



Central Valley Regional Water Quality Control Board

10 October 2022

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Jerry Havens, Operator
Synagro West, LLC
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NOTICE OF APPLICABILITY (NOA); STATE WATER RESOURCES CONTROL BOARD ORDER WQ 2004-0012-DWQ-0033; GENERAL WASTE DISCHARGE REQUIREMENTS FOR THE DISCHARGE OF BIOSOLIDS TO LAND FOR USE AS A SOIL AMENDMENT IN AGRICULTURAL, SILVICULTURAL, HORTICULTURAL, AND LAND RECLAMATION ACTIVITIES; SYNAGRO WEST, LLC, CITY OF TURLOCK, AND TURLOCK REGIONAL AVIATION ASSOCIATION; SYNAGRO-TURLOCK AIRPORT RANCH BIOSOLIDS (ME-40) LAND APPLICATION AREA; MERCED COUNTY

On 9 September 2021, Synagro West, LLC (or Synagro) submitted a Notice of Intent (NOI) and application fee for coverage under the State Water Resources Control Board's Water Quality Order 2004-0012-DWQ, *General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities* (General Order). The NOI was signed by Michael Kotelec with Synagro and Todd Smith president for the Turlock Regional Aviation Association.

According to the NOI, Synagro plans to apply biosolids from various municipal generators throughout California, to approximately 49 acres (39.6 net acres) of agricultural farmland and grass land operated by the Turlock Regional Aviation Association under a land management agreement with the City of Turlock in Merced County. A copy of the land management agreement between the City of Turlock and the Turlock Regional Aviation Association was provided on 1 October 2022. Synagro, the City of Turlock, and the Turlock Regional Aviation Association are collectively and jointly referred to as "Discharger" for the purpose of this Notice of Applicability (NOA). Supplemental information to support the application was provided on 23 May, 8 June, 31 August, and 1 October 2022.

MARK BRADFORD, CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

1685 E Street, Fresno, CA 93706 | www.waterboards.ca.gov/centralvalley

Central Valley Water Board staff's review of the NOI and supplemental information is discussed in more detailed in the attached staff memorandum. Based on the information provided, this project meets the conditions for enrollment under the enclosed General Order. All the requirements contained within the General Order described as applicable to Sewage Sludge – Class "B" biosolids apply to your application. The discharge is hereby covered under **enrollee number 2004-0012-DWQ-0033**. Please include this number on all correspondence related to this discharge.

PROJECT LOCATION

The proposed project includes applying between one to three dry tons of biosolids per year on approximately 40 acres of agricultural land operated by the Turlock Regional Aviation Association (Airport Ranch) in northern Merced County. Airport Ranch (ME-40) is approximately eight miles southeast of Turlock near Newport Road and East Avenue (37° 28' 44.8" N, 120° 41' 27.8" W) as shown in **Attachment A**. A detailed map showing applicable buffer zones is provided in **Attachments B**.

This portion of Merced County is within the Sacramento and San Joaquin River Basins. The operative *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan), designates beneficial uses, establishes narratives and numerical water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters within the basins.

MONITORING AND REPORTING PROGRAM

The General Order includes Monitoring and Reporting Program (MRP) 2004-0012-DWQ. MRP 2004-0012-DWQ requires the submittal of an annual monitoring report by **15th February** of each year identifying quantity of biosolids applied to the various fields and cumulative pollutant loading calculations.

SPECIFIC REQUIREMENTS

1. Application of biosolids at a location or in a manner different from that described in the NOI and this NOA is prohibited.
2. The application shall not cause or threaten to cause pollution as defined by California Water Code section 13050.
3. There shall be no discharge of biosolids from the storage or application areas to adjacent land areas not regulated by this General Order, to surface water, or to surface water drainage courses.
4. There shall be no application of biosolids on ground with greater than 15 percent slopes.
5. The staging and application of biosolids shall comply with all applicable setbacks contained in the General Order as specified in Discharge Specification B.11.

6. Biosolids with less than 75% moisture shall not be applied during periods when the surface wind speed exceeds 25 miles per hour as determined by the nearest calibrated regional weather station (e.g., airport, CIMIS).
7. The application of Class "B" biosolids containing a moisture content of less than 50% is prohibited.
8. Grazing of domesticated animals or harvesting of crops on fields receiving biosolids shall not occur until the necessary waiting periods, as specified in the General Order, have elapsed.
9. The application of biosolids to water-saturated or frozen ground or during periods of precipitation that includes runoff from the permitted site is prohibited.
10. Application of biosolids at rates in excess of the nitrogen requirements of the crops or at rates that would degrade groundwater quality is prohibited.
11. In accordance with the General Order's Monitoring and Reporting Program, the Discharger shall submit the required annual monitoring report by **15th of February of each year.**
12. The Discharger shall submit the required annual fee (as specified in the annual billing statement issued by the State Water Resources Control Board) until this NOA is officially terminated.
13. Failure to abide by the conditions of General Order 2004-0012-DWQ, including its monitoring and reporting requirements, and this NOA could result in enforcement actions, as authorized by provisions of the California Water Code.
14. The Discharger shall continue to comply with the Salt and Nitrate Control Programs (discussed in more detail below).

SALT AND NITRATE CONTROL PROGRAMS

As part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative, the Central Valley Water Board adopted Basin Plan amendments (Resolution R5-2018-0034) incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. The Basin Plan amendments were approved by the State Water Resources Control Board and the Office of Administrative Law and became effective on 17 January 2020.

For the Salt Control Program, dischargers that are unable to comply with stringent salinity requirements will need to meet performance-based requirements and participate in a basin-wide planning effort (Prioritization and Optimization Study or P&O Study) to develop a long-term salinity strategy for the Central Valley. On 1 November 2021,

Synagro (CV-SALTS Id 3601) submitted its Notice of Intent and paid the fee to join the P&O Study.

For the Nitrate Control Program, the Synagro-Turlock Airport Ranch Biosolids land application area falls within Groundwater Sub-Basin 5-22.03 (San Joaquin Valley – Turlock Basin), a Priority 1 basin. Dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternative approaches that include providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers may comply with the Nitrate Control Program either individually (Pathway A) or collectively as part of a Management Zone Group (Path B). On 1 November 2021, Synagro submitted its Notice of Intent to select Path B and join the Turlock Management Zone Group.

DOCUMENT SUBMITTALS

All monitoring reports and other correspondence should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50 MB should be emailed to centralvalleyfresno@waterboards.ca.gov. Documents that are 50MB or larger should be transferred to a disk and mailed to the Central Valley Water Board office at 1685 E Street, Fresno, CA 93706. To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any email used to transmit documents to this office:

Program: Non-15,
Place ID: 876820
Place Name: Synagro-Turlock Airport Ranch Biosolids (ME-40)
Order: 2004-0012-DWQ-0033

All documents, including responses to inspections and written notifications, submitted to comply with this General Order shall be directed, via the paperless office system, to the Compliance and Enforcement Unit, attention to Dale Harvey. Mr. Harvey can be reached at (559) 445-6190 or Dale.Harvey@waterboards.ca.gov. Questions regarding the permitting aspects of the General Order and notification for termination of coverage under the General Order, shall be directed, via the paperless office system, to the WDR Permitting Unit, attention to Katie Carpenter. Ms. Carpenter can be reached at (559) 445-5551 or by email at Katie.Carpenter@waterboards.ca.gov.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resources Control Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Resources Control Board must receive the petition by 5:00 p.m., 30 days after the date of this NOA, except that if the thirtieth day following the date of this NOA falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Resources Control 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 (http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

Coverage for your Facility under the General Order shall become effective subject to this Notice of Applicability immediately.

If you have any questions regarding this matter, please contact Katie Carpenter by phone at (559) 445-5551 or by email at Katie.Carpenter@waterboards.ca.gov.

Original Signed by Clay L. Rodgers for:
Patrick Pulupa
Executive Officer

Attachments:

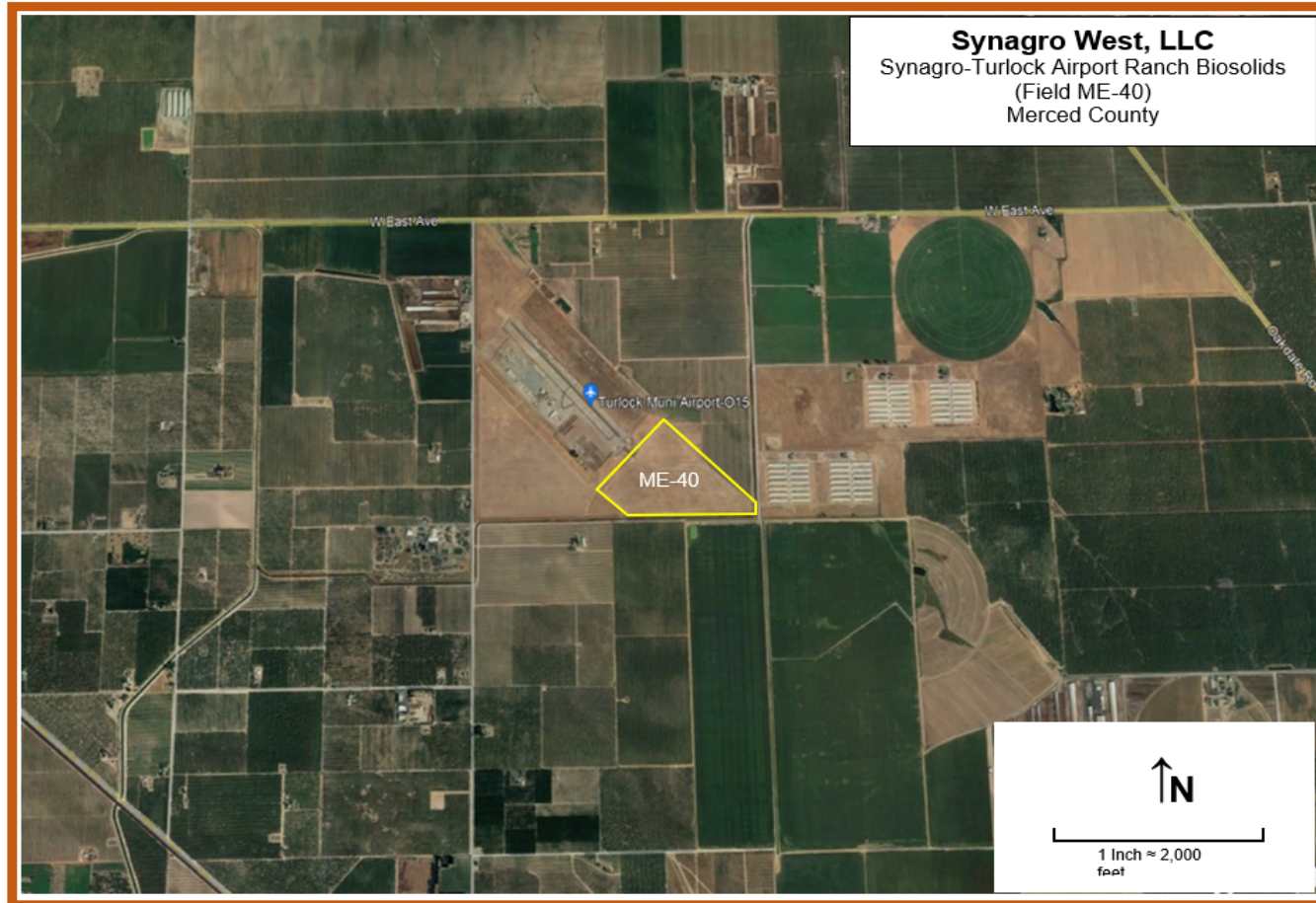
- Attachment A – Site Location Map
- Attachment B – Biosolids Application Area (ME-40)

Enclosures:

- 10 October 2022 Central Valley Water Board Staff Memorandum
- State Water Resources Control Board Order WQ 2014-0153-DWQ

cc:

- Christopher Moskal, State Water Resources Control Board, OCC, Sacramento (via email)
- Laurel Warddrip, State Water Resources Control Board, DWQ, Sacramento (via email)
- Laleh Rastegarzadeh, State Water Resources Control Board, DWQ, Sacramento (via email)
- Tricia Wathen, Division of Drinking Water, Fresno (via email)
- Jose Valencia, Synagro West LLC, Rancho Cordova (via email)
- Joe Mullinax, Turlock Regional Aviation Association, (via email)
- Reagon Wilson, City of Turlock, (via email)
- Esther Canal, Merced County Environmental Health, Merced (via email)



ATTACHMENT A – SITE LOCATION MAP
NOTICE OF APPLICABILITY 2004-0012-DWQ-0033
FOR
SYNAGRO WEST, LLC, CITY OF TURLOCK AND TURLOCK REGIONAL AVIATION ASSOCIATION
SYNAGRO-TURLOCK AIRPORT RANCH BIOSOLIDS (ME-40)
BIOSOLIDS LAND APPLICATION AREA
MERCED COUNTY



Central Valley Regional Water Quality Control Board

TO: Scott J. Hatton
Supervising Water Resource Control Engineer

FROM: Alexander S. Mushegan
Senior Water Resource Control Engineer
RCE 84208

Kathleen Carpenter
Engineering Geologist
PG 8014

DATE: 10 October 2022

APPLICABILITY OF COVERAGE; STATE WATER RESOURCES CONTROL BOARD ORDER WQ 2004-0012-DWQ; GENERAL WASTE DISCHARGE REQUIREMENTS FOR THE DISCHARGE OF BIOSOLIDS TO LAND FOR USE AS A SOIL AMENDMENT IN AGRICULTURAL, SILVICULTURAL, HORTICULTURAL, AND LAND RECLAMATION ACTIVITIES; SYNAGRO WEST, LLC, CITY OF TURLOCK, AND TURLOCK REGIONAL AVIATION ASSOCIATION; SYNAGRO-TURLOCK AIRPORT RANCH BIOSOLIDS (ME-40) LAND APPLICATION AREA; MERCED COUNTY

BACKGROUND INFORMATION

On 9 September 2021, Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff received a Notice of Intent (NOI) with an application fee from Synagro West LLC (Synagro) for coverage under State Water Resources Control Board's Water Quality Order 2004-0012-DWQ, *General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities* (General Order) for application of Class B biosolids at the Turlock Airport Ranch Biosolids Land Application Area (or ME-40) in Merced County owned by the City of Turlock and operated by the Turlock Regional Aviation Association under a land management agreement. A copy of the land use agreement and signed Form 200 was provided on 1 October 2022. Additional information to support the NOI was provided on 23 May, 8 June, 31 August, and 1 October 2022.

This memorandum provides a summary of Central Valley Water Board staff's review of the NOI and the applicability of the discharge to be covered under the General Order.

The submittal includes the following information:

- Form 200;
- Notice of Intent;
- Operator Instructions and Buffer Sheet;
- Description of Sites;
- Landowner Consent Form;
- Generator Request Form;
- Regional Soil Map, Site Maps, and Field Maps with buffer zones;
- Hauler and Generator Information;
- Biosolids Storage Plan;
- Spill Response and Adverse Weather Plans;
- Documentation of Adjacent Property Owner Notifications;
- Soil Analysis Report;
- Pre-Application Report with Land Productivity Assessment; and
- Generator Vector Attraction and Reduction Measures (NANI Forms).

PROJECT DESCRIPTION

According to the NOI, Synagro receives Class "B" biosolids from various generators within California, these can vary from year to year but typically include the following:

- Delta Diablo Sanitation District
- San Francisco Public Utilities Commission – Oceanside Plant
- San Francisco Public Utilities Commission – Southeast Plant
- Union Sanitation District
- City of Burlingame
- North San Mateo County Sanitation District (Daly City)
- City of Millbrae
- Silicon Valley Clean Water (SVCW)
- Calera Creek Water Recycling Plant
- City of Stockton
- City of Livermore
- Fresno-Clovis Regional WWTF
- East Bay Municipal Utility District

The proposed project includes the application of biosolids on approximately 40 acres (39.6 net acres) of agricultural land in northeastern Merced County (37° 28' 44.8" N, 120° 41' 27.8" W) as shown in **Attachment A** of the Notice of Applicability (NOA). The fields will be used for growing pasture/forage mix including wheat, rye grass, vetch, oats, and peas.

The biosolids application area consists of 1 field (MW-40) as shown in **Attachment B** of the NOA and detailed in the Tables below:

Table 1 – Biosolids Application Area (ME-40)

Field	Acreage	Adjusted Acreage (see 1 below)	APNs
ME-40	49.4	39.6	Portion of parcel 042-030-027 and 042-030-028
Total	49.4	39.6	--

1. Adjusted to remove land used for buffer zones around sensitive receptors and property boundaries.

Depth to groundwater in the area is greater than 100 feet below ground surface (bgs) based on available groundwater data from nearby wells and the California Department of Water Resources (DWR) SGMA Water Data Library. Therefore, groundwater monitoring is not required.

Field ME-40 consists of agricultural land adjacent to a small regional airport. The area is relatively flat with minimal erosion hazard. As shown in Attachment B the field has a triangular shape which is surrounded on two sides by an irrigation canal and on the third side by the airport runway. Aerial photographs of the site show a natural drainage path cutting across the site consistent with a blue line shown in topographic maps of the area. According to the farm operator, the drainage no longer crosses the site and the area has been regraded and leveled so there is no natural inflow or outflow from the property. In accordance with Merced County ordinance, biosolids application areas will be surrounded with a 33-foot buffer zone of un-mowed vegetation to contain biosolids and prevent off-site erosion.

Soil samples collected as part of the site evaluation had a low pH and cation exchange capacity in the range that could present a severe limitation to land productivity and potential metal phytotoxicity. The Pre-Application Report included a Land Productivity Assessment prepared by Mark Gray (ARCPACS 30228), a certified soil scientist, to address this issue. According to Mr. Gray, metal concentrations in the soil and biosolids is low to moderate and does not present a significant risk at the site. The annual application of biosolids at agronomic rates will provide an annual source of organic matter and slow release of nutrients to improve land productivity and increase pH and cation exchange capacity of the sandy soils. Mr. Gray recommends that lime be added to the fields in conjunction with the biosolids to condition the soil and increase pH and the

cation exchange capacity to reduce potential nutrient imbalances and metal phytotoxicity in the short-term.

The biosolids application fields are located in rural areas with limited access, bound by private agricultural or grazing land. In addition, according to the NOI, the biosolids application areas will be fenced to prevent public access. Therefore, the biosolids application areas meet the site restrictions for Class B biosolids in section 503.32(b)(5), 40 CFR.

BIOSOLIDS TREATMENT AND SAMPLING

Synagro proposes to apply between one to three dry tons of biosolids per acre per year to approximately 40 acres of land owned by the City of Turlock. Synagro, the City of Turlock, and the Turlock Regional Aviation Association, which manages the property, are collectively and jointly referred to as “Discharger”.

The submitted data characterizes biosolids from various generators within California. Metal concentrations in biosolids from the various generators is summarized in Table 2 and compared to the 40 Code of Federal Regulations (CFR), Part 503 requirements for the application of biosolids to land.

Table 2 – Biosolids Metal Concentration

Constituent/ Parameter	Units	Range	Ceiling Concentration Limits	Pollutant Concentration Limits for Exceptional Quality Biosolids
Arsenic	mg/kg	2.7 - 11.5	75	41
Cadmium	mg/kg	0.2 - 3.3	85	39
Copper	mg/kg	216 - 597	4,300	1,500
Lead	mg/kg	11.6 - 33.9	840	300
Mercury	mg/kg	0.3 - 0.5	57	17
Molybdenum	mg/kg	3.8 - 16.7	75	--
Nickel	mg/kg	16.4 - 26.8	420	420
Selenium	mg/kg	2.8 - 10.8	100	100
Zinc	mg/kg	621 - 933	7,500	2,800

As shown in Table 3, the metal concentrations in the biosolids generated by the various municipal generators are below the Ceiling Concentrations Limits (Table 1, section 503.13 CFR) and the Pollutant Concentration Limits for Exceptional Quality (EQ) Biosolids (Table 3, section 503.13 CFR).

Under 40 CFR part 503 biosolids used for land application are required to meet Pathogen Reduction Requirements and Vector Attraction Reduction Requirements. As shown in Table 4, the biosolids generated at the various generators meets the Class B Pathogen Reduction Requirements by either Alternative 1 of section 503.32(b)(2) or Alternative 2 of section 503.32(b)(3), 40 CFR. Under Alternative 1, the geometric mean of the density of fecal coliform in the biosolids is less than 2,000,000 Most Probable Number per gram.

Under Alternative 2, biosolids from the generators are treated in anaerobic digesters with a detention time of at least 15 days at 35 to 55 degrees Celsius meeting the Pathogen Treatment Processes Requirements listed in Appendix B of 40 CFR, Part 503.

Table 3 – Pathogen Requirements

Generator	Alternative	Detention Time (days)	Temperature (Degrees Celsius)	Fecal Coliform (MPN/g)
Delta Diablo Sanitation District	2	31-34	35.7 - 39.4	--
San Francisco Public Utilities Commission – Oceanside Plant	2	19 - 57	43.2 - 56.7	---
San Francisco Public Utilities Commission – Southeast Plant	2	18-44	37.2 - 45	--
Union Sanitation District	2	23-52	36.6 - 37.2	--
City of Burlingame	2	30-47	37.6 - 38.6	--
City of Millbrae	2	85-146	35.5 - 36.6	--
Silicon Valley Clean Water	2	27-32	35.5 - 38.3	--
Calera Creek Water Recycling Plant	1	--	--	491.04
East Bay Municipal Utility District	2	--	--	--
North San Mateo County Sanitation District	2	25-30	34.3-39.7	--
City of Stockton	2	52-74	24 - 38	--
Fresno-Clovis Regional WWTF	2	--	--	--

In addition, biosolids generated by the various generators meets the Vector Attraction Reduction Requirements by either Option 1 of section 503.33(b)(1), or Option 10 of section 503.33(b)(10), 40 CFR (see Table 5) since all biosolids will be incorporated into the soil within six hours.

Table 4 - Vector Attraction Reduction Requirements

Generator	Option	Volatile Solids Reduction (%)	Biosolids Incorporation Time (hours)
Delta Diablo Sanitation District	1	>38	--
San Francisco Public Utilities Commission – Oceanside Plant	1	>38	--
San Francisco Public Utilities Commission – Southeast Plant	1	>38	--
Union Sanitation District	1	>38	--
City of Burlingame	1	>38	--
City of Millbrae	1	>38	--

Generator	Option	Volatile Solids Reduction (%)	Biosolids Incorporation Time (hours)
Silicon Valley Clean Water	1	>38	--
Calera Creek Water Recycling Plant	10		6
East Bay Municipal Utility District	1	>38	--
North San Mateo County Sanitation District	1	>38	--
City of Stockton	1	>38	--
Fresno-Clovis Regional WWTF	1	>38	--

SALT AND NITRATE CONTROL PROGRAMS

As part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative, the Central Valley Water Board adopted Basin Plan amendments (Resolution R5-2018-0034) incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. The Basin Plan amendments were approved by On the State Water Resources Control Board (Resolution 2019-0057), and the Office of Administrative Law (OAL Matter No. 2019-1203-03) and became effective on 17 January 2020. Pursuant to the Basin Plan amendments, dischargers will need to comply with the Salt and Nitrate Control Programs.

For the Salt Control Program, dischargers that are unable to comply with stringent salinity requirements will need to meet performance-based requirements and participate in a basin-wide planning effort (Prioritization and Optimization Study or P&O Study) to develop a long-term salinity strategy for the Central Valley. On 1 November 2021, Synagro (CV-SALTS Id 3601) submitted its Notice of Intent and paid the fee to join the P&O Study.

For the Nitrate Control Program, the Synagro-Turlock Airport Ranch Biosolids falls within Groundwater Sub-Basin 5-22.03 (San Joaquin Valley – Turlock Basin), a Priority 1 basin. Dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternative compliance approaches that include providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers may comply with the Nitrate Control Program either individually (Pathway A) or collectively as part of a Management Zone Group (Pathway B). On 1 November 2021, Synagro submitted its Notice of Intent selecting Pathway B and join the Turlock Management Zone Group.

COMMENTS

Based on the information presented in the 9 September 2021 NOI and supplemental information, the discharge of biosolids to land at Airport Ranch (ME-40) in Merced County is consistent with the requirements of 40 CFR, Part 503 for the use of Class B biosolids. In addition, as discussed in the Land Productivity Assessment, lime should be added to fields with low pH and cation exchange capacity in conjunction with the biosolids as needed to condition the soil.