CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401-7906

WASTE DISCHARGE REQUIREMENTS

DRAFT ORDER NO. R3-2009-0037
Waste Discharger Identification No. 3 421009001

FOR
CATE SCHOOL
WASTEWATER FACILITIES,
SANTA BARBARA COUNTY

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

SITE OWNER AND LOCATION

1. Cate School (also referred to as the "Discharger") owns and operates a wastewater treatment and disposal system, located in the foothills of the Santa Ynez Mountains approximately 2.5 miles northeast of the City of Carpinteria. The school property is bounded by Carpinteria Creek approximately 900 feet to the west and Gobernador Creek approximately 600 feet to the east and southeast.

2. The Discharger's facility serves the Cate School private boarding school with an approximate population of 400 students, faculty, and staff.

3. The treatment facility is located in Santa Barbara County, to the northeast of the City of Carpinteria, at 1960 Cate Mesa Road, Carpinteria, at latitude of 34° 24' 18.26" N and a longitude of 119° 28' 39.79" W, as shown on Attachment "A" of this Order.

PURPOSE OF ORDER

4. In accordance with Section 13260 of the California Water Code, the Discharger submitted a report of waste discharge on September 22, 2008, in order to update its existing wastewater discharge requirements to address the wastewater treatment and disposal facilities upgrades that will produce tertiary treated wastewater for onsite reuse.

5. In December 2008, in accordance with CCR Title 22, Division 4, Chapter 3, Article 7, § 60323, the Discharger submitted the final Title 22 Engineering Report for the Recycling Project to the Water Board's Executive Officer. A properly qualified engineer registered in California and experienced in wastewater treatment systems prepared the Engineering Report in accordance with the California Department of Public Health's March 2001 *Guidelines for the Preparation of an Engineering Report for the Production, Distribution and Use of Recycled Water*. The Engineering Report clearly describes the means to comply with the Title 22 Water Recycling Criteria (CCR Title 22, Division 4, Chapter 3).

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6. With comments, the California Department of Public Health approved the Engineering Report on April 1, 2009. The Discharger will develop and conduct a tracer study as required by provisions C.22 and C.23 of this Order to address the California Department of Public Health's comments.

7. This Order revises Order No. 00-002, which was adopted by the Central Coast Water Board on July 14, 2000. This Order considers current regional and statewide water quality policies and statewide standards.

SITE/FACILITY DESCRIPTION

Water Supply

8. Cate School receives its water from Carpinteria Valley Water District. The Carpinteria Valley Water District uses a blend of water from Cachuma Lake, the State Water Project, and local groundwater.

9. According to the Carpinteria Valley Water District's 2006 Consumer Confidence Report, which is required per Health and Safety Code §116470, water supply quality consistently complies with all state and federal drinking water requirements.

Wastewater Treatment System

10. The Discharger treats an average daily domestic wastewater flow of 15,000 gallons per day (gpd) to tertiary standards with disinfection. Peak flows fluctuate throughout the year due to the nature of school schedules, from 2,000 gpd to 20,000 gpd. The Discharger treats wastewater composed of domestic and food preparation waste streams.

11. The treatment facility has a design capacity of 25,000 gpd. The wastewater treatment processes include a coarse bar screen, flow equalization chamber, extended aeration chamber, secondary clarifier chamber, tertiary dual cell rapid sand filters, and a chlorine contact disinfection chamber. Tertiary treated wastewater will be discharged to a 427,000 gallon underground recycled water storage tank then discharged at one of three locations depending on site conditions:

    - Athletic fields (located at the eastern portion of the campus),
    - Percolation wells (located underground in the center of campus), and
    - Spray fields (located at the western portion of the campus).

    The spray field located on the western portion of the campus will be used only during peak flow conditions. The percolation wells will be used during the wet season when surface discharge is not an option. The percolation wells are designed to accept approximately 126,000 gallons per day, well above the wastewater treatment plant peak flow rate. A facility layout indicating reclaimed water reuse areas is shown on Attachment "B," a facility process diagram is shown on Attachment "C," and facility effluent storage and disposal diagram in shown on Attachment "D" of this Order. A summary of effluent data is presented in the following table.

Summary of Effluent Monitoring Data			
Constituents	**Effluent Monitoring Data (Avg/Min/Max) [a]**		
	2007	**2006**	**2005**
Average Daily Flow (Gallons/day)	9,383 3,513 14,865	8,509 5,453 11,720	9,108 8,000 11,700
BOD (mg/L)	12 3.3 20.6	8.1 ND 14.8	22 4.1 63
Total Suspended Solids (mg/L)	20.3 ND 35	20 10 30	20 ND 40
Total Dissolved Solids (mg/L)	763 280 950	890 860 960	910 760 1050
pH (s.u.)	6.9 6.5 7.4	7.0 6.8 7.4	7.0 6.7 7.5
Settleable Solids (mL/L)	0.3 ND 0.3	0.2 ND 0.8	0.2 ND 0.5
Sodium (mg/L)	246 117 604	101.5 91 114	103 83 114
Chloride (mg/L)	112 105 122	94 75 104	77 58 89
Nitrate as N (mg/L)	48 41 54	49 33 60	35 15 59
Sulfate (mg/L)	254 204 320	242 206 280	284 199 416
Boron (mg/L)	1.0 0.4 2.7	0.6 0.5 0.7	0.7 0.8 0.5

a - Average, minimum and maximum values calculated from 12 quarterly sampling events for 2005, 2006, and 2007.

12. Waste solids are periodically pumped and hauled to a wastewater treatment plant for disposal.

Surface and Groundwater

13. The Water Quality Control Plan, Central Coast Basin (Basin Plan) was adopted by the Central Coast Water Board on November 19, 1989, and approved by the State Board on

August 16, 1990. The Central Coast Water Board approved amendments to the Basin Plan on February 11, 1994, and September 8, 1994. The Basin Plan incorporates statewide plans and policies by reference and contains a strategy for protecting beneficial uses of State waters.

14. Present and anticipated beneficial uses of Carpinteria Creek that could be affected by the discharge include:
    a. Domestic and municipal water supply (MUN);
    b. Agricultural supply (AGR);
    c. Ground water recharge (GWR);
    d. Water contact recreation (REC-1);
    e. Non-contact water recreation (REC-2);
    f. Wildlife habitat (WILD);
    g. Cold fresh water habitat (COLD)
    h. Warm fresh water habitat (WARM);
    i. Migration of aquatic organisms (MIGR);
    j. Spawning, reproduction, and/or early development (SPWN);
    k. Preservation of Biological Habitats of Special Significance (BIOL);
    l. Rare, threatened, or endangered species (RARE);
    m. Estuarine Habitat (EST);
    n. Freshwater Replenishment (FRSH); and,
    o. Commercial and Sport Fishing (COMM).

15. Present and anticipated beneficial uses of Gobernador Creek that could be affected by the discharge include:
    a. Domestic and municipal water supply (MUN);
    b. Ground water recharge (GWR);
    c. Water contact recreation (REC-1);
    d. Non-contact water recreation (REC-2);
    e. Wildlife habitat (WILD);
    f. Cold fresh water habitat (COLD)
    g. Warm fresh water habitat (WARM);
    h. Spawning, reproduction, and/or early development (SPWN);
    i. Commercial and Sport Fishing (COMM).

16. Depth to groundwater in the area is approximately 205 feet below ground surface.

17. Treated wastewater is discharged into the Carpinteria sub-area.

18. Present and anticipated beneficial uses of groundwater in the vicinity of the discharge include the beneficial uses specified in the Basin Plan, which are:

    a. Domestic and municipal water supply (MUN);
    b. Industrial process supply (PRO);
    c. Agricultural water supply (AGR); and,
    d. Industrial service supply (IND).

19. Median groundwater objectives established for the Carpinteria sub area are included in the following table.

Median Groundwater Objectives [a]		
Parameter	**Unit**	**Objective [b]**
Total Dissolved Solids	mg/L	700
Chloride	mg/L	100
Sulfate	mg/L	150
Boron	mg/L	0.2
Sodium	mg/L	100
Nitrogen as N	mg/L	7

a – Table 3-8 of the Basin Plan
b – Objectives are shown as median values based on data averages.

CHANGES TO ORDER

20. Prohibitions and discharge specifications have been updated to include California Code of Regulations Title 22 water reclamation requirements. The facility was upgraded to produce disinfected tertiary recycled water for onsite landscaping reuse.

CEQA

21. The County of Santa Barbara is the lead agency for purposes of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) (CEQA). In 2007, the County of Santa Barbara certified as adequate a Negative Declaration finding that the construction of the wastewater treatment plant, effluent storage and disposal system will have no negative effect on the environment in accordance with CEQA and the CEQA Guidelines in Title 14 California Code of Regulations. The Water Board is a responsible agency for purposes of CEQA. The Water Board has considered the Negative Declaration and has included requirements in this Order to protect waters of the state.

ANTIDEGRADATION

22. Provisions of the Order are consistent with applicable anti-degradation policy expressed by State Water Board Resolution No. 68-16. The Order does not authorize increases in pollutant loadings, and its limitations and conditions otherwise ensure maintenance of the existing quality of receiving waters.

GENERAL FINDINGS

23. Discharge of waste is a privilege, not a right, and authorization to discharge is conditional upon the discharge complying with provisions of Division 7 of the California Water Code and any more stringent effluent limitations necessary to implement water quality control plans, to protect beneficial uses, and to prevent nuisance. Compliance with this Order should ensure this and mitigate any potential adverse changes in water quality due to the discharge.

24. On July 16, 2009, the Central Coast Water Board notified the Discharger and interested agencies and persons of its intent to revise waste discharge requirements for the discharge and has provided them with a copy of the proposed order and an opportunity to submit written views and comments.

25. After considering all comments pertaining to this discharge during a public hearing on October 23, 2009, this Order was found consistent with the above findings.

IT IS HEREBY ORDERED, pursuant to authority in Section 13263 and 13523 of the California Water Code, that the Cate School, its agents, successors, and assigns, may discharge waste from its wastewater treatment plant providing it complies with the following:

All technical and monitoring reports submitted pursuant to this Order are required pursuant to Section 13267 of the California Water Code. The Central Coast Water Board requires these reports to determine compliance with this Order and the impacts, if any, of the discharge on receiving waters. Failure to submit reports in accordance with schedules established by this Order, or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer, may subject the Discharger to enforcement action pursuant to Section 13268 of the California Water Code.

(Note: Other prohibitions and conditions, definitions, and the method of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated January 1984.)

(Note: Throughout these requirements footnotes are listed to indicate the source of requirements specified. Requirement footnotes are as follows:

^{BP} = Basin Plan
^{ROWD} = Report of Waste Discharge Design Specification
Requirements not referenced are based on staff's professional judgment.)

A. PROHIBITIONS

1. Discharge to areas other than the athletic fields, percolation wells, or the spray fields shown in Attachment "B" is prohibited.

2. Discharge of any wastes, including overflow, bypass, seepage, overspray and runoff from transport, treatment, or disposal systems, to adjacent properties, or adjacent drainage ways is prohibited.

3. Bypass of the treatment facility is prohibited and discharge of improperly treated wastewater directly to the athletic fields, percolation wells, or the spray fields is prohibited.

4. Discharge of wastes within 100 feet of any potable water supply well or drainage way is prohibited.

5. There shall be no cross-connections between the potable water supply and pipes containing recycled water. Supplementing recycled water with water used for domestic supply shall not be allowed except through an air-gap separation. In accordance with California Code of Regulations (CCR) Title 17, Section 7604, a reduced pressure principle backflow device shall be provided at premises where recycled water is used and there is no interconnection with the potable water system.

B. DISCHARGE SPECIFICATIONS

1. Daily flow averaged over each month shall not exceed 20,000 gallons/day. [ROWD]

2. Effluent discharged to athletic fields, percolation wells, or the spray fields shall not exceed the following limitations:

Parameter	Units	30-Day Average	Daily Max
BOD_5	mg/L	10	30
Suspended Solids	mg/L	10	30
Settleable Solids	ml/L	0.1	0.3
Total Dissolved Solids	mg/L	900	--
Sodium	mg/L	150	250
Chloride	mg/L	150	250
pH	Standard Units	6.5 to 8.4	

Disinfected Tertiary Recycled Water Limitations

3. The Discharger shall ensure that treated effluent put to the use for disinfected tertiary recycled water applications shall be an adequately oxidized, filtered, and disinfected water, as defined in CCR Title 22, Division 4, Chapter 3, Sections 60301-60335, or alternatively defined and approved by California Department of Public Health.

4. The filter loading rate shall not exceed 5 gallons per minute per square foot of filter surface area.

5. The turbidity of the disinfected tertiary recycled water shall not exceed any of the following:

   a. An average of 2 NTU within a 24-hour period;

b. 5 NTU more than 5 percent of the time within a 24-hour period; and

c. 10 NTU at any time.

6. Disinfected tertiary recycled water shall not contain total coliform concentrations exceeding the following limits:

   a) the 7-day median concentration must not exceed a most probable number (MPN) of 2.2 organisms per 100 milliliters (mL);

   b) concentrations must not exceed 23 MPN/100 mL in more than one sample taken over a 30-day range; and

   c) concentrations must be less than 240 MPN/100 mL at all times.

7. Treatment must include a chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow, or

   Treatment must include a disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.[1]

8. Extraneous surface drainage shall be excluded from all treatment, storage, and disposal facilities.

9. The treatment, storage, and disposal facilities shall be managed to exclude the public and posted to warn the public of the presence of wastewater.

C. RECLAMATION SPECIFICATIONS

1. The incidental discharge of recycled water in irrigation runoff to waters of the State shall not unreasonably affect present or anticipated beneficial uses and shall not result in receiving water that is of a quality that is less than that prescribed in water quality control plans or policies.

2. The incidental discharge of recycled water in irrigation runoff to the outside of designated reuse areas shall be minimized.

3. If incidental discharges of recycled water in irrigation runoff flow to a municipal separate storm sewer system, the discharges shall comply with local storm water requirements.

4. No recycled water shall be applied to irrigation areas when soils are saturated.

5. The discharger shall prepare and implement a pollution prevention plan to reduce to the maximum extent practicable pollutants in discharges from storm water and irrigation runoff

[1] Pursuant to California Code of Regulation Title 22, Division 4, Chapter 3, Section 60301.230(a)(2)

associated with the application of pesticides, herbicides and fertilizers. The plan shall also address how discharges of recycled water in irrigation runoff to the outside of designed reuse areas will be minimized.

6. Dry weather discharges from landscape, nonrestricted recreational, and restricted recreational impoundments as defined, respectively, in the California Code of Regulations, Title 22, sections 60301.550, 60301.620 and 60301.760 are prohibited.

7. Wet weather discharges from landscape, nonrestricted recreational, and restricted recreational impoundments are prohibited, except as provided in Condition No. 10 and under extreme wet weather conditions. To comply with this requirement, the impoundment may be drained and filled with potable water or flushed with potable water before the onset of the wet weather season. After draining or flushing, a minor percentage of reclaimed water may remain in the impoundment.

8. Wet weather discharges from landscape, nonrestricted recreational, and restricted recreational impoundments to municipal separate storm sewer systems caused by storm water runoff are allowable, provided that the discharge is in compliance with local storm water requirements and that the discharge does not cause water quality objectives established for surface waters to be exceeded.

9. The treatment, storage, distribution, or reuse of recycled water shall not create a nuisance as defined in section 13050(m) of the California Water Code.

10. No irrigation with disinfected tertiary recycled water shall take place within 50 feet of any domestic water supply well unless all of the following conditions have been met:

    a. A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface.
    b. The well contains an annular seal that extends from the surface into the aquitard.
    c. The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities.
    d. The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well.
    e. The owner of the well approves of the elimination of the buffer zone requirement.

11. No impoundment of disinfected tertiary recycled water shall occur within 100 feet of any domestic water supply well.

12. Any use of recycled water shall comply with the following:
    a. Any irrigation runoff shall be confined to the recycled water use area, unless the runoff does not pose a public health threat and is authorized by the regulatory agency.
    b. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.

13. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.

14. Spray irrigation of recycled water shall be accomplished at a time and in a manner to minimize ponding and the possibility of public contact with sprayed materials. *BPJ*

15. All areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording: "RECYCLED WATER - DO NOT DRINK." Each sign shall display an international symbol similar to that shown in figure 60310-A of CCR Title 22, Section 60310. The California Department of Public Health and Santa Barbara County Environmental Health Services may accept alternative signage and wording, or an educational program, provided the applicant demonstrates to the agencies that the alternative approach will ensure an equivalent degree of public notification.

16. Except as allowed under section 7604 of title 17, California Code of Regulations, no physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water.

17. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.

18. The Discharger shall ensure that backflow prevention devices are in proper working order by testing initially and annually thereafter, in accordance with CCR Title 18, Section 7605. Reports of testing and maintenance shall be maintained by the Discharger.

19. The Discharger shall consult with and obtain approval from the Water Board and Santa Barbara County Environmental Health Services on plans and specifications for the reclaimed water system installation, cross connection tests, and guidelines for employee training.

Design Requirements

20. Prior to discharging recycled water to the athletic fields, the Discharger shall conduct a tracer study to verify whether the wastewater disinfection process provides a CT value of not less than 450 mg-min/L at all times with a modal contact time of at least 90 minutes. The developed protocols shall be submitted to California Department of Public Health and the Water Board.

21. Prior to discharging recycled water to the athletic fields, the Discharger shall submit a report showing that it has completed the tracer study and certifying that the chlorine disinfection treatment process meets the contact time requirement of Title 22. The report shall present the results of the tracer study and shall be submitted to California Department of Public Health and the Water Board.

22. The public water supply shall not be used as a backup or supplemental source of water for a dual-plumbed recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of sections 7602(a) and 7603(a) of title 17, California Code of Regulations, and the approval of the public water system has been obtained.[2]

[2] CCR Title 22, Div. 4, Chap. 3, Section 60315

23. All pipes installed above or below the ground that are designed to carry recycled water shall be colored purple or distinctively wrapped with purple tape. [3]

24. The Discharger shall implement a Cross Connection Control Plan to protect the public water supply system. The Cross Connection Plan shall include annual cross connection testing and shall be reviewed and updated annually as necessary. A copy of the revised Plan or statement indicating the Plan has been reviewed, but not updated shall be submitted to the Water Board as part of the Discharger's annual monitoring report. ROWD, BPJ

Reclamation Facility Operational Requirements

Alarms [4]

25. Alarm devices required for various unit processes as specified in other sections of these regulations shall be installed to provide warning of:

    a. Loss of power from the normal power supply.
    b. Failure of a biological treatment process.
    c. Failure of a disinfection process.
    d. Failure of a coagulation process.
    e. Failure of a filtration process.
    f. Any other specific process failure for which warning is required by the regulatory agency.

    All required alarm devices shall be independent of the normal power supply of the Facility.

26. The person to be warned shall be the plant operator, superintendent, or any other responsible person designated by the management of the reclamation plant and capable of taking prompt corrective action.

27. Individual alarm devices may be connected to a master alarm to sound at a location where it can be conveniently observed by the attendant. In case the reclamation plant is not attended full time, the alarm(s) shall be connected to sound at a police station, fire station or other full-time service unit with which arrangements have been made to alert the person in charge at times that the reclamation plant is unattended.

Power Supply [5]

28. The power supply shall be provided with one of the following reliability features:
    a. Alarm and standby power source.
    b. Alarm and automatically actuated short-term retention or disposal provisions as specified in Title 22 Section 60341.
    c. Automatically actuated long-term storage or disposal provisions as specified in Title 22 Section 60341.

Flexibility of Design [6]

[3] California Health & Safety Code Section 116815
[4] CCR Title 22, Div. 4, Chap. 3, Section 60335
[5] CCR Title 22, Div. 4, Chap. 3, Section 60337
[6] CCR Title 22, Div. 4, Chap. 3, Section 60333

29. The design of process piping, equipment arrangement, and unit structures in the reclamation plant must allow for efficiency and convenience in operation and maintenance and provide flexibility of operation to permit the highest possible degree of treatment to be obtained under varying circumstances.

Personnel [7]

30. Each reclamation plant shall be provided with a sufficient number of qualified personnel to operate the facility effectively so as to achieve the required level of treatment at all times.

31. Qualified personnel shall be those meeting requirements established pursuant to Chapter 9 (commencing with Section 13625) of the Water Code.

Maintenance [8]

32. A preventive maintenance program shall be provided at each reclamation plant to ensure that all equipment is kept in a reliable operating condition.

Operating Records and Reports [9]

33. Operating records shall be maintained at the reclamation plant or a central depository within the operating agency. These shall include: all analyses specified in the reclamation criteria; records of operational problems, plant and equipment breakdowns, and diversions to emergency storage or disposal; all corrective or preventive action taken.

34. Process or equipment failures triggering an alarm shall be recorded and maintained as a separate record file. The recorded information shall include the time and cause of failure and corrective action taken.

35. A monthly summary of operating records as specified in these requirements shall be filed monthly with the Water Board.

36. Any discharge of untreated or partially treated wastewater to the use area, and the cessation of same, shall be reported immediately by telephone to Water Board, California Department of Public Health, and the local health officer.

D. GROUNDWATER LIMITATIONS

1. Groundwater shall not contain taste or odor producing substance in concentrations that adversely affect beneficial uses. BP

2. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or results in the accumulation or radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life. BP

3. Groundwater shall not contain concentrations of organic or inorganic chemicals in excess of the limiting concentrations set fourth in California Code of Regulations, Title 22, Division

[7] CCR Title 22, Div. 4, Chap. 3, Section 60325
[8] CCR Title 22, Div. 4, Chap. 3, Section 60327
[9] CCR Title 22, Div. 4, Chap. 3, Section 60329

4, Chapter 15, Article 5.5, Section 64444 (organic) and Article 4, Section 64431 (inorganic). BP

4. Groundwater shall not contain concentrations of chemical constituents in amounts that adversely affect the agricultural supply beneficial use. Interpretation of adverse effects shall be as derived from the *University of California Agricultural Extension Service guidelines provided in Table 3-3 of the Central Coast Basin Plan.* BP

5. The discharge shall not cause a significant increase in mineral constituent concentrations in the underlying groundwater.

6. The discharge shall not cause groundwater to exceed 7 mg/L nitrate as N downgradient of the reclamation or disposal areas.

D. SALTS MANAGEMENT PROGRAM

1. The Discharger shall maintain an ongoing salts management program with the intent of reducing mass loading of salts in treated effluent to a level that will ensure compliance with effluent limitations and not negatively impact beneficial uses of groundwater.

2. The salts management program shall also address the concentration of salts in the wastewater treatment process as a result of excessive hydraulic retention times.

3. As part of the salts management program, the Discharger shall submit an annual engineering report of salt reduction efforts. This report shall include, at a minimum:

   a. Calculations of annual salt mass discharged to the wastewater treatment system with an accompanying analysis of contributing sources;
   b. Analysis of wastewater evaporation/salt concentration effects;
   c. Analysis of potential impacts of salt loading on the groundwater basin;
   d. A summary of existing salt reduction measures; and,
   e. Recommendations and time schedules for implementation of any additional salt reduction measures.

5. **Annual salt management reports are due January 31st of each year** and may be included as part of the annual monitoring report. The first annual salt management report is due January 31, 2011.

E. NUTRIENT MANAGEMENT PROGRAM

6. Hydraulic and nutrient loading rates for the application of disinfected tertiary recycled water shall be based on vegetation or landscaping consumption and tolerance and shall not exceed what is reasonable for production of the vegetation or landscaping (i.e., recycled water shall be applied in an amount that will not cause nitrogen within the root zone to exceed the agronomic demand for nitrogen and result in the leaching of nitrate to groundwater). *BPJ* Hydraulic and nutrient loading rates for the disposal of wastewater to the percolation wells shall not impact groundwater quality. The Discharger must demonstrate that the concentrations of nitrate as N in the effluent will not cause groundwater to exceed 7 mg/L nitrate as N.

7. The Discharger shall prepare and implement a nutrient management plan for the application of recycled water and the disposal of wastewater to the percolation wells to protect the beneficial uses of groundwater. The plan shall account for all nutrient loading to the application areas, including the percolation wells, and ensure that the total amount of nitrogen applied does not exceed the amount of nitrogen required by the food crops, vegetation or landscaping being irrigated or does not exceed the amount of nitrogen that will cause groundwater to exceed 7 mg/L nitrate as N.

8. As part of the nutrient management plan, the Discharger shall submit an annual report documenting allowable and actual nitrogen loading to the recycled water application areas and the percolation wells. The report shall include, at a minimum:

    a. Analysis of the contributing sources of nutrients being applied to the recycled water application areas;
    b. Analysis of annual nitrogen loading to the basin and individual application areas from each contributing source;
    c. Analysis of the allowable nutrient and hydraulic loading (based on limiting nitrogen loading) of recycled water based on characteristic effluent data for nitrogen, other contributing nitrogen sources, and the nutritive requirements of the application areas;
    d. Comparison of the actual and allowable annual nitrogen loading rates;
    e. Analysis of groundwater monitoring data for nitrogen constituents;
    f. Evaluation of potential impacts of nutrient loading on the groundwater basin;
    g. Evaluation of potential nutrient reduction measures; and,
    h. Recommendations and time schedules for the implementation of measures addressing excessive nitrogen loading (i.e. actual loading greater than allowable loading) as applicable.

9. **Annual nutrient management reports are due January 31st of each year** and may be included as part of the annual monitoring report. **The first annual nutrient management plan report is due January 31, 2011**. The plan shall be reviewed and updated annually thereafter as necessary. A copy of the revised plan or statement indicating the plan has been reviewed, but not updated shall be submitted to the Water Board as part of the annual monitoring reports.

10. Additional annual nutrient management reports will not be required upon request by the Discharger and approval by the Executive Officer given the following conditions are met:

    a. The initial nitrogen loading evaluation indicates the application of recycled water at appropriate hydraulic rates along with other nitrogen sources will not exceed the nutritive requirements of the food crops, vegetation or landscaping being irrigated
    b. Recycled water is not over applied in an effort to increase disposal that may result in significant soil flushing and runoff;
    c. A nutrient management plan is implemented for the controlled application of fertilizers by landscaping contractors maintaining the application areas; and,
    d. Effluent nitrogen concentrations from the Facility regularly meet or are less than the effluent limitations of this Order and are stable.

    (Approval of this variance is contingent on reasonable and scientifically defensible assumptions being applied to the loading evaluation.)

11. Discharges that exceed the hydraulic loading rate based on the nutritive requirements of the receiving vegetation may be allowable on a case-by-case basis upon request by the Discharger and approval by the Executive Officer given the following conditions are met:

    a. The nitrogen loading evaluation indicates the land application of wastewater at appropriate hydraulic rates (based on soil permeability) will not exceed the nutritive requirements of the vegetation being irrigated by more than a total nitrogen concentration as determined by the following equation[10]:

    $$\Delta N=(TOC-5)/2$$

    TOC = effluent Total Organic Carbon

    b. Wastewater is not over applied in an effort to increase disposal that may result in significant soil flushing and runoff;
    c. Effluent nitrogen concentrations from the Facility regularly meet or are less than the effluent limitations of this Order and are stable; and,
    d. The Discharger provides an assimilative capacity analysis and nitrogen balance showing that the additional nutrient loading to the groundwater basin will not cause or contribute to exceedances of water quality objectives for nitrate in groundwater

    (Approval of this variance is contingent on reasonable and scientifically defensible assumptions being applied to the assimilative capacity analysis and nitrogen balance.)

F. PROVISIONS

1. Order No. 00-002, "Waste Discharge Requirements for the Cate School, Santa Barbara County," adopted by the Central Coast Water Board on July 14, 2000, is hereby rescinded except for enforcement purposed.

2. The Discharger shall comply with "Monitoring and Reporting Program No. R3-2009-0037," as adopted by the Central Coast Water Board and as may be amended by the Executive Officer.

3. The Discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated January 1984.

4. Physical damage to pond levees caused by floods shall be repaired as soon as feasible after flood waters subside and shall be functional within 30 days of the day they are removed from service due to flood damage.

5. The Discharger shall maintain a comprehensive operation and maintenance manual for the wastewater treatment, storage, and disposal facilities.

6. Pursuant to Title 23, Chapter 3, Subchapter 9, of the California Code of Regulations, the Discharger must submit a written report to the Executive Officer not later than **March 15, 2019,** addressing:

[10] Maximum of nitrogen that can be effectively denitrified during rapid infiltration under optimum operating conditions; Metcalf and Eddy, Third Ed., 1991, page 972.

a. Whether there will be changes in the continuity, character, location, or volume of the discharge; and,
b. Whether, in their opinion, there is any portion of the Order that is incorrect, obsolete, or otherwise in need of revision.

IT IS FURTHER ORDERED that the Cate School shall:

1. Comply with the the attached "Standard Provisions and Reporting Requirements (January 1984)"

I, Roger W. Briggs, 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 Coast Region, on **October 23, 2009.**

_____
Roger W. Briggs
Executive Officer

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