Central Valley Regional Water Quality Control Board

16 June 2020

Christopher Carpenter
National Park Service
Grant Grove WWTF
47050 Generals Highway
Three Rivers, California 93271

CERTIFIED MAIL
7018 1830 0001 2775 3948

NOTICE OF APPLICABILITY (NOA), STATE WATER RESOURCES CONTROL BOARD ORDER WQ 2014-0153-DWQ-R5341, GENERAL WASTE DISCHARGE REQUIREMENTS FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS; UNITED STATES DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE, SEQUOIA AND KINGS CANYON NATIONAL PARKS; GRANT GROVE WASTEWATER TREATMENT FACILITY; FRESNO COUNTY

On 30 August 2019, the United States Department of the Interior, National Park Service, Sequoia and Kings Canyon National Parks (NPS or Discharger) submitted a Report of Waste Discharge (RWD) for the Grant Grove Wastewater Treatment Facility (WWTF) in Fresno County. The Discharger is requesting coverage under the State Water Resources Control Board (State Water Board) Water Quality Order 2014-0153-DWQ *General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems* (General Order). The RWD included a completed and signed Form 200 and a technical report prepared and signed by Christopher Carpenter, a California registered civil engineer (RCE 82184).

This letter serves as formal notice that the General Order is applicable to your system and the wastewater discharge described below, you are hereby assigned enrollee number **2014-0153-DWQ-R5341**. After Waste Discharge Requirements (WDRs) Order 86-103 has been rescinded, coverage under General Order 2014-0153-DWQ will become effective.

You should familiarize yourself with the entire General Order and its attachments enclosed with this letter, which describe mandatory discharge and monitoring requirements. Sampling, monitoring, and reporting requirements applicable to your treatment and disposal methods must be completed in accordance with the appropriate treatment system sections of the General Order and the attached Monitoring and Reporting Program (MRP) No. 2014-0153-DWQ-R5341. This MRP was developed after consideration of your waste characterization and site conditions described in the attached memorandum.

DISCHARGE DESCRIPTION

The NPS owns and operates the Grant Grove WWTF in Kings Canyon National Park that is regulated by WDRs Order 86-103. Order 86-103 allows a discharge of up to 85,000 gallons per day (gpd) to a spray field during the summer and up to 42,000 gpd to a leach field/percolation area in the winter.

The WWTF is near Grant Grove Village in Kings Canyon National Park west of Highway 180, about 45 miles east of Fresno in Fresno County (36°44' 38"N, 118°97' 58 32"W). The WWTF provides service for over 900,000 park visitors annually including campgrounds, picnic areas, trailer villages, concessions, and employee housing within the Grant Grove area. The WWTF and associated disposal areas are shown in **Attachment A**, which is incorporated by reference and considered part of this Notice of Applicability (NOA).

The WWTF consists of an indoor activated sludge plant that provides tertiary treatment with disinfection. The treatment system consists of a headworks (with mechanical screening, a Parshall flume with ultrasonic flow sensor, and two equalization basins), two secondary aeration basins with clarifiers, two pressure dosed sand filters, chlorine contact tank, two effluent storage tanks, and an indoor sludge handling system. Disposal is via a 9.5-acre spray field in the summer (generally from March through November) and to a 1.4-acre leach field in the winter (generally from December through February). A process flow diagram is provided in **Attachment B** of this NOA.

The sludge handling facilities includes an aerobic digester and two indoor vacuum assisted sludge drying beds. Water leached from the sludge drying beds is captured in a sump and pumped back to the headworks. Dewatered sludge is collected in bins and sent to a nearby composting facility for disposal.

The WWTF has a current design treatment and disposal rate of 85,000 gpd to the spray field and up to 42,000 gpd to the leach field/percolation area. Current effluent flows range from about 14,000 to 40,000 gpd in summer and from 12,000 to 35,000 gpd in winter.

FACILITY SPECIFIC REQUIREMENTS AND EFFLUENT LIMITATIONS

The Discharger will maintain exclusive control over the discharge and shall comply with the terms and conditions of this NOA, General Order 2014-0153-DWQ, with all attachments, and MRP No. 2014-0153-DWQ-R5341.

In accordance with Section B.1 of the General Order, treated wastewater **shall not exceed a monthly average daily discharge of up to 85,000 gpd to the spray field or 42,000 gpd to the leach field**. In addition, discharge to the spray field is prohibited during winter months when snow is on the ground.

Furthermore, the Discharger shall comply with the effluent limitations specified in Table 1 below. Compliance with the effluent limitations shall be determined at a point after the disinfection system prior to discharge to the disposal areas (i.e., spray field or leach field).

Table 1 - Effluent Limitations

Constituent	Unit	Daily Maximum	Average Monthly	7-Day Average	Annual Average
Biochemical Oxygen Demand (BOD)	mg/L	--	30	45	--
Total Suspended Solids (TSS)	mg/L	--	30	45	--
Total Coliform	MPN/100 mL	240	--	23	--
Total Nitrogen (as N)	mg/L	--	--	--	50 % (see 1 below)

1. The value represents the minimum percent reduction compared to the untreated wastewater value. Reduction shall be calculated on an annual basis. In no case shall the reduction result in an effluent limit lower than 10 mg/L total nitrogen.

The General Order states in Section B.1 that the Discharger shall comply with the setbacks as described in Table 3 of the General Order. This table summarizes different setback requirements for wastewater treatment system equipment, activities, land application areas, and storage and/or treatment ponds from sensitive receptors and property lines where applicable. The Discharger shall comply with the applicable setback requirements, as summarized in the following table:

Table 2 - Site-Specific Applicable Setback Requirements

Equipment or Activity	Domestic Well	Flowing Stream	Ephemeral Stream Drainage	Property Line	Lake or Reservoir
Septic Tank, Aerobic Treatment Unit, Treatment System, or Collection System	150 ft.	50 ft.	50 ft	5 ft.	200 ft
Leach Field	100 ft.	100 ft.	50 ft	5 ft.	200 ft
LAA (disinfected tertiary recycled water) (see 1 below)	50 ft	25 ft	50 ft	25 ft	200 ft

1. No spray irrigation of any recycled water, other than disinfected tertiary recycled water, shall take place within 100 feet of a residence or a place where public exposure could be similar to that of a park, playground, or school yard.

The Discharger shall comply with all applicable sections in the General Order, including:

- Activated Sludge System requirements specified in Section B.4 of the General Order;
- Subsurface Disposal System requirements specified in Section B.6 of the General Order;
- Land Application and/or Recycled Water Systems specified in Section B.7 of the General Order;
- Sludge/Solids/Biosolids Disposal requirements specified in Section B.8 of the General Order; and
- Groundwater and Surface Water Limitations specified in Section C.1 of the General Order.

Provision E.1 of the General Order requires dischargers enrolled under the General Order to prepare and implement the following reports within **90 days** of the issuance of the NOA **(16 June 2020)**:

- Spill Prevention and Emergency Response Plan (Provision E.1.a.).
- Sampling and Analysis Plan (Provision E.1.b).
- Sludge Management Plan (Provision E.1.c).

The General Order requires that the Sludge Management Plan be submitted to the Central Valley Water Board within 90 days of the issuance of the NOA. A copy of the Spill Prevention and Emergency Response Plan and the Sampling and Analysis Plan shall be maintained at the treatment facility and shall be presented to the Regional Water Board staff upon request.

As stated in Section E.2.w., in the event any change in control or ownership of the Facility or wastewater disposal areas, the Discharger must notify the succeeding owner or operator of the existence of this General Order by letter, a copy of which shall be immediately forwarded to the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) Executive Officer.

Failure to comply with the requirements in this NOA, General Order 2014-0153-DWQ, with all attachments, and MRP No. 2014-0153-DWQ-R5341 could result in an enforcement action as authorized by provisions of the California Water Code. Discharge of wastes other than those described in this NOA is prohibited. If the method of waste disposal changes from that described in this NOA, you must submit a new Report of Waste Discharge describing the new operation.

On 31 May 2018, the Central Valley Water Board adopted Basin Plan amendments incorporating new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley as part of the Central Valley Salinity Alternatives for Long-Term Sustainability (**CV-SALTS**) initiative. Further details of these strategies are discussed in the enclosed memorandum. As these strategies are implemented, the Central Valley

Water Board may find it necessary to modify the requirements of this NOA to ensure the goals of the Salt and Nitrate Control Programs are met.

The required annual fee specified in the annual billing from the State Water Board shall be paid until this NOA is officially terminated. You must notify this office in writing if the discharge regulated by the General Order ceases, so that we may terminate coverage and avoid unnecessary billing.

All monitoring reports and other correspondence should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB 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: 227781,
Facility Name: NPS Grant Grove WWTF,
Order: 2014-0153-DWQ-R5341

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 Russell Walls. Mr. Walls can be reached at (559) 488-4392 or russell.walls@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 Order 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.

In order to conserve paper and reduce mailing costs, a paper copy of the General Order has been sent only to the Discharger. Others are advised that the General Order is available on the State Water Board's website (http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0153_dwq.pdf).

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

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

Attachments:
- Attachment A – Site Map
- Attachment B – Flow Schematic

Enclosures:
- Monitoring and Reporting Program 2014-0153-DWQ-R5341
- 16 June 2020 Review Memorandum of U.S. Department of the Interior, NPS, Sequoia and Kings Canyon National Parks, Grant Grove WWTF
- State Water Resources Control Board Order WQ 2014-0153-DWQ (Discharger Only)

cc:
- Bright Avusuglo-Ahi, National Park Service, Three Rivers (via email)
- Laurel Warddrip, Senior Scientist, State Water Resources Control Board, Division of Water Quality, Sacramento (via email)
- Jose Roboledo, State Water Resources Control Board, Drinking Water Division, Fresno (via email)
- Russel Walls, Senior Engineer, Central Valley Water Board, Fresno (via email)
- Fresno County Environmental Health Department, Fresno

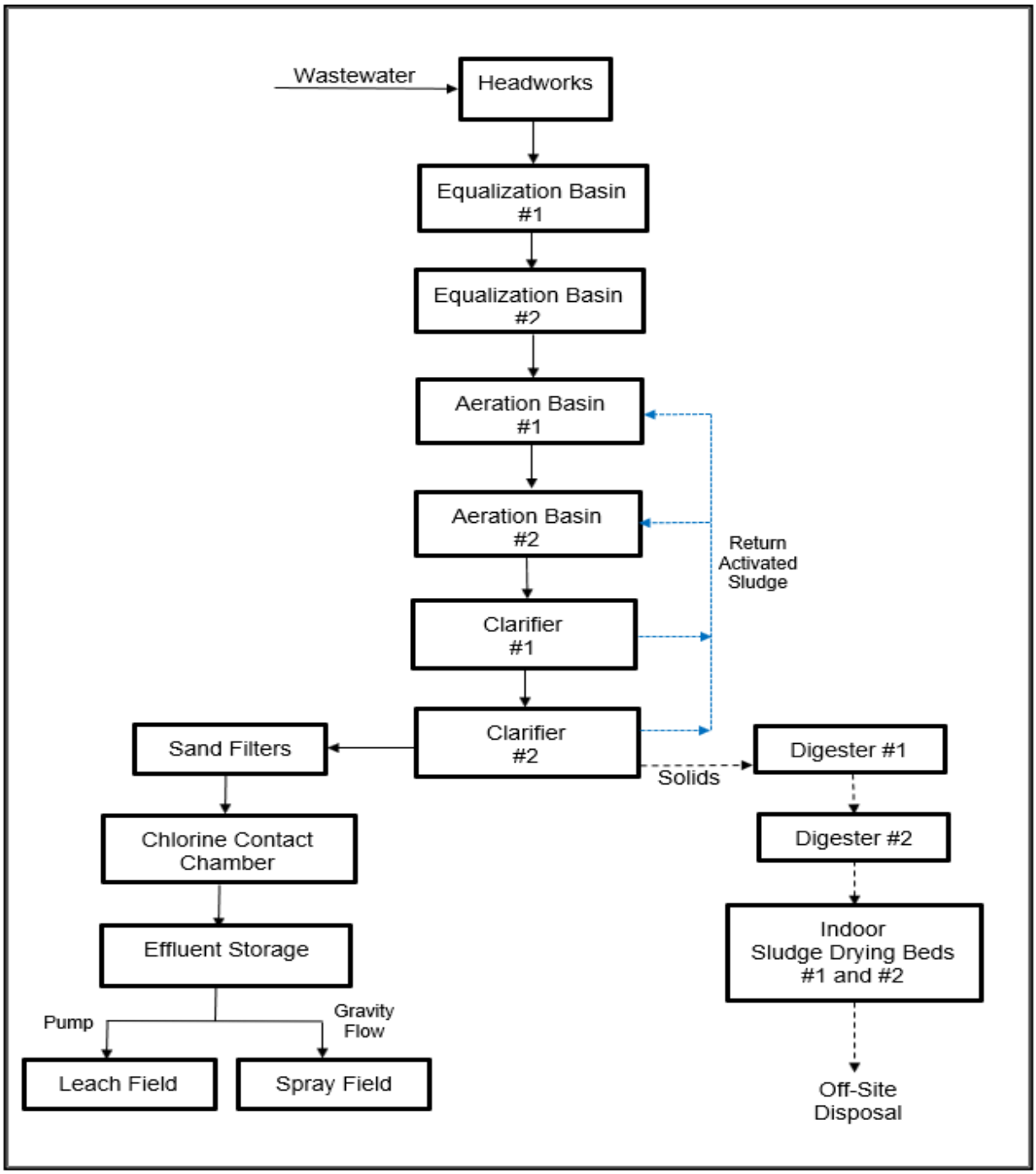
Design Reference:
Google Earth® 2020

N

1" = 800 feet
(Approximate Scale)

ATTACHMENT A – SITE MAP

NOTICE OF APPLICABILITY 2014-0153-DWQ-R5341
FOR
UNITED STATES DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE,
SEQUOIA AND KINGS CANYON NATIONAL PARKS
GRANT GROVE WASTEWATER TREATMENT FACILITY
FRESNO COUNTY



ATTACHMENT B – FLOW SCHEMATIC

NOTICE OF APPLICABILITY 2014-0153-DWQ-R5341
FOR
UNITED STATES DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE,
SEQUOIA AND KINGS CANYON NATIONAL PARKS
GRANT GROVE WASTEWATER TREATMENT FACILITY
FRESNO COUNTY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 2014-0153-DWQ-R5341
FOR
UNITED STATES DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE
SEQUOIA AND KINGS CANYON NATIONAL PARKS
GRANT GROVE WASTEWATER TREATMENT FACILITY
FRESNO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring a wastewater treatment system. This MRP is issued pursuant to Water Code section 13267. The United States Department of the Interior, National Park Service Sequoia and Kings Canyon National Parks (NPS or Discharger) shall not implement any changes to this MRP unless and until a revised MRP is issued by the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) or Executive Officer.

Section 13267 of the California Water Code states, in part:

> *"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters 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."*

Section 13268 of the California Water Code states, in part:

> *"(a) Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of Section 13267, or failing or refusing to furnish a statement of compliance as required by subdivision (b) of Section 13399.2, or falsifying and information provided therein, is guilty of a misdemeanor and may be liable civilly in accordance with subdivision (b).*
>
> *(b)(1) Civil liability may be administratively imposed by a regional board in accordance with Article 2.5 (commencing with section 13323) of Chapter 5 for a violation of subdivision (a) in an amount which shall not exceed one thousand dollars ($1,000) for each day in which the violation occurs."*

The Discharger owns and operates the Grant Grove Wastewater Treatment Facility (Facility) that is subject to Notice of Applicability (NOA) 2014-0153-DWQ-R5341. The NOA enrolls the Facility under State Water Resources Control Board Order WQ 2014-0153-DWQ, *General Waste Discharge Requirements For Small Domestic Treatment* Systems (General Order) upon the rescission of WDRs Order 86-103 . The reports required in this MRP are necessary to ensure that the Discharger complies with the NOA and General Order. Pursuant to Water Code section 13267, the Discharger shall implement this MRP and shall submit the monitoring reports described herein.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The name of the sampler, sample type (grab or composite), time, date, location, bottle type, and any preservative used for each sample shall be recorded on the sample chain of custody form. The chain of custody form must also contain all custody information including date, time, and to whom samples were relinquished. If composite samples are collected, the basis for sampling (time or flow weighted) shall be approved by Central Valley Water Board staff.

Field test instruments (such as those used to test pH, dissolved oxygen, and electrical conductivity) may be used provided that they are used by a State Water Resources Control Board, Environmental Laboratory Accreditation Program (ELAP) certified laboratory, or:

1. The user is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated prior to monitoring events at the frequency recommended by the manufacturer;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are maintained and available for at least three years.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

ACTIVATED SLUDGE MONITORING

Influent Monitoring

Influent samples shall be taken from a location that provides representative samples of the wastewater, prior to any treatment or return flows. At a minimum, influent monitoring shall include the monitoring specified in Table 1 below.

Table 1 – Influent Monitoring Requirements

Constituent	Units	Sample Type	Sampling Frequency	Reporting Frequency
Flow (see 1 below)	gpd	Metered	Continuous	Quarterly
BOD_5	mg/L	Grab	Monthly	Quarterly
TSS	mg/L	Grab	Monthly	Quarterly
Total Nitrogen (as N)	mg/L	Grab	Monthly	Quarterly

1 Flows can be metered or estimated based on pump run time or similar approved method. The method of measurement should be reported.

Effluent Monitoring

Effluent samples shall be taken at an area after disinfection that represents the effluent quality and effluent flow distributed to the disposal areas (spray field or leach field). At a minimum, effluent monitoring shall include the monitoring specified in Table 2 below.

Table 2 – Effluent Monitoring Requirements

Constituent	Units	Sample Type	Sampling Frequency	Reporting Frequency
Flow (see 1 below)	gpd	Metered	Continuous	Quarterly
pH	std. units	Grab	Weekly	Quarterly
EC	µmhos/cm	Grab	Weekly	Quarterly
BOD_5	mg/L	Grab	Weekly	Quarterly
TSS	mg/L	Grab	Weekly	Quarterly
Total Nitrogen (as N)	mg/L	Grab	Monthly	Quarterly

1. Effluent flow monitoring shall distinguish between wastewater flows sent to the spray field and flows sent to the leach field.

For disinfection monitoring, samples shall be collected immediately downstream of the disinfection system. At a minimum, disinfection monitoring shall include the monitoring specified in Table 3 below.

Table 3 – Disinfection Monitoring Requirements

Constituent	Units	Sample Type	Sample Frequency	Reporting Frequency
Total Coliform Organisms	MPN/100 mL	Grab	Weekly	Quarterly
Residual Chlorine	mg/L	Grab	Twice Weekly	Quarterly

SUBSURFACE DISPOSAL AREA

In general, subsurface disposal area monitoring shall be sufficient to determine if wastewater is evenly applied, the disposal area is not saturated, burrowing animals and/or deep-rooted plants are not present, and odors are not present. Inspection of dosing pump controllers, automatic distribution valves, etc. is required to maintain optimum treatment in the disposal area. Monitoring of the subsurface drip irrigation system shall at a minimum, include the monitoring specified in Table 4.

Table 4 – Subsurface Disposal Area Monitoring Requirements

Constituent	Inspection Frequency	Reporting Frequency
Pump Controllers, Automatic Valves, etc. (see 1. below)	Quarterly	Quarterly
Nuisance Odor Condition	Quarterly	Quarterly
Saturated Soil Conditions (see 2. below)	Quarterly	Quarterly
Plant Growth (see 3. below)	Quarterly	Quarterly
Vectors or Animals Burrowing (see 4. below)	Quarterly	Quarterly

1 All pump controllers and automatic distribution valves shall be inspected for proper operation as recommended by the manufacturer.
2 Inspect a disposal area for saturated conditions.
3 Shallow rooted plants are generally desirable, deep rooted plants such as trees shall be removed as necessary.
4 Evidence of animals burrowing shall be immediately investigated, and burrowing animal populations controlled as necessary.

SPRAY FIELD AREA MONITORING

The Discharger shall monitor the spray field area when wastewater is applied. If wastewater is not applied during the reporting period, the monitoring report shall so state. Monitoring of the spray field shall, at a minimum, include the monitoring specified in Table 5.

Table 5. Spray Field Area Monitoring

Constituent	Units	Sample Type	Sampling Frequency
Acreage applied	acres	Calculated	Monthly
Precipitation	Inches	Weather Station (see 1 below)	Monthly
Berm condition	--	Observation	Monthly
Evidence of erosion	--	Observation	Monthly
Evidence of soil saturation/ponding	--	Observation	Monthly
Evidence of runoff	--	Observation	Monthly
Evidence of nuisance odors and/or vectors	--	Observation	Monthly
Condition of sprinkler heads and control valves	--	Observation	Monthly
Depth-to-Water (see 2 below)	0.1 feet	Measurement	Quarterly

1 Weather station may be site-specific station or nearby governmental weather reporting station.
2 Discharger shall check the monitoring wells and observation ports within the spray field and leach field areas on a quarterly basis for evidence of high groundwater. If there is insufficient water present to measure the report shall so state.

SLUDGE/BIOSOLIDS MONITORING

The Discharger shall report the handling and disposal of all solids (e.g., screenings, grit, sludge, biosolids, etc.) generated at the WWTF. Records shall include the name/contact information for the hauling company, the type and amount of waste transported, the date removed from the wastewater system, the disposal facility name and address, and copies of analytical data required by the entity accepting the waste. These records shall be submitted as part of the annual monitoring report.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, solids, etc.), and reported analytical or visual inspection results are readily discernable. The data shall be summarized to clearly illustrate compliance with the General Order and NOA as applicable. The results of any monitoring done more frequently than required at the locations specified in the MRP shall be reported in the next regularly scheduled monitoring report and shall be included in calculations as appropriate.

The Central Valley Water Board has gone to a Paperless Office System. All regulatory documents, submissions, materials, data, monitoring reports, and correspondence should be converted to a searchable Portable Document Format (PDF) and submitted

electronically. Documents that are less than 50MB should be emailed to: centralvalleyfresno@waterboards.ca.gov. Documents that are 50MB or larger should be transferred to a disk and mailed to the appropriate Regional Water Board office, in this case 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: 227781,
Facility Name: NPS Grant Grove WWTF
Order: 2014-0153-DWQ-R5341

Quarterly Monitoring Reports

Quarterly reports shall be submitted to the Regional Water Board on **the first day of the second month after the quarter ends** (e.g., the January-March Quarterly Report is due by May 1st). The reports shall bear the certification and signature of the Discharger's authorized representative. At the minimum, the quarterly reports shall include:

1. Results of all required monitoring.
2. For each month of the quarter, a calculation of the average total nitrogen concentration (influent and effluent) and a calculation of the 12-month rolling average total nitrogen reduction (as a percentage) using the nitrogen data from that month and the previous 11 months.
3. A comparison of monitoring data to the requirements (including the flow limitation), disclosure of any violations of the NOA and/or General Order, and an explanation of any violation of those requirements. (Data shall be presented in tabular format).
4. Copies of laboratory analytical report(s) and chain of custody form(s).

Annual Report

Annual Reports shall be submitted to the Regional Water Board by **March 1st following the monitoring year**. The Annual Report shall include the following:

1. Tabular and graphical summaries of all monitoring data collected during the year.
2. Calculation of the annual average total nitrogen reduction for the calendar year and a comparison to the total nitrogen reduction limit of 50 percent.
3. An evaluation of the performance of the wastewater treatment system, including discussion of the capacity issues nuisances' conditions, system problems and a forecast of the flows anticipated in the next year. A flow rate evaluation, as described in the General Order (Provision E.2.c), shall also be submitted.
4. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into compliance with the NOA and/or General Order.

5. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
6. The name and contact information for the wastewater operator responsible for operation, maintenance, and system monitoring.
7. Records of all sludge/biosolids removed from the wastewater treatment system.

State Water Board Volumetric Annual Reporting

Per State Water Resources Control Board's Water Quality Control Policy (https://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/), amended in December 2018, dischargers of treated wastewater and recycled water are required to report annually monthly volumes of influent, wastewater produced, and effluent, including treatment level and discharge type. The Discharger shall submit an annual report to the State Water Board by **April 30 of each calendar year** furnished with the information detailed below. The Discharger must submit this annual report containing monthly data in electronic format via the State Water Board's Internet GeoTracker system (http://geotracker.waterboards.ca.gov/). Required data shall be submitted to the GeoTracker database under a site-specific global identification number. Any data will be made publicly accessible as machine readable datasets. The Discharger must report all applicable items listed below:

a. **Influent.** Monthly volume of wastewater collected and treated by the wastewater treatment plant.
b. **Production.** Monthly volume of wastewater treated, specifying level of treatment.
c. **Discharge.** Monthly volume of treated wastewater discharged to land, where beneficial use is not taking place, including evaporation or percolation ponds, overland flow, or spray irrigation disposal, excluding pasture of fields with harvested grounds.
d. **Reuse.** Monthly volume of recycled water distributed.
e. **Reuse Categories.** Annual volume of treated wastewater distributed for beneficial use in compliance with California Code of Regulations, title 22 in each of the use categories listed below:
    a. Agricultural irrigation: pasture or crop irrigation.
    b. Landscape irrigation: irrigation of parks, greenbelts, and playgrounds; school yards; athletic fields; cemeteries; residential landscaping, common areas; commercial landscaping; industrial landscaping; and freeway, highway, and street landscaping.
    c. Golf course irrigation: irrigation of golf courses, including water used to maintain aesthetic impoundments within golf courses.
    d. Commercial application: commercial facilities, business use (such as laundries and office buildings), car washes, retail nurseries, and appurtenant landscaping that is not separately metered.

e. Industrial application: manufacturing facilities, cooling towers, process water, and appurtenant landscaping that is not separately metered.

f. Geothermal energy production: augmentation of geothermal fields.

g. Other non-potable uses: including but not limited to dust control, flushing sewers, fire protection, fill stations, snow making, and recreational impoundments.

h. Groundwater recharge: the planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system. Includes surface or subsurface application, except for seawater intrusion barrier use.

i. Reservoir water augmentation: the planned placement of recycled water into a raw surface water reservoir used as a source of domestic drinking water supply for a public water system, as defined in section 116275 of the Health and Safety Code, or into a constructed system conveying water to such a reservoir (Water Code § 13561).

j. Raw water augmentation: the planned placement of recycled water into a system of pipelines or aqueducts that deliver raw water to a drinking water treatment plant that provides water to a public water system as defined in section 116275 of the Health and Safety Code (Water Code § 13561).

k. Other potable uses: both indirect and direct potable reuse other than for groundwater recharge, seawater intrusion barrier, reservoir water augmentation, or raw water augmentation.

A letter transmitting the monitoring reports, excluding the State Water Board Annual Volumetric Report, shall accompany each report. The letter shall report violations found during the reporting period, and actions taken or planned to correct the violations and prevent future violations. The transmittal letter shall contain the following penalty of perjury statement and shall be signed by the Discharger or the Discharger's authorized agent:

> *"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 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."*

The Discharger shall implement the above monitoring program in the first month following the date WDRs Order 86-106 is rescinded.

Ordered by:

Original Signed by Clay L. Rodgers for
PATRICK PALUPA, Executive Officer

6/16/2020
(Date)

GLOSSARY

BOD_5	Five-day biochemical oxygen demand
CaCO3	Calcium carbonate
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
TDS	Total dissolved solids
TKN	Total Kjeldahl nitrogen
TSS	Total suspended solids
Total Coliform	Using a minimum of 15 tubes or three dilutions.
Continuous	The specified parameter shall be measured by a meter continuously.
24-hr Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots over a 24-hour period.
Daily	Every day except weekends or holidays.
Twice Weekly	Twice per week on non-consecutive days.
Weekly	Once per week.
Twice Monthly	Twice per month during non-consecutive weeks.
Monthly	Once per calendar month.
Quarterly	Once per calendar quarter.
Semiannually	Once every six calendar months (i.e., two times per year) during non-consecutive quarters.
Annually	Once per year.
mg/L	Milligrams per liter
mg/kg	Milligrams per kilogram
mL/L	Milliliters [of solids] per liter
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
gpd	Gallons per day
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters
NA	Denotes not applicable

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

REGISTERED PROFESSIONAL ENGINEER
ALEXANDER MUSHEGAN
No. 84208
CIVIL
STATE OF CALIFORNIA

DATE: 16 June 2020

APPLICABILITY OF COVERAGE UNDER STATE WATER RESOURCES CONTROL BOARD ORDER WQ 2014-0153-DWQ; GENERAL WASTE DISCHARGE REQUIREMENTS FOR SMALL DOMESTIC WASTEWATER TREATMENT SYSTEMS; UNITED STATES DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE, SEQUOIA AND KINGS CANYON NATIONAL PARKS; GRANT GROVE WASTEWATER TREATMENT FACILITY; FRESNO COUNTY

BACKGROUND INFORMATION

Waste Discharge Requirements (WDRs) Order 86-103 regulates the discharge of treated domestic wastewater from the United States Department of the Interior, National Park Service, Sequoia and Kings Canyon National Parks (NPS or Discharger) Grant Grove Wastewater Treatment Facility (WWTF) at Kings Canyon National Park in Fresno County. WDRs Order 86-103 allows a discharge of up to 85,000 gallons per day (gpd) to a spray field during the summer months (March through November) and up to 42,000 gpd to leach field/percolation area in the winter months (December through February). WDRs Order 86-103 needs to be updated to ensure the discharge is consistent with Central Valley Water Board plans and policies.

On 30 August 2019, Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff received a Report of Waste Discharge (RWD) from the Discharger applying for coverage under State Water Resources Control Board's Order 2014-0153-DWQ *General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems* (General Order). The RWD includes a Form 200 and a technical report prepared

and signed by Mr. Christopher Carpenter, a California registered civil engineer (RCE 82184) with the NPS.

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

DESCRIPTION OF DISCHARGE

The WWTF is located northwest of Grant Grove in Kings Canyon National Park off Highway 180, section 31, Township 13 South, Range 28 East, Mount Diablo Base and Meridian (MDB&M) in Fresno County (see **Attachment A** of the Notice of Applicability [NOA]). The WWTF provides service for over 900,000 park visitors annually including campgrounds, picnic areas, trailer villages, concessions, and employee housing within the Grant Grove area.

The WWTF consists of an indoor activated sludge plant that provides tertiary treatment with disinfection. The treatment system consists of a headworks (with mechanical screening, a Parshall flume with ultrasonic flow sensor, and two equalization basins), two secondary aeration basins with clarifiers, two pressure-dosed sand filters, chlorine contact chamber, two effluent storage tanks, and an indoor sludge handling system. Disposal is via a 9.5-acre spray field in the summer (generally from March through November) and to a 1.4-acre leach field in the winter (generally from December through February). A process flow schematic is provided in **Attachment B** of the NOA.

The sludge handling facilities includes an aerobic digester and two indoor vacuum assisted sludge drying beds. Water leached from the sludge drying beds is captured in a sump and pumped back to the headworks. Dewatered sludge is collected in bins and sent to a nearby composting facility for disposal.

The WWTF has a current design treatment and disposal rate of 85,000 gpd to the spray field and up to 42,000 gpd to the leach field/percolation area. The General Order states that domestic wastewater treatment systems discharging under 100,000 gpd are eligible for coverage.

Waste Discharge Requirements Order 86-103 includes the following conditions and effluent limits:

a) Prohibits discharge to the spray field in winter months (December through February)
b) 30-day average daily flow limit of 85,000 gpd to the spray field and 42,000 gpd to the leach field.
c) BOD and TSS effluent limits of 20 mg/L (30-day mean) and 60 mg/L (instantaneous maximum).
d) Settleable solids effluent limits of 0.1 ml/L (30-day mean) and 0.5 ml/L (instantaneous maximum).
e) Total coliform effluent limits of 23 MPN/100 ml (30-day median) and 240 MPN/100 ml (instantaneous maximum).

The WWTF provides tertiary treatment with disinfection prior to disposal. Wastewater flows average about 24,800 gpd to the spray field during the summer and about 18,100 gpd to the leach field during the winter months. Table 1 below shows monthly average flows and effluent quality for January 2017 through December 2018.

Table 1 – Effluent Data (January 2017 to December 2018)

Month	Flow (gpd)	BOD_5 (mg/L)	TSS (mg/L)	Total Coliform Organisms (MPN/100 mL)
Jan-17	26,300	6.6	4.1	<1.8
Feb-17	35,100	4.4	6.0	<1.8
Mar-17	25,300	5.7	<4.0	<1.8
Apr-17	25,700	<0.5	<4.0	<1.8
May-17	20,200	0.9	14.2	12
Jun-17	30,000	6.0	13.8	<1.8
Jul-17	39,800	7.4	16.8	<1.8
Aug-17	30,600	3.1	8.8	<1.8
Sep-17	19,100	6.0	24.3	<1.8
Oct-17	19,900	8.2	21.0	<1.8
Nov-17	12,900	2.9	10.4	205
Dec-17	17,600	2.7	6.8	401
Jan-18	17,000	2.4	5.8	<1.8
Feb-18	12,600	2.4	<4.0	<1.8
Mar-18	18,200	1.8	<4.0	<1.8
Apr-18	21,900	1.9	23.0	<1.8
May-18	25,500	3.6	8.0	4.0
Jun-18	30,900	1.2	4.3	<1.8
Jul-18	36,600	37.7	36.8	404
Aug-18	28,600	10.4	14.0	<1.8
Sep-18	25,100	3.2	4.8	<1.8
Oct-18	18,100	2.9	<4.0	<1.8
Nov-18	12,300	2.9	<4.0	<1.8
Dec-18	11,200	0.7	<4.0	89
Ave.	**23,400**	**5.2**	**9.9**	**47**

Data for settleable matter was not included in Table 1 because analytical results were reported as non-detect for every month during this period.

POTENTIAL THREAT TO WATER QUALITY

Water for the area is provided by two groundwater wells. The WWTF and disposal areas are greater than 3,500 feet from these supply wells. Furthermore, there are no

domestic wells, flowing streams or lakes in the vicinity of the disposal areas, and the spray field and leach field are greater than 200 feet and 300 feet, respectively, from the nearest ephemeral stream channel. The area around the spray field is fenced and posted with warning signs to prevent public contact. These distances meet the minimum setback requirements for treatment and disposal of tertiary disinfected effluent from Table 3: *Summary of Wastewater System Setbacks* of the General Order.

During construction of the WWTF, depth to highest groundwater was encountered at about 12 feet below surface grade (bsg) in the vicinity of both the spray field and leach field disposal areas. To address the potential for high groundwater and the presence of a recreational lake (Sequoia Lake) located about 3,500 feet southwest of the disposal areas, Order 86-103 requires disinfection and includes effluent limits for total coliform organisms of 23 most probable number per 100 milliliters (MPN/100mL) as a monthly average and 240 MPN/100 mL as daily maximum in accordance with requirements from the California Department of Public Health (now State Water Resources Control Board Division of Drinking Water).

Finding 6 of the General Order states that dischargers enrolled under the General Order must comply with the applicable Basin Plan requirements, and that between the requirements of the General Order and the applicable Basin Plan, the more stringent requirements prevail. The Tulare Lake Basin Plan, Section 3.2.1 contains a water quality objective for bacteria requiring groundwater designated as municipal and domestic supply (MUN) have total coliform of less than 2.2 MPN/100 mL over any 7-day period. Given shallow soils and limiting site conditions discussed above it is appropriate to carry over the existing effluent limits for total coliform organisms of 23 MPN/100mL as a monthly average and 240 MPN/100 mL as daily maximum from Order 86-103

Percolation tests of the soil during construction of the Grant Grove WWTF in 1986 reported average percolation rates of 2.2 minutes per inch (MPI) in the vicinity of the spray field and 3.9 MPI in the vicinity of the leach field. In Table 5: *Minimum Depth to Groundwater and Minimum Soil Depth from the Bottom of the Dispersal System*, of the General Order, the minimum depth to groundwater required for soils with percolation rates between 1 MPI and 5 MPI is 20 feet below surface grade (bsg). With depth to highest groundwater at about 12 feet bsg, the discharge area does not meet this requirement. To address the issue of potentially high groundwater the WWTF provides tertiary treatment with disinfection prior to disposal. In addition, the Discharger installed two observation wells within the spray field and 18 observation ports within the leach field to depths of 10 feet bsg to monitor for high groundwater. According the Discharger these monitoring locations are checked about twice a year since the system was installed and the ports have been reported as dry or with insufficient water to sample.

NITROGEN EVALUATION

Attachment 1 of the General Order includes five site-specific conditions to be considered when evaluating a discharge and the need for nitrogen control. These five site-specific conditions include: flow, groundwater depth, percolation rate, wastewater

strength, and if nitrogen is of concern in the area. The proposed flow is greater than 20,000 gpd and, therefore, a nitrogen effluent limit evaluation is required for the WWTF.

As mentioned previously, percolation rates in the vicinity of the disposal areas is less than 5 MPI. With depth to highest groundwater at about 12 feet bsg the disposal areas meet the definition for excessive percolation and shallow groundwater. Therefore, a nitrogen effluent limitation is appropriate.

The RWD included a Nitrogen effluent evaluation. The evaluation determined that:

1. Wastewater quality does not exceed typical domestic wastewater strength;
2. There are no sensitive receptors in the vicinity of the WWTF and disposal areas and
3. Highest groundwater at greater than 10 feet bgs some attenuation of nitrogen in the soil and crop uptake in the spray field is expected.

Based on the Nitrogen effluent evaluation the Discharger determined that an average effluent nitrogen limit requiring a 50 percent reduction is appropriate.

Influent and effluent monitoring for nitrogen was not required by Monitoring and Reporting Program 86-103. Influent and effluent samples, collected as part of the RWD, between June and July of 2019 reported typical nitrogen concentrationsas shown in Table 2 below.

Table 2 - Nitrogen Sampling Results

Parameter	5 June 2019	26 June 2019	2 July 2019	31 July 2019
Influent	91.3	142.3	144.4	109.9
Effluent	37.6	38.7	40.9	31.5
Percent Reduction	**59%**	**73%**	**72%**	**72%**

Based on the available data the Discharger should be able to comply with a nitrogen effluent limit requiring 50 percent reduction as an annual average.

MONITORING REQUIREMENTS

Monitoring requirements included in the following sections from Attachment C of the General Order are appropriate for this discharge:

- Activated Sludge Monitoring
- Disinfection System Monitoring
- Subsurface Disposal Area Monitoring
- Land Application Area (Spray Field) Monitoring
- Solids Disposal Monitoring

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. On 16 October 2019, the State Water Resource Control Board adopted Resolution No.

2019-0057 approving the Central Valley Water Board Basin Plan amendments and also directed the Central Valley Water Board to make targeted revisions to the Basin Plan amendments within one year from the approval of the Basin Plan amendments by the Office of Administrative Law. The Office of Administrative Law approved the Basin Plan amendments on 15 January 2020 (OAL Matter No. 2019-1203-03).

Pursuant to the Basin Plan amendments, dischargers will receive a Notice to Comply with instructions and obligations for the Salt Control Program within one year of the effective date of the amendments. Upon receipt of the Notice to Comply, the Discharger will have no more than six months to submit their Notice of Intent informing the Central Valley Water Board of their choice between Option 1 (Conservative Salinity Permitting Approach) or Option 2 (Alternative Salinity Permitting Approach).
For the Nitrate Control Program, the WWTF falls approximately 18 miles east of Groundwater Basin 5-022.08 (San Joaquin Valley - Kings) in a non-prioritized basin/sub-basin. Implementation within a non-prioritized basin/sub-basin will occur as directed by the Central Valley Water Board Executive Officer.

More information on the Salt and Nitrate Control Program may be found on the internet (https://www.cvsalinity.org/public-info).