COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193-1453
(703) 583-3800 *fax* (703) 583-3801
www.deq.state.va.us

Robert G. Burnley
Director

Jeffery A. Steers
Regional Director

STATE WATER CONTROL BOARD ENFORCEMENT ACTION

A SPECIAL ORDER BY CONSENT

ISSUED TO

THE MADEIRA SCHOOL, INCORPORATED

FOR THE

THE MADEIRA SCHOOL WASTEWATER TREATMENT PLANT

(VPDES Permit No. VA0024121)

SECTION A: Purpose

This is a Consent Special Order issued under the authority of Va. Code § 62.1-44.15 (8a and 8d) and 10.1-1185, between the State Water Control Board and The Madeira School, Incorporated regarding The Madeira School Wastewater Treatment Plant, for the purpose of resolving certain violations of environmental laws and regulations.

SECTION B: Definitions

Unless the context clearly indicates otherwise, the following words and terms have the meanings assigned to them below:

1. "Va. Code" means the Code of Virginia (1950), as amended.

2. "Board" means the State Water Control Board, a permanent citizens' board of the Commonwealth of Virginia as described in Va. Code § 62.1-44.7 and 10.1-1184.

3. "Department" or "DEQ" means the Department of Environmental Quality, an agency of the Commonwealth of Virginia as described in Va. Code § 10.1-1183.

4. "Director" means the Director of the Department of Environmental Quality.

5. "Order" means this document, also known as a Consent Special Order.

6. "Madeira" means The Madeira School, Incorporated.

7. "School" means The Madeira School.

8. "WWTP" means Wastewater Treatment Plant.

9. "ESS" means Environmental Systems Service, Limited.

10. "NVRO" means the Northern Virginia Regional Office of the Department.

11. "Permit" means Virginia Pollutant Discharge Elimination Permit System (VPDES) Permit No. VA0024121.

12. "BOD_5" means Biological Oxygen Demand after 5 days at 21° C.

13. "TSS" means Total Suspended Solids.

SECTION C: Findings of Facts and Conclusions of Law

1. Madeira owns and operates The Madeira School WWTP located in Fairfax County, Virginia and is subject to Permit No. VA0024121, which was issued on May 8, 2003, and expires on May 7, 2008.

2. Pursuant to the Permit, the School discharges wastewater to an unnamed tributary of Difficult Run, which is located in the Potomac Basin.

3. The Board has evidence to indicate that Madeira violated Va. Code § 62.1-44.5, 9 VAC 25-31-50, and Part I.A.1.b. of the Permit. The violations are referenced in the following items, including Warning Letters ("WLs") and Notices of Violation ("NOVs"):

   - WL No. W2004-02-N-1001, dated February 10, 2004, citing violations of the Permit in December 2003, including: exceedence of the weekly concentration average maximum limit for BOD_5 and exceedence of the weekly concentration average maximum limit for Ammonia as Nitrogen.

   - WL No. W2004-03-N-1001, dated March 8, 2004, citing violations of the Permit in January 2004, including: exceedence of the monthly concentration average limit for BOD_5 and exceedence of the weekly concentration average maximum limit for BOD_5.

   - WL No. W2004-04-N-1002, dated April 5, 2004, citing violations of the Permit in February 2004, including: the late submittals of the monthly concentration average value and the weekly concentration average maximum values for Dissolved Copper, due February 10, 2004 and received on March 25, 2004.

- The March 2004 exceedence of the weekly concentration average maximum limit for BOD_5.

- The April 2004 exceedence of the weekly concentration average maximum limit for Ammonia as Nitrogen.

- NOV No. W2004-07-N-0002, dated July 13, 2004, citing a violation of the Permit in May 2004; exceedence of the weekly concentration average maximum limit for Ammonia as Nitrogen.

- The November 2004 exceedence of the weekly concentration average maximum limit for Ammonia as Nitrogen.

- The January 2005 exceedence of the monthly concentration average limit for BOD_5 and exceedence of the weekly concentration average maximum limit for BOD_5.

- WL No. W2005-04-N-1001, dated April 12, 2005, citing violations of the Permit in February 2005, including: exceedence of the weekly concentration average maximum limit for BOD_5, exceedence of the monthly concentration average limit for BOD_5, and exceedence of the weekly concentration average maximum limit for Instantaneous Maximum Residual Chlorine.

- WL No. W2005-05-N-1002, dated May 16, 2005, citing violations of the Permit in March 2005, including: exceedence of the weekly concentration average maximum limit for BOD_5 and exceedence of the monthly concentration average limit for BOD_5.

- WL No. W2005-06N-1002, dated June 13, 2005, citing violations of the Permit in April 2005, including: exceedence of the weekly concentration average maximum limit for BOD_5, exceedence of the monthly concentration average limit for BOD_5, exceedence of the weekly concentration average maximum limit for TSS, exceedence of the monthly concentration average limit for TSS, exceedence of the weekly quantity average limit for BOD_5, and exceedence of the monthly quantity average limit for BOD_5.

- WL No. W2005-07-N-1010, dated July 6, 2005, citing violations of the Permit in May 2005, including: exceedence of the weekly concentration average maximum limit for Total Residual Chlorine (after dechlorination) and exceedence of the weekly concentration maximum average limit for Total Residual Chlorine (after dechlorination).

4. Although the WWTP was upgraded in 1996, its attached growth system of trickling filters is often inadequate to effectively treat the wastewater generated by this full-service boarding school. Fixed film treatment systems such as trickling filters do not

allow for total removal of Ammonia as Nitrogen and the break-point chlorination system currently used is often ineffective at removing the remaining ammonia, and adds excessive amounts of chlorine. The grease from the dining hall waste also interferes with the removal of BOD and Ammonia. TSS violations result from problems with the secondary clarifier, such as the inadequate slope of the tank bottom.

5. On September 9, 2004, a meeting was held between DEQ, Madeira, and ESS, consultant to Madeira, to discuss compliance issues.

6. As a follow-up to the September 9, 2004 meeting, DEQ received a letter from ESS on October 8, 2004, stating that ESS would contract with an engineering firm within 30 days to conduct an evaluation of the WWTP.

7. DEQ received the engineering report from ESS dated January 19, 2005 and received on January 21, 2005. The report presented recommendations for both short- and long-term improvements. Recommendations for short-term improvements included: upgrading the tablet-style dechlorination chemical feed system to a liquid sodium bisulfite feed system, providing new secondary clarifier sludge pumps for consistent sludge removal and improved treatment efficiency, and installation of a septic tank or grease interceptor to prevent the release of grease and oils produced from food preparation facilities into the sewer system. Recommendations for long-term improvements included: the construction of a new wastewater treatment facility using a Sequencing Batch Reactor and hooking up to the Fairfax County sewer using a pump station and force main.

8. DEQ called ESS on August 8, 2005 and requested a letter summarizing the actions taken since the January 2005 engineering study was submitted.

9. In response to the August 8, 2005 call, DEQ received a letter from ESS on August 16, 2005 that stated that Madeira was moving ahead with engineering recommendations and that WW Associates had submitted plans to DEQ for review.

10. At a meeting on October 5, 2005, ESS explained that the long-term recommendations of building a new plant or connecting to the county sewer were still being considered, and Madeira was prepared to move forward with the short-term recommendations. Madeira already began the installation of a grease trap at the dining hall to provide some improved treatment. DEQ asked ESS to submit a plan and schedule that incorporated both the short- and long-term recommendations to be included in a Consent Order.

11. DEQ received the requested plan on October 19, 2005, and it has been incorporated into Appendix A of this Order. The plan also included information of a large grease trap concurrently being installed at the dining hall to prevent grease from entering the treatment system.

12. DEQ met with Madeira and ESS again on December 19, 2005 and discussed further changes to the schedule in Appendix A. Among other things, these changes considered the spatially-constrained location of the facility, and the federal requirement for an Environmental Impact Statement, as Fairfax County sewer connection will likely be through National Park Service land.

SECTION D: Agreement and Order

Accordingly, the Board, by virtue of its authority granted in Va. Code § 62.1-44.15 (8a) and (8d), orders Madeira, and Madeira agrees to pay a civil charge of $8,120.00 within 30 days of the effective date of the Order, and to perform the actions described in Appendix A and Appendix B of this Order in settlement of the violations cited in this Order.

Payment of civil charges shall be by check, certified check, money order, or cashier's check payable to "Treasurer of Virginia" and shall include Madeira's federal identification number. Payment shall be sent to:

Receipts Control
Department of Environmental Quality
Post Office Box 10150
Richmond, Virginia 23240

SECTION E: Administrative Provisions

1. The Board may modify, rewrite, or amend the Order with the consent of Madeira, for good cause shown by Madeira, or on its own motion after notice and opportunity to be heard.

2. This Order addresses and resolves those violations specifically identified herein, including those matters described in Section C.3. of this Order. This Order shall not preclude the Board or Director from taking any action authorized by law, including, but not limited to: (1) taking any action authorized by law regarding any additional, subsequent, or subsequently discovered violations; (2) seeking subsequent remediation of the Facility as may be authorized by law; and/or (3) taking subsequent action to enforce the terms of this Order. This Order shall not preclude appropriate enforcement actions by other federal, state, or local regulatory authorities for matters not addressed herein.

3. For purposes of this Order and subsequent actions with respect to this Order, Madeira admits the jurisdictional allegations, factual findings, and conclusions of law contained herein.

4. Madeira declares it has received fair and due process under the Virginia Administrative Process Act, Code §§ 2.2-4000 *et seq.*, and the State Water Control Law, and waives the right to any hearing or other administrative

proceeding authorized or required by law or regulation and to judicial review of any issue of fact or law contained herein. Nothing herein shall be construed as a waiver of the right to any administrative proceeding for, or to judicial review of, any action taken by the Board to enforce this Order.

5. Failure by Madeira to comply with any of the terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive or bar the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board or the Director as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.

6. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.

7. Madeira shall be responsible for failing to comply with any of the terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or such other occurrence, including delays in receiving timely responses or approvals from outside agencies beyond the reasonable control of Madeira, such as the National Park Service and Fairfax County. Madeira must show that such circumstances resulting in noncompliance were beyond its control and not due to a lack of good faith or diligence on its part. Madeira shall notify the Director of NVRO in writing when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of this Order. Such notice shall set forth:

   a. the reasons for the delay or noncompliance;

   b. the projected duration of such delay or noncompliance;

   c. the measures taken and to be taken to prevent or minimize such delay or noncompliance; and

   d. the timetable by which such measures will be implemented and the date full compliance will be achieved.

   Failure to so notify the Regional Director within 24 hours of learning of any condition listed above, which Madeira intends to assert will result in the impossibility of compliance, shall constitute a waiver of any claim of inability to comply with a requirement of this Order.

8. This Order is binding on the parties hereto, their successors in interest, designees, and assigns, jointly and severally.

9. This Order shall become effective upon execution by both the Director or his designee and Madeira. Notwithstanding the foregoing, Madeira agrees to be bound by any compliance date that proceeds the effective date of this Order.

10. This Order shall continue in effect until the Director or the Board terminates this Order in his or its sole discretion upon 30 days' written notice to Madeira. Termination of this Order, or of any obligation imposed in this Order, shall not operate to relieve Madeira from its obligation to comply with any statute, regulation, Permit condition, other order, certificate, certification, standard, or requirement otherwise applicable.

11. By its signature below, Madeira voluntarily agrees to the issuance of this Order.

And it is so ORDERED this 17th day of MARCH, 2006.

Director
Department of Environmental Quality

The Madeira School, Incorporated voluntarily agrees to the issuance of this Order.

By: Braughn Taylor, Treasurer

Date: Jan. 13, 2006

Commonwealth of Virginia
City/County of MCLEAN

The foregoing document was signed and acknowledged before me this 13TH day of JAN, 2006, by JR. TAYLOR (name) who is TREASURER (title) of The Madeira School, Incorporated, on behalf of said corporation.

Notary Public

My commission expires: OCT/31/09

APPENDIX A
SCHEDULE OF COMPLIANCE

Madeira shall:

1. By January 31, 2006, select a contractor to provide services related to short-term improvements.

2. By August 1, 2006, complete construction related to short-term improvements and submit a request for a Certificate to Operate (CTO) to the DEQ Office of Wastewater Engineering (OWE).

3. By March 1, 2006, select engineering and environmental consulting firms to conduct design and environmental studies related to long-term improvements.

4. By April 1, 2006, begin appropriate studies, which might include an Environmental Impact Study, to determine if connection to Fairfax County is possible, or if onsite wastewater treatment will be required.

5. By March 1, 2007, complete study and submit results and decision to DEQ to either connect to Fairfax County or construct a new treatment plant.

6. By May 1, 2007, begin the project design related to the long-term improvement.

7. By February 1, 2008, submit plans and specifications to OWE for county connection or new plant construction.

8. Within 12 months of the date of DEQ approval of design plans and specifications, identify and secure funding for construction, and notify DEQ that funding has been secured.

9. Within 30 days of Item 8, solicit contractor bid proposals.

10. Within 30 days of Item 9, award the construction contract for treatment plant or sewer line connection to Fairfax County.

11. Within 18 months of the date of DEQ approval of plans and specifications, complete sewer line connection or treatment plant and submit a request for a CTO to OWE.

12. Within 60 days of Item 11, gain full permit compliance.

13. Operate the WWTP in a workman-like manner in order to produce the best quality effluent of which the WWTP is capable during implementation of this schedule.

APPENDIX B

INTERIM EFFLUENT LIMITATION AND MONITORING REQUIREMENT

THE MADEIRA SCHOOL WASTEWATER TREATMENT PLANT

During the period beginning with the effective date of the Order and lasting until completion of the corrective action referenced in Appendix A, Madeira shall monitor and limit the discharge from the WWTP in accordance with VPDES Permit No. VA0024121, except as specified below.

PARAMETER	DISCHARGE LIMITATION	MONITORING REQUIREMENT	
	Monthly Average	Frequency	Sample Type
Ammonia, as N	6.8 mg/L	1/W	4H-C

mg/L = Milligrams per Liter

1/W = Once every week

4H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored four-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of four aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of four grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by ≥10% or more during the monitored discharge.