order and MRP include updated requirements for septic systems, the recirculating sand filter system, and the AdvanTex treatment system. The Order also includes a timeline for expansion of the wastewater collection system (treatment with the AdvanTex treatment system) according to the following time schedule:

Septic Tank Number	Date for Completion
27, 28, 29	December 2018
23, 25, 26A, 26B	December 2020
11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24,	Connection during construction of facilities detailed in the Dunn School Facilities Master Plan

Changes to the Order include:

- Average Daily Flow - increase from 33,450 to 36,000 gpd
- New effluent limits for Biochemical Oxygen Demand, 5-Day Total Suspended Solids and Total Nitrogen (as N)¹
- Description of AdvanTex treatment system
- Time schedule to connect influent from remaining septic tanks and recirculating sand filter to the AdvanTex treatment system

Changes to the MRP include:

- Revised monitoring requirements for septic systems, the recirculating sand filter system, and the AdvanTex treatment system
- System inspections based on school occupancy
- Time schedule monitoring to confirm wastewater collection system expansion

Compliance History

Water Board staff reviewed monitoring report records for Dunn School for the period of January 2012 through March 2015 (13 reporting periods). Of the 13 reports due, nine were late and four were not submitted (first quarter 2013, second quarter 2014, fourth quarter 2014, and first quarter 2015).

All quarterly monitoring reports submitted were incomplete. Monitoring reports did not include discussions of inspections, disposal area conditions, or septic tank conditions. Many of the reports were missing required flow and water quality data. Additionally, Dunn School did not collect samples during the fourth quarter of 2014 or the first and second quarters of 2015.

Order No. 99-61 requires the Discharger to file a report of waste discharge at least 120 days before making any material change or proposed change in the character, location, or volume of the discharge. This did not occur. The Discharger did discuss construction of the collection and treatment system with Water Board staff during system design and installation.

On July 28, 2015, the Water Board issued Dunn School a notice of violation documenting the failure to submit reports and incomplete reports. The notice of violation required compliance

¹ This effluent limit applies upon approval and implementation of the Dunn School nitrogen reduction plan.

with the existing Order and submittal of a Report of Waste Discharge by September 28, 2015. Dunn School submitted a Report of Waste Discharge on September 28, 2015.

ENVIRONMENTAL SUMMARY

The County of Santa Barbara approved a Negative Declaration for the expansion project in accordance with the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) and the California Code of Regulations. The Initial Study determined there are no significant adverse environmental effects or that all potentially significant adverse effects can be avoided through implementation of mitigation measures. This Order implements mitigation measures to prevent nuisance and assure protection of beneficial uses of surface and groundwater.

COMMENTS AND RESPONSES

Pending

ATTACHMENTS

1. Draft Waste Discharge Requirements Order No. R3-2016-0007

RECOMMENDATION

Pending

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