

California Regional Water Quality Control Board  
Santa Ana Region

February 21, 2003

**ITEM:** 7

**SUBJECT:** Waste Discharge Requirements for Bordier's Nursery Inc., Order No. R8-2003-0028

**DISCUSSION:**

Bordier's Nursery Inc., operates a nursery farm located on Department of the Navy land at 7231 Irvine Boulevard. The facility is in the unincorporated area of Orange County near the City of Irvine. The nursery grows roses, poinsettias and landscape ornamentals in a combination of greenhouses, shade houses and outside growing areas covering a total area of approximately 242 acres. A combination of liquid fertilizer and controlled release fertilizer (CRF) is used at this facility. Liquid fertilizer is injected into the irrigation system by computer controlled sensors and the CRF is hand applied to specific crops. Approximately 90 % of the nursery crops are irrigated by overhead oscillating sprinklers. The remaining 10% of the nursery crops are irrigated by either spaghetti tubing and individual drip/spray emitters or a combination of mist spray nozzles. The entire nursery drains to a sedimentation basin and thence a return sump where irrigation water runoff accumulates and is monitored for electrical conductivity. Accumulated wastewater is pumped into the 2 million-gallon reservoir for recycling. Water that is in the reservoir is pumped and blended with freshwater and returned back into the irrigation system<sup>1</sup>.

Wastewater is discharged from the return sump when the depth of water in the reservoir exceeds 7.5 feet due to rain or irrigation runoff. The nursery discharges an average of approximately 60,000 gallons per month. In 2002, the total discharge from the site was 580,000 gallons, in five discrete discharge events at various times of the year. The wastewater is discharged under waste discharge requirements, Order No. 90-81 to Marshburn Channel, which is tributary to San Diego Creek, a tributary of Upper Newport Bay. Under dry weather conditions, the discharge typically percolates into the ground prior to reaching San Diego Creek.

On April 17, 1998, the Regional Board adopted Resolution No. 98-9 amending the Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) to include a nutrient Total Maximum Daily Load (TMDL) for the Newport Bay/San Diego Creek Watershed. The nutrient TMDL was amended by Resolution No. 98-100 on October 9, 1998. Thereafter, it was approved by the State Water Resources Control Board, Office of Administrative Law and the US EPA. The TMDL includes specific total nitrogen waste load allocations for Bordier's Nursery (and other nurseries). The TMDL also specifies that limits on phosphorous will be incorporated in revised waste discharge requirements as necessary.

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<sup>1</sup> *Color plants which are sensitive to water quality are not irrigated with recycled water.*

On April 17, 1998, the Regional Board adopted Resolution No. 98-69, amending the Basin Plan to include a TMDL for sediment in the Newport Bay/San Diego Creek Watershed. This sediment TMDL was amended by Resolution No. 98-101 on October 9, 1998 and has also been approved by the State Water Resources Control Board, Office of Administrative Law and the US EPA. The sediment TMDL provides a load allocation for all agricultural operations of 19,000 tons per year for discharges of sediment into San Diego Creek and its tributaries (10 year running average).

The proposed Order will update the existing waste discharge requirements for Bordier's Nursery Inc., to include the wasteload allocations for total nitrogen specified in the nutrient TMDL and a limit on total phosphorous.

The proposed Order also includes a limit on total suspended solids based on the load allocations for agricultural land specified in the sediment TMDL.

The use of pesticides and herbicides at the facility and the reasonable potential that they could cause or threaten to cause toxicity to aquatic organisms necessitate the inclusion of toxicity requirements in the Order. Consequently, this Order includes toxicity testing and chemical specific monitoring requirements. These monitoring requirements will be revised as appropriate based on the discharger's participation in a regional toxic substances monitoring program that is expected to be initiated in the near future.

These discharges are tributary to San Diego Creek and Newport Bay. The beneficial uses of San Diego Creek and Newport Bay include: navigation; water contact recreation; non-water contact recreation; commercial and sportfishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened or endangered species; spawning, reproduction, and development; marine habitat; shellfish harvesting; warm freshwater habitat; and estuarine habitat.

Order No. R8-2003-0028 should be adequate to protect these beneficial uses and to assure appropriate mitigation of impacts to waters of the state.

The facility site map is shown on Attachment "A"

**RECOMMENDATION:**

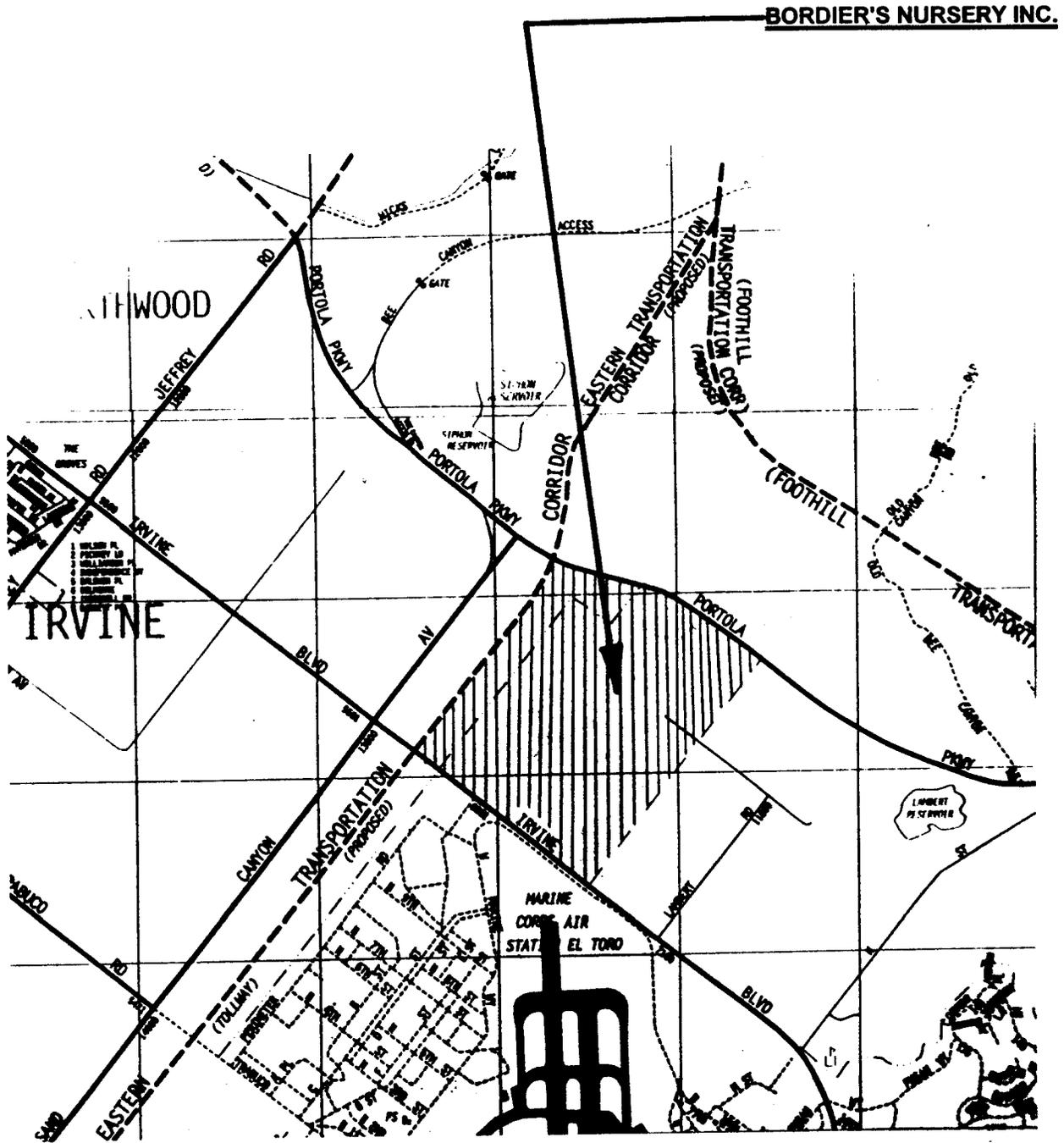
Adopt Order No. R8-2003-0028, as presented.

Comments were solicited from the following agencies and/or persons:

State Water Resources Control Board, Office of the Chief Counsel – Jorge Leon  
State Water Resources Control Board, Division of Water Quality – Jim Maughan  
State Department of Water Resources – Glendale  
State Department of Health Services, Santa Ana –  
California Department of Fish and Game, San Diego – Tim Dillingham  
Orange County Health Care Agency – Jack Miller  
Orange County Public Facilities and Resources Department – Chris Crompton  
Orange County Farm Bureau - Kathy Nakase  
Irvine Ranch Water District – John Hills  
University of California Cooperative Extension, South Coast Research Center – John Kabashima  
City of Newport Beach – Dave Kiff  
City of Irvine – Mike Loving  
Hines Nurseries – Clifford Prather  
El Modeno Gardens – Jo-Anne Newton  
Defend the Bay – Bob Caustin  
SPON – John Skinner  
Natural Resources Defense Council- Heather Hoercherl  
Orange County Coastkeeper  
Lawyers for Clean Water C/c San Francisco Baykeeper

### LOCATION MAP

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NOT TO SCALE



California Regional Water Quality Control Board  
Santa Ana Region

Order No. R8-2003-0028

Waste Discharge Requirements  
For  
Bordier's Nursery, Inc.  
Orange County

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Board), finds that:

1. On January 5, 1999, Bordier's Nursery, Inc. (hereinafter discharger) submitted a complete Report of Waste Discharge for updated waste discharge requirements for the discharge of nursery irrigation and storm runoff. Currently, waste discharges from the facility are regulated under Order No. 90-81. Order No. 90-81 is being updated to reflect current State regulations and the changes in plans and policies of the State and Regional Boards.
2. The discharger operates a wholesale nursery complex at 7231 Irvine Boulevard near the City of Irvine, in the unincorporated area of Orange County. The facility is located on Department of the Navy land.
3. The nursery operation currently occupies approximately 242 acres.
4. The facility receives water from the Irvine Ranch Water District and from the Irvine Company. The reported combined total freshwater purchased at the facility is as follows:

DURATION	VOLUME IN GALLONS
Average Daily	517,350
Average Monthly	15,736,053
Average Yearly	188,832,633

5. The facility grows plants in containers and uses a combination of liquid fertilizer (ammonium nitrate) and a controlled release fertilizer. Ammonium nitrate is injected into the irrigation system by computer-controlled sensors and the controlled release fertilizer is hand applied to specific crops. The discharger also uses herbicides for weed control.
6. Currently, 90% of the nursery crops are irrigated by overhead irrigation from oscillating sprinklers. These sprinklers apply water at the average rate of .5 inches per hour. The remainders of the crops are irrigated using smaller plastic oscillating sprinklers, spaghetti tubing and individual drip/spray emitters, and a combination of mist spray nozzles. The discharger has improved uniformity and efficiencies of several irrigation systems and continues to evaluate new products and methods.

7. The entire nursery drains to a sedimentation basin and then to a return sump where irrigation tailwater and storm runoff are intercepted and collected. The collected water is pumped into a 2 million gallon recycled water storage reservoir. Stored water is then recycled back into the irrigation system by blending<sup>1</sup> with freshwater. The recycling process significantly reduces the volume of water used at and discharged from the facility, and concomitantly, results in significant reductions in discharges of pollutants and nutrients (nitrogen and phosphorous).
8. Wastewater is discharged from the return sump overflow into the Marshburn storm channel, which is tributary to San Diego Creek, Reach 1, when the reservoir depth of 7.5 feet is exceeded. The discharge point is located at latitude 33°41'50" and longitude 117°44'00". Under dry weather conditions, discharges typically percolate into the ground prior to reaching San Diego Creek.
9. On September 30, 1999, Monitoring and Reporting Program No. 90-81 was revised to include monitoring for total nitrogen, total phosphorous, total suspended solids and toxicity.
10. A Water Quality Control Plan (the Basin Plan) became effective on January 24, 1995. The Basin Plan contains beneficial uses and water quality objectives for waters in the Santa Ana Region.
11. The requirements contained in this Order are necessary to implement the Water Quality Control Plan.
12. These discharges are tributary to San Diego Creek and Newport Bay. The beneficial uses of San Diego Creek and Newport Bay include:
  - a. Navigation;
  - b. Water contact recreation;
  - c. Non-water contact recreation;
  - d. Commercial and sportfishing;
  - e. Preservation of biological habitats of special significance;
  - f. Wildlife habitat;
  - g. Rare, threatened or endangered species;
  - h. Spawning, reproduction, and development;
  - i. Marine habitat;
  - j. Shellfish harvesting;
  - k. Warm freshwater habitat; and
  - l. Estuarine habitat.

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<sup>1</sup> A computer monitors water flow and controls blending of fresh water and recycled water.

13. On April 17, 1998, the Regional Board adopted Resolution No. 98-9 amending the Basin Plan for the Santa Ana River Basin to incorporate a Nutrient Total Maximum Daily Load (TMDL) for the Newport Bay/ San Diego Creek Watershed. The TMDL was amended by Resolution No. 98-100 on October 9, 1998 and thereafter approved by the State Water Resources Control Board, Office of Administrative Law and the US EPA. The TMDL provides a total nitrogen load allocation for Bordiers Nursery of 67 lbs per day (monthly average) to be achieved no later than 2007. The TMDL provides a total phosphorus load allocation for all agricultural operations in the Newport Bay watershed of 18,720 lbs per year, to be achieved no later than 2007.
14. On April 17, 1998, the Regional Board also adopted Resolution No. 98-69, amending the Basin Plan to include a TMDL for sediment in the Newport Bay/San Diego Creek Watershed. This sediment TMDL was amended by Resolution No. 98-101 on October 9, 1998 and has also been approved by the State Water Resources Control Board, Office of Administrative Law and the US EPA. The TMDL provides a load allocation for all agricultural operations of 19,000 tons per year into San Diego Creek and its tributaries.
15. This Order implements relevant requirements and provisions of the Nutrient TMDL specified in Resolution Nos. 98-9 as amended by Resolution Nos. 98-100. This Order includes a limit on suspended solids based on the prior permit limit and facility performance. This limit is more stringent than that required to comply with the sediment TMDL specified in Resolution No. 98-69, as amended by Resolution No. 98-101.
16. The project involves the update of waste discharge requirements for an existing facility and, as such, is exempt from the California Environmental Quality Act (Public Resources Code, Section 21100 et. seq.) in accordance with Section 15301, Chapter 3, Title 14, California Code of Regulations.
17. The quality characteristics of the discharge and the impacts of the discharge on the affected receiving waters (including San Diego Creek and Newport Bay) have been carefully considered. If conducted in accordance with the terms and conditions of this Order, the discharge will not result in a lowering of the water quality of the affected receiving waters. The discharge is consistent with State antidegradation policy (State Water Resources Control Board Resolution No. 68-16). There is no indication that the receiving waters affected by the discharge are high quality. The discharge will not result in water quality less than that prescribed in the Basin Plan. The discharge limitations specified in the Order implement the nutrient TMDL specified in the Basin Plan to assure that water quality standards (objectives and beneficial uses) are achieved. The discharge will not result in any adverse impacts to the present or potential beneficial uses of the receiving waters.
18. This Order includes an effluent limit for total suspended solids (TSS) based on the sediment TMDL allocation (19000 tons/year implemented as a 10-year running annual average) for agricultural land. It may be that this limit is higher than necessary. TSS data for wastewater discharges from the facility including stormwater are not available at this time. Accordingly, this Order requires monitoring for total suspended solids (TSS). The TSS limit will be revisited based on evaluation of these data.

19. On May 18, 2000, the U.S. Environmental Protection Agency issued a final rule for the establishment of Numeric Criteria for Priority Toxic Pollutants necessary to fulfill the requirements of Section 303(c)(2)(B) of the Clean Water Act for the State of California. This rule is commonly referred to as the California Toxics Rule.
20. On March 2, 2000, the State Water Resources Control Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California. This Policy includes implementation provisions for the California Toxics Rule. The Policy specifies a methodology to determine if pollutants in the discharge are at a level that will cause, have the reasonable potential to cause, or contribute to an excursion of a water quality standard and delineates procedures to be used to calculate appropriate limits.
21. This Order implements relevant provisions of the California Toxic Rule and the State Board Policy. Based on the methodology outlined in the State Board Policy, copper pose a reasonable potential to cause or contribute to an excursion of a water quality standard. The limitations for copper in this Order were developed following the methodology and procedures outlined in the State Board Policy.
22. The Regional Board has notified the discharger and other interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with the opportunity to submit their written views and recommendations.
23. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED** that the discharger in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

**A. DISCHARGE SPECIFICATIONS<sup>2</sup>**

1. The discharge of wastes containing a monthly average total nitrogen or total phosphorous mass emission rate that exceeds the values shown in the following table is prohibited.

Dates	Monthly Average Mass Emission Rate	
	Total Nitrogen <sup>3</sup>	Total Phosphorous
Beginning April 1, 2003	71 lbs/day	68 lbs/month
By December 31, 2007	67 lbs/day	49 lbs/month

2. Trace Constituent Effluent Limitations:

Constituent	Maximum Daily Limit (µg/l)	Average Monthly Limit (µg/l)	Daily Mass Rate (lbs/day)	Average Monthly Mass Rate (lbs/day)
Total Recoverable Copper	52	31	0.25	0.15

3. The discharge of waste containing a 12-month average mass total suspended solids in excess of 49.67 tons/month<sup>4</sup> is prohibited.
4. The discharge of wastewater other than agricultural irrigation runoff and stormwater runoff is prohibited.
5. The discharge of toxic or hazardous wastes is prohibited.
6. The discharge of any substance(s) in concentrations toxic to animal or plant life is prohibited.
7. The discharge shall not contain any visible oil and grease.

<sup>2</sup> See Provisions B.3. below for compliance with effluent limitations.

<sup>3</sup> The total nitrogen limit applies during the summer and winter seasons.

<sup>4</sup> Calculated from sediment TMDL load allocation of 19,000 tons per year for agricultural land multiplied by 242 (site acreage) divided by 12 and 7714 (total acreage of agricultural land in watershed).

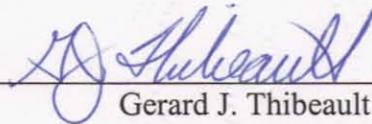
**B. PROVISIONS**

1. Neither the treatment nor the discharge of waste shall create, or threaten to create, a nuisance or pollution as defined by Section 13050 of the California Water Code.
2. Order No. 90-81 is hereby rescinded.
3. Compliance with the monthly average mass emission rate specified under Discharge Specification A.1. for Total Nitrogen and Total Phosphorous shall be determined by the total flow discharged within the month (in million gallons) multiplied by the average of all measurements for the parameter (in mg/l) within the month and multiplied by 8.34. Compliance with Total Nitrogen limits (lbs/day) shall be determined by dividing the monthly mass emission rate by the number of calendar days within the month in consideration. Storm runoff due to 0.5 inches or greater of rain shall not be included in the total flow determination.
4. Compliance with the 12-month average mass limits specified in Discharge Specifications A.2. shall be determined monthly by the arithmetic mean of the last twelve monthly averages.
5. The discharger shall comply with Monitoring and Reporting Program (M&RP) No. R8-2003-0028 as issued by the Executive Officer. This M&RP may be modified by the Executive Officer at any time during the term of this Order, and may include a reduction or an increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples collected. This monitoring and reporting program will be revised appropriately based on the discharger's participation in a regional monitoring program.
6. The discharger shall conduct acute toxicity monitoring as specified in Monitoring and Reporting Program (M&RP) No. R8-2003-0028. No discharge shall result in acute toxicity in ambient receiving waters. The effluent shall be deemed to cause acute toxicity when the toxicity test of 100% effluent, as required in Monitoring and Reporting Program No. R8-2003-0028, results in failure of the test as determined using the pass or fail test protocol specified in Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA-821-R-02-012, Fifth Edition, October 2002).
7. By April 1, 2003, the discharger shall submit a listing of chemicals/pesticides/herbicides that are used onsite. This shall include the estimated application rate and intended time/date of application. The discharger shall provide notice and resubmit a revised listing of chemicals whenever this listing is updated/revised.
8. The discharger shall update and implement best management practices to maximize reduction of nutrients (nitrogen and phosphorous) and sediment in the discharge and to minimize waste discharges from the site to the maximum extent practicable.

9. The discharger shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.
10. The discharger shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any requirements specified in this Order, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.
11. This Order does not exempt the discharger from compliance with any other applicable laws, regulations or ordinances which may be applicable; this Order does not legalize the discharge of waste from the facility and they leave unaffected any further restraint on the disposal of wastes at this facility which may be required by other agencies or contained in other statutes or required by other agencies.
12. This Order does not convey any property rights of any sort, or any exclusive privilege.
13. This Order is not transferable to any person except after notice to, and approval by the Executive Officer. The Regional Board may require modification or revocation and re-issuance of this Order to change the name of the discharger and incorporate such other requirements as may be necessary.
14. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Board.
15. All hazardous wastes from this facility must be collected for disposal or treatment at an approved waste management unit.
16. The discharge of wastes to property not owned or controlled by the discharger is prohibited, unless authorized in this Order.
17. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from liabilities under federal, state, or local laws, nor guarantee the discharger a capacity right in the receiving waters.
18. The Regional Board and other authorized representatives shall be allowed:
  - a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the requirements of this Order;
  - b. Access to copy any records that are kept under the requirements of this Order;
  - c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

- d. To photograph, sample and monitor for the purpose of assuring compliance with this Order, or as otherwise authorized by the California Water Code.
19. This Order may be reopened to address any changes in State or federal plans, policies or regulations that would affect the quality requirements for the discharges. This includes changes in relevant TMDLs and wasteload allocations specified therein for the discharge.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, February 21, 2003.



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Gerard J. Thibeault  
Executive Officer

California Regional Water Quality Control Board  
Santa Ana Region

Monitoring and Reporting Program No. R8-2003-0028

for

Bordier's Nursery, Inc.  
Orange County

**A. MONITORING AND REPORTING REQUIREMENTS**

1. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association).
2. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services or at laboratories approved by the Regional Board's Executive Officer.
3. All analytical data reported as "non detected" shall identify either the method detection limits<sup>1</sup> (MDLs), practical quantitation levels (PQLs<sup>2</sup>) or limits of quantitation (LOQs).
4. Laboratory data must quantify each constituent down to the Practical Quantitation Levels specified in Attachment "A." Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.
5. Discharge monitoring data shall be submitted in a format acceptable by the Regional Board. Specific reporting format may include preprinted forms and/or electronic media. The results of all monitoring required by this order shall be reported to the Regional Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this order.
6. The discharger shall tabulate the monitoring data to clearly illustrate compliance and/or noncompliance with the requirements of the Order.
7. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, and of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the discharger will be in compliance. The discharger shall notify the Regional Board by letter when compliance with the time schedule has been achieved.

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<sup>1</sup> *The standardized test procedure to be used to determine the method detection limit (MDL) is given at Appendix B, "Definition and Procedure for the Determination of the Method Detection Limit" of 40 CFR 136.*

<sup>2</sup> *PQL is the lowest concentration of a substance which can be determined within  $\pm 20$  percent of the true concentration by 75 percent of the analytical laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL is the method detection limit (MDL) x 5 for carcinogens and MDL x 10 for noncarcinogens.*

8. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.
9. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. In the event that continuous monitoring equipment is out of service for greater than a 24-hour period, the discharger shall obtain a representative grab sample each day the equipment is out of service. The discharger shall correct the cause(s) of failure of the continuous monitoring equipment as soon as practicable. In its monitoring report, the discharger shall specify the period(s) during which the equipment was out of service and if the problem has not been corrected, shall identify the steps which the discharger is taking or proposes to take to bring the equipment back into service and the schedule for these actions.
10. Monitoring and reporting shall be in accordance with the following:
  - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
  - b. Whenever the discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.
  - c. A "grab" sample is defined as any individual sample collected in less than 15 minutes.
  - d. A composite sample is defined as a combination of no fewer than eight individual grab samples obtained over the specified sampling period. The volume of each individual grab sample shall be proportional to the discharge flow rate at the time of sampling. The compositing period shall equal the specific sampling period, or 24 hours, if no period is specified.
  - e. Daily samples shall be collected on each day of the week.
  - f. Monthly samples shall be collected on any representative day of each month.
  - g. Quarterly samples shall be collected on any representative day of February, May, August, and November.
  - h. Semi-annual samples shall be collected on any representative day of January and July.
  - i. The monthly mass emission rate for total nitrogen and total phosphorous shall be determined by using the following formula:

$$\text{Mass (lbs/month)} = 8.34 \times Q \times C$$

Where:

Q = total flow discharged within the month in million gallons.

C = the sum of all measurements for the parameter within the month (in milligrams per liter) divided by the total number of samples.

j. Mass emissions for sediments

The discharger shall estimate mass loading of sediments for all dry weather discharges as well as storm water discharges from all discharge points at the site. To estimate mass loading, the discharger may develop a relationship between total suspended solids in the discharge and flow. Alternatively, the discharger may use the formula above to estimate mass loading, but with C equal to the sum of all measurements of TSS for the month (storm and nonstorm flows, in mg/L) divided by the total number of samples.

11. All reports and/or information submitted to the Regional Board shall be signed by a responsible officer or duly authorized representative of the discharger and shall be submitted under penalty of perjury.
12. The discharger, unless otherwise specified elsewhere in this M&RP, shall deliver a copy of each monitoring report in the appropriate format to:

California Regional Water Quality Control Board  
Santa Ana Region  
3737 Main Street, Suite 500  
Riverside, CA 92501-3348

**B. EFFLUENT MONITORING**

1. Sampling stations shall be established at the point(s) of discharge and shall be located where representative samples of the effluent can be obtained. The date and time of sampling shall be reported with the analytical values determined.
2. The following shall constitute the effluent monitoring program for all discharges:

Constituent	Units	Type of Sample	Minimum Frequency of Sampling & Analysis
Irrigation Wastewater Discharges <sup>3</sup>	mgd	Recorder/Totalizer	Continuous
Stormwater Discharges <sup>4</sup>	mgd	Recorder/Totalizer	Continuous
Total Dissolved Solids	mg/l	Grab	Every discharge
Total Nitrogen	mg/l	Grab	Every discharge
Total Phosphorous	mg/l	Grab	Every discharge
Total Suspended Solids	mg/l	Grab	Every discharge
Selenium <sup>5</sup>	µg/l	Grab	Semi-Annually
Acute Toxicity	TUa	Grab	(See Section C., below)
Chronic Toxicity	TUc	Grab	(See Section C., below)
Aldrin	µg/l	Grab	Semi-annually see also paragraph B.3. below
Chlordane	"	"	"
Dieldrin	"	"	"
2, 4' - DDT <sup>5</sup>	"	"	"
2, 4' - DDE <sup>5</sup>	"	"	"
2, 4' - DDD <sup>5</sup>	"	"	"
4, 4' - DDT <sup>5</sup>	"	"	"
4, 4' - DDE <sup>5</sup>	"	"	"
4, 4' - DDD <sup>5</sup>	"	"	"
Alpha Endosulfan	"	"	"
Beta Endosulfan	"	"	"
Endosulfan Sulfate	"	"	"
Endrin	"	"	"
Endrin Aldehyde	"	"	"
Heptachlor	"	"	"
Heptachlor Epoxide	"	"	"
Alpha BHC	"	"	"
Beta BHC	"	"	"
Delta BHC	"	"	"
Gamma BHC	"	"	"
Toxaphene	"	"	"
PCB 1016	"	"	"
PCB 1221	"	"	"
PCB 1232	"	"	"
PCB 1242	"	"	"
PCB 1248	"	"	"

<sup>3</sup> Discharges during dry weather conditions.

<sup>4</sup> Discharges due to surface runoff during stormy weather condition.

<sup>5</sup> Selenium, DDTs, chlordane, PCBs, dieldrin and toxaphene are to be analyzed on an unfiltered sample.

Constituent	Units	Type of Sample	Minimum Frequency of Sampling & Analysis
PCB 1254	µg/l	Grab	Semi-annually see also paragraph B.3. below
PCB 1260	"	"	"
Remaining EPA Priority Pollutants (See Attachment "B")	"	"	Annually

3. Particle Size Analysis and Total Organic Carbon

Semi-annually, the discharger shall conduct a sediment particle size analysis and analysis for total organic carbon of nursery discharge in conjunction with sampling for organochlorine pesticides, and shall include analysis of one dry weather discharge and one storm water discharge. Particle analysis may be performed using the standard hydrometer method

4. Minimum frequency of sampling and analysis shall be twice per year, however quarterly monitoring for those constituents that are detected in the semi-annual test shall be implemented for one year following detection.
5. Simultaneous with the acute toxicity monitoring described in the table above, the discharger shall conduct chemical specific monitoring. The chemical specific monitoring shall be based on the list submitted by the discharger as required in Provision B.7. of the Order and shall include all those chemicals/pesticides/herbicides used during the 2 weeks preceding the acute toxicity sampling. The discharger shall submit a written report that identifies to the extent feasible the cause of any observed toxicity and the measures that will be used to prevent its recurrence.

**C. TOXICITY MONITORING**

1. Acute toxicity testing of the effluent wastewater shall be conducted at least once a month if there is a discharge. The discharger shall conduct acute toxicity testing as specified in Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (1993 EPA-821-R-02-012, Fifth Edition, October 2002) using a control and 100% effluent. Static renewal survival (pass/fail) tests for 96 hours shall be conducted using *Holmesimysis costata* (Pacific mysid). The effluent tests must be conducted concurrent with reference toxicant tests. The effluent and reference toxicant tests must meet all test acceptability criteria as specified in the acute manual<sup>6</sup>. If the test acceptability criteria are not achieved, then the discharger must re-sample and re-test within 14 days. The test results must be reported according to the acute manual chapter on Report Preparation, and shall be attached to the monitoring reports. The use of alternative methods for measuring acute toxicity may be considered by the Executive Officer on a case-by-case basis.

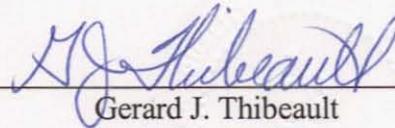
<sup>6</sup> "Acute manual" refers to protocols described in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012, Fifth Edition, October 2002).

2. Once each year during a storm event, acute and chronic toxicity testing of the wastewater (stormwater commingled with effluent) discharged from the facility shall be conducted. The discharger shall conduct survival (96-hour static renewal) and growth toxicity testing using *Holmesimysis costata* (Pacific mysid) as specified in "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, August 1995).

**D. REPORTING**

1. Monitoring reports shall be submitted monthly following the monitoring period. The monitoring reports shall also include copies of all reports submitted to the Department of Pesticide Regulations. These reports shall include a generic list of all chemicals/pesticides/herbicides use during the last quarter.
2. The total volume of water purchased and recycled every month shall be reported.
3. If no discharge occurs during the previous monitoring period, a letter to that effect shall be submitted in lieu of a monitoring report.

Ordered by \_\_\_\_\_



Gerard J. Thibeault  
Executive Officer

February 21, 2003

<b>REPORTING LEVELS FOR COMPLIANCE DETERMINATION</b>			
	<b>Constituent</b>	<b>RL µg/l</b>	<b>Analysis Method</b>
1	Arsenic	7.5	ICP
2	Barium	5	ICP
3	Cadmium	1	ICP
4	Chromium (VI)	5	ICP
5	Cobalt	5	ICP
6	Copper	5	ICP
7	Cyanide	20	335.2
8	Iron	10	ICP
9	Lead	5	ICP
10	Manganese	5	ICP
11	Mercury	0.5	CV
12	Nickel	5	ICP
13	Selenium	10	ICP
14	Silver	5	ICP
15	Zinc	10	ICP
16	1,2 - Dichlorobenzene	2	624
17	1,3 - Dichlorobenzene	2	624
18	1,4 - Dichlorobenzene	2	624
18	2,4 - Dichlorophenol	10	625
20	4 - Chloro -3- methylphenol	10	625
21	Aldrin	0.04	608
22	Benzene	1	624
23	Chlordane	0.12	608
24	Chloroform	2	624
25	DDT	0.1	608
26	Dichloromethane	5	624
27	Dieldrin	0.1	608
28	Fluorantene	10	625
29	Endosulfan	0.50	608
30	Endrin	0.10	608
31	Halomethanes	2	624
32	Heptachlor	0.03	608
33	Hepthachlor Epoxide	0.05	608
34	Hexachlorobenzene	10	625
35	Hexachlorocyclohexane		
	Alpha	0.03	608
	Beta	0.03	608
	Gamma	0.03	608
36	PAH's	10	625
37	PCB	0.12	608
38	Pentachlorophenol	10	604/625
39	Phenol	10	625
40	TCDD Equivalent	0.05	8280
41	Toluene	1	624
42	Toxaphene	0.18	608
43	Tributyltin	0.02	GC
44	2,4,6-Trichlorophenol	10	625
45	Chlorpyrifus	.05	Discharger's testing protocol
46	Diazinon	.03	Discharger's testing protocol

EPA PRIORITY POLLUTANT LIST					
Metals	Method	Base/Neutral Extractibles	Method	Acid Extractibles	Method
Antimony	ICP	Acenaphthene	625	2-Chlorophenol	625
Arsenic	GF/AA	Acenaphthylene	"	2,4-Dichlorophenol	"
Beryllium	ICP	Anthracene	"	2,4-Dimethylphenol	"
Cadmium	ICP	Benzidine	"	4,6-Dinitro-O-Cresol	"
Chromium	ICP	Benzo (a) Anthracene	"	2,4-Dinitrophenol	"
Copper	GF/AA	Benzo (a) Pyrene	"	2-Nitrophenol	"
Lead	GF/AA	Benzo (b) Fluoranthene	"	4-Nitrophenol	"
Mercury	CV/AA	Benzo (g,h,i) Perylene	"	P-Chloro-M-Cresol	"
Nickel	ICP	Benzo (k) Fluoranthene	"	Pentachlorophenol	"
Selenium	GF/HYDRIDE	Bis (2-Chloroethoxy) Methane	"	Phenol	"
Silver	ICP	Bis (2-Chloroethyl) Ether	"	2, 4, 6 - Trichlorophenol	"
Thallium	ICP	Bis (2-Chloroisopropyl) Ether	"		
Zinc	ICP	Bis (2-Ethylhexyl) Phthalate	"		
		4-Bromophenyl Phenyl Ether	"	Volatile Organics	Method
Miscellaneous	Method	Butyl Benzyl Phthalate	"	Acrolein	603
Cyanide	335.2/335.3	2-Chloronaphthalene	"	Acrylonitrile	"
Asbestos (not required unless requested)		Chrysene	"	Benzene	601/602
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	8280	Dibenzo (a,h) Anthracene	"	Bromoform	"
		4-Chlorophenyl Phenyl Ether	"	Carbon Tetrachloride	"
Pesticides	Method	1,2-Dichlorobenzene	"	Chlorobenzene	"
Aldrin	608	1,3-Dichlorobenzene	"	Chlorodibromomethane	"
Chlordane	"	1,4-Dichlorobenzene	"	Chloroethane	"
Dieldrin	"	3,3-Dichlorobenzidine	"	2-Chloroethyl Vinyl Ether	"
4, 4' - DDT	"	Diethyl Phthalate	"	Chloroform	"
4, 4' - DDE	"	Dimethyl Phthalate	"	Dichlorobromomethane	"
4, 4' - DDD	"	Di-N-Butyl Phthalate	"	1,1-Dichloroethane	"
Alpha Endosulfan	"	2,4-Dinitrotoluene	"	1,2-Dichloroethane	"
Beta Endosulfan	"	2-6-Dinitrotoluene	"	1,1-Dichloroethylene	"
Endosulfan Sulfate	"	1,2-Diphenylhydrazine (as Azobenzene)	"	1,2-Dichloropropane	"
Endrin	"	Di-N-Octyl Phthalate	"	1,3-Dichloropropylene	"
Endrin Aldehyde	"	Fluoranthene	"	Ethylbenzene	"
Heptachlor	"	Fluorene	"	Methyl Bromide	"
Heptachlor Epoxide	"	Hexachlorobenzene	"	Methyl Chloride	"
Alpha BHC	"	Hexachlorobutadiene	"	Methylene Chloride	"
Beta BHC	"	Hexachlorocyclopentadiene	"	1,1,2,2-Tetrachloroethane	"
Delta BHC	"	Hexachloroethane	"	Tetrachloroethylene	"
Gamma BHC	"	Indeno (1,2,3-cd) Pyrene	"	Toluene	"
Toxaphene	"	Isophorone	"	1,2-Trans-Dichloroethylene	"
PCB 1016	"	Naphthalene	"	1,1,1-Trichloroethane	"
PCB 1221	"	Nitrobenzene	"	1,1,2-Trichloroethane	"
PCB 1232	"	N-Nitrosodimethylamine	"	Trichloroethylene	"
PCB 1242	"	N-Nitrosodi-N-Propylamine	"	Vinyl Chloride	"
PCB 1248	"	N-Nitrosodiphenylamine	"		
PCB 1254	"	Phenanthrene	"		
PCB 1260	"	Pyrene	"		
		1,2,4-Trichlorobenzene	"		