

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

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UNITED STATES OF AMERICA, :
 :
 Plaintiff, :
 :
 v. : 2:16 Civ. 6989 (Wexler, J.)
 : (Shields, M.J)
 STATE OF NEW YORK, NEW YORK STATE :
 OFFICE OF PARKS, RECREATION AND :
 HISTORIC PRESERVATION, PALISADES :
 INTERSTATE PARK COMMISSION, :
 :
 Defendants. :
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CONSENT JUDGMENT

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I. BACKGROUND

WHEREAS, Plaintiff, the United States of America (“United States” or “Plaintiff”), on behalf of the United States Environmental Protection Agency (“EPA”), has filed a complaint (“Complaint”), concurrently with this Consent Judgment, against Defendants: State of New York; the New York State Office of Parks, Recreation and Historic Preservation (“NYS Parks”); and the Palisades Interstate Park Commission (“the Commission”) (collectively “Defendants”), alleging, *inter alia*, that Defendants operated 54 large capacity cesspools in violation of the Safe Drinking Water Act (“SDWA” or the “Act”), 42 U.S.C. § 300f, *et seq.*, and the regulations promulgated thereunder, 40 C.F.R. §§ 144.80 to 144.89;

WHEREAS, the United States and the Defendants (collectively, the “Parties”) recognize, and the Court by entering this Consent Judgment finds, that this Consent Judgment has been negotiated by the Parties in good faith and will avoid litigation between the Parties, and that this Consent Judgment is fair, reasonable, and in the public interest;

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section V and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

II. OBJECTIVES

1. It is the express purpose of the Parties in entering into this Consent Judgment to further the objectives of the Act to protect public health by regulating the Nation's public drinking water supply and its sources, for the Defendants to achieve compliance with the Act.

III. JURISDICTION AND VENUE

2. This Court has jurisdiction over the subject matter of this action pursuant to Section 1423(b) of the SDWA, 42 U.S.C. § 300h-2(b), and 28 U.S.C. §§ 1331, 1345, and 1355, and over the Parties.

3. Venue lies in this District pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1395(a) because Defendant NYS Parks is located in this District and a substantial portion of the events giving rise to the claims in the Complaint arose in this District.

4. For purposes of this Consent Judgment, or any action or proceeding to enforce this Consent Judgment, Defendants consent to the Court's jurisdiction over this Consent Judgment, and any such action or proceeding to enforce this Consent Judgment, and consents to venue in this district.

5. For purposes of this Consent Judgment, Defendants agree that the Complaint states a claim upon which relief may be granted pursuant to Section 1423(b) of the SDWA, 42 U.S.C. § 300h-2(b).

IV. DEFINITIONS

6. Unless otherwise defined herein, terms used in this Consent Judgment shall have the meanings provided in the SDWA and the Underground Injection Control ("UIC") Regulations as set forth in 40 C.F.R. Part 144. The following definitions apply for the purposes of this Consent Judgment:

"Act" or "SDWA" shall mean the Safe Drinking Water Act, 42 U.S.C. §§ 300f to 300j-26.

"Cesspool" shall have the definition set forth in 40 C.F.R. §§ 144.3 and 144.81.

"Class V Rule" shall mean the regulations governing Large-Capacity Cesspools as set forth in 40 C.F.R. §§ 144.85 to 144.89.

“Closure” shall mean permanent closing of a facility upon submission of a Final Closure Report after following the procedures set forth in the memorandum entitled “EPA Region 2 Underground Injection Control (UIC) Program Instructions for Class V Remediation/Closure Plans” (Instructions) appended here as Appendix C.

“Commission” shall mean the Palisades Interstate Park Commission.

“Complaint” shall mean the complaint filed by the United States in this action.

“Consent Judgment” or “Judgment” shall mean this Consent Judgment, Appendices A through D, and all modifications made effective in accordance with Section XXII (Modification).

“Date of Lodging” shall mean the date this Consent Judgment is filed for lodging with the Clerk of the Court for the United States District Court for the Eastern District of New York.

“Day” shall mean a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent Judgment, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next business day.

“Defendants” shall mean the State of New York, the New York State Office of Parks, Recreation and Historic Preservation, and the Palisades Interstate Park Commission.

“Documents” shall be defined in accordance with Local Civil Rule 26.3 of the Local Rules of the United States District Court for the Eastern District of New York.

“Effective Date” shall have the definition provided in Section XX (Effective Date).

“EPA” shall mean the United States Environmental Protection Agency and any of its successor departments or agencies.

“Inoperable” shall mean that a Large-Capacity Cesspool is no longer usable or in use.

“Instructions” shall mean the “EPA Region 2 Underground Injection Control (UIC) Program Instructions for Class V Remediation/Closure Plans” (“Instructions”) appended here as Appendix C.

“Large-Capacity Cesspool” or “LCC” shall mean a Cesspool which is used by a multiple-dwelling community or regional system, or is a non-residential cesspool that has the capacity to serve 20 or more persons a day.

“NYSDEC” shall mean the New York State Department of Environmental Conservation.

“NYSDOH” shall mean the New York State Department of Health.

“NYS Parks” shall mean the New York State Office of Parks, Recreation and Historic Preservation.

“Paragraph” shall mean a portion of this Consent Judgment identified by an Arabic numeral.

“Parties” shall mean the United States and Defendants.

“PRHPL” shall mean the Parks, Recreation, and Historic Preservation Law, NY CLS PRHPL §§ 1.01 to 43.19.

“Prohibited LCCs” shall mean the 54 LCCs identified in Appendix A.

“Remediation/Closure Plan” shall mean a pre-closure remediation/closure plan that complies with the requirements set forth in the Instructions in Appendix C.

“Section” shall mean, except when citing a provision of the SDWA or other statute or regulation, a portion of this Consent Judgment identified by a Roman numeral.

“State Park” shall mean a public state park located in New York State and which is under the management and/or control of any Defendant.

“UIC” shall have the same definition set forth in 40 C.F.R. §§ 144.3.

“UIC Regulations” shall mean the regulations governing underground injection wells as set forth in 40 C.F.R. Part 144.

“United States” shall mean the United States of America, acting on behalf of EPA.

V. DEFENDANTS

7. NYS Parks is an office within the Executive Department of the State of New York, established under the Parks, Recreation, and Historic Preservation Law (PRHPL).

8. NYS Parks manages approximately 180 State Parks in New York State.

9. NYS Parks is responsible for conserving, protecting and enhancing the natural, ecological, historic, cultural, and recreational resources in its system and provides for the public enjoyment of and access to these resources in a way which will protect them for future generations pursuant to PRHPL Section 3.02. In doing so, NYS Parks must comply with applicable requirements under the SDWA.

10. The Commission is a municipal corporation established by a compact between the states of New York and New Jersey, which was approved by the Congress of the United States.

11. The State of New York through the Commissioner of NYS Parks operates and maintains State Parks located in the Palisades Region (NYS Parks' 8th Region), which fall within the Commission's territory. PRHPL, Art. 9; 9 N.Y.C.R.R. Parts 403, 404, *et seq.*

VI. LEGAL BACKGROUND

12. The UIC Regulations, specifically the Class V Rule, promulgated by EPA pursuant to the SDWA, banned the construction of new LCCs nationwide as of April 5, 2000, and required owners or operators of all LCCs to close all such LCCs by April 5, 2005.

13. The Class V Rule at 40 C.F.R. § 144.82 states that the owner or operator of any type of Class V well cannot allow the movement of fluid into an underground source of drinking water (USDW) that might cause endangerment; must comply with other Federal underground injection control (UIC) requirements in 40 C.F.R. Parts 144 through 147; must comply with any other measures required by the State or EPA Regional Office UIC Program to protect USDWs; and must properly close the well when it is no longer in use.

14. Pursuant to Section 1422(c) of the SDWA, 42 U.S.C. § 300h-1(c), EPA has the authority to enforce state-wide compliance with the UIC Regulations and the Class V Rule.

VII. ALLEGATIONS

15. The United States alleges in the Complaint that Defendants own and/or operate 54 LCCs ("the Prohibited LCCs"), located in State Parks as listed in Appendix A at which Defendants did not implement the mandatory closure requirements of the Class V Rule, 40 C.F.R. §144.82 by the April 5, 2005 deadline, but that NYS Parks has already begun the process of closing the Prohibited LCCs as identified and described in Appendix B.

16. The United States alleges in the Complaint that the Prohibited LCCs are located in State Parks in the following counties: Suffolk (33), Nassau (3), Broome (1), Clinton (4), Columbia (1), Orange (8), Rensselaer (1), and Schoharie (3). Appendix A is a summary table of the Prohibited LCCs, which include the name and address of each State Park location containing one or more Prohibited LCCs.

17. The United States alleges in the Complaint that the Commission owns and jointly operates with NYS Parks eight of the 54 Prohibited LCCs. These eight Prohibited LCCs are located in Orange County.

VIII. APPLICABILITY

18. The obligations of this Consent Judgment apply to and are binding upon the United States and Defendants, and any successors, assigns or other entities or persons otherwise bound by law.

19. Except as otherwise provided in this Consent Judgment, Defendants are jointly and severally responsible for meeting the obligations of this Consent Judgment as to the Prohibited LCCs that are located in Orange County as identified in Appendix A. For all other Prohibited LCCs, State of New York and NYS Parks are jointly and severally responsible for meeting the obligations set forth in this Consent Judgment.

20. No transfer of ownership or operation of any of the Prohibited LCCs, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve Defendants of their obligation to ensure that the terms of this Consent Judgment are implemented. At least 30 Days prior to any such transfer, Defendants shall provide a copy of this Consent Judgment to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed transfer agreement, to the United States and EPA, in

accordance with Section XIX (Notices). No later than five days after the completion of such transfer, Defendants shall provide an executed copy of the written agreement to the United States in accordance with Section XIX (Notices) of this Consent Judgment. Any attempt to transfer ownership or operation of any of the State Parks subject to this Consent Judgment without complying with this Paragraph constitutes a violation of this Consent Judgment and shall be subject to the stipulated penalties described in Paragraph 60 (Compliance Milestones).

Notwithstanding the foregoing, if any of the State Parks subject to this Consent Judgment are transferred by action of the New York State Legislature, Defendants may seek appropriate relief under Section XIV (Force Majeure) or Rule 60(b) of the Federal Rules of Civil Procedure.

21. Defendants shall provide a copy of this Consent Judgment to all officials, and employees whose duties might reasonably include compliance with any provision of this Consent Judgment. Defendants shall also provide any contractor retained to perform work required under this Consent Judgment any sections or appendices of this Consent Judgment relevant to such contractor's performance of work. Defendants shall condition any such contract upon performance of the work in conformity with the terms of this Consent Judgment.

22. In any action to enforce this Consent Judgment, Defendants shall not raise as a defense the failure by any of its officials, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Judgment.

IX. CIVIL PENALTY

23. Defendants shall pay the sum \$150,000 as a civil penalty within 30 days of the Effective Date.

24. Defendants shall pay the civil penalty described in the preceding Paragraph at <https://www.pay.gov> to the United States Department of Justice account, in accordance with

instructions to be provided to Defendants by the Financial Litigation Unit of the United States Attorney's Office for the Eastern District of New York ("FLU") after the Effective Date. The payment instructions provided by the FLU shall include a Consolidated Debt Collection System ("CDCS") number, which Defendants shall use to identify all payments required to be made in accordance with this Consent Judgment. The FLU will provide the payment instructions within ten days of the Effective Date via e-mail to Carol Casale, NYS Parks Director of Finance (Carol.Casale@parks.ny.gov) on behalf of Defendants. Defendants may change the individual to receive payment instructions on its behalf by providing written notice of such change to the United States and EPA in accordance with Section XIX (Notices).

25. At the time of payment, Defendants shall send notice that payment has been made to: (i) EPA via e-mail at acctsreceivable.cinwd@epa.gov or via regular mail at EPA Cincinnati Finance Office, 26 Martin Luther King Drive, Cincinnati, Ohio 45268; and (ii) the United States via e-mail or regular mail in accordance with Section XIX (Notices). Such notice shall reference the civil action number, USAO number 2015V02731, and Department of Justice case number 90-5-1-1-11400.

X. COMPLIANCE REQUIREMENTS

26. Defendants shall fully comply with the Class V Rule, 40 C.F.R. § 144.80 *et seq.*, by closing the Prohibited LCCs or by otherwise converting them to lawful non-LCC uses.

27. Defendants shall not install or operate any new LCCs upon premises it owns, operates, leases or otherwise controls.

28. For each Prohibited LCC, Defendants shall submit, for EPA review and approval, proposed Remediation/Closure plans. Defendants shall submit such plans by the deadlines specified in Appendix B. Defendants must prepare their proposed Remediation/Closure plans in

accordance with the Instructions or if EPA further updates such Instructions, in accordance with such update.

29. Defendants shall implement the Closure of each Prohibited LCC in accordance with the EPA-approved or EPA-modified Remediation/Closure Plan. Defendants must complete the Closure of each Prohibited LCC or render each Prohibited LCC Inoperable by either the deadline specified in the Closure Schedule column entitled “LCC INOPERABLE” attached hereto as Appendix B (Closure Schedule), or within 60 days after EPA approves or modifies Defendants’ Remediation/Closure Plan, whichever date is later.

30. Defendants shall submit the Final Report as required by Paragraph K of the Instructions within 30 days of each Prohibited LCC being rendered Inoperable.

31. Approval of Deliverables: After review of any plan, report, or other item that is required to be submitted pursuant to this Consent Judgment, EPA shall in writing: (a) approve the submission; (b) approve the submission upon specified conditions; (c) approve part of the submission and disapprove the remainder; or (d) disapprove the submission.

32. If the submission is approved pursuant to Paragraph 31 (Approval of Deliverables), Defendants shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part pursuant to Paragraph 31 (b) or (c), Defendants shall, upon written direction from EPA, take all actions required by the approved plan, report, or other item that EPA determines are technically severable from any disapproved portions, subject to Defendants’ right to dispute only the specified conditions or the disapproved portions, under Section XV (Dispute Resolution).

33. If the submission is disapproved in whole or in part pursuant to Paragraph 31(c) or (d), Defendants shall, within 45 days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, Defendants shall proceed in accordance with the preceding Paragraph.

34. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA may again require Defendants to correct any deficiencies, in accordance with the preceding Paragraphs, or may itself correct any deficiencies, subject to Defendants' right to invoke Dispute Resolution and the right of EPA to seek stipulated penalties as provided for in this Consent Judgment.

35. Any stipulated penalties applicable to the original submission, as provided in Section XIII, shall accrue during the 45 day period or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of Defendants' obligations under this Judgment, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

36. Permits: Where any compliance obligation under this Section requires Defendants to obtain applicable federal, state, or local permits or approvals, if any, Defendants shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. Defendants may seek relief under the provisions of Section XIV (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, if Defendants have

submitted timely and complete applications and have taken all other actions necessary to obtain all such permits or approvals.

37. The compliance requirements of this Consent Judgment do not relieve Defendants of any compliance obligations required by the Act or its implementing regulations, or by any other federal or state law, regulation, permit, or other requirement.

XI. SUPPLEMENTAL ENVIRONMENTAL PROJECTS

38. Defendants shall implement the following supplemental environmental projects (SEPs), in accordance with all provisions of this Section as set forth below. Each of the following SEPs are intended to reduce the quantity of nutrients harmful to water quality, including nitrogen, from entering the local groundwater.

a. Robert Moses State Park: Defendants shall install a urine separation system in the Field 5 Comfort Station at Robert Moses State Park which system shall separate the urinals in the men's portion of the comfort station from the remaining sanitary piping and divert the collected urine to a holding tank. The tank shall be periodically pumped and the urine taken to a NYSDEC-approved wastewater treatment facility. Parks and EPA may also jointly decide to send the urine to another treatment site that is approved by EPA.

b. Connetquot River State Park Preserve: Defendants shall install nitrogen reducing technology for sanitary waste at the Hatchery Comfort Station and Residence.

c. Hallock State Park: Defendants shall install nitrogen reducing technology for sanitary waste in the Visitor's Center.

d. Captree State Park SEP 1: Defendants shall install a constructed wetland for sanitary waste treatment to benefit the Main Comfort Station and Restaurant.

e. Sunken Meadow State Park: Defendants shall install a urine separation system in the Year Round Bathroom, Field No. 1, which system shall separate the urinals in the men's portion of the comfort station at Field 1 from the remaining sanitary piping and divert the collected urine to a holding tank. The holding tank shall be periodically pumped and the urine taken to a NYSDEC-approved wastewater treatment facility. Parks and EPA may also jointly decide to send the urine to another treatment site that is approved by EPA.

f. Wildwood State Park: Defendants shall install a urine separation system in the East Camp Comfort Station which system shall separate the urinals in the men's portion of the comfort station at the East Camp comfort station from the remaining sanitary piping and divert the collected urine to a holding tank. The holding tank shall be periodically pumped and the urine taken to a NYSDEC-approved wastewater treatment facility. Parks and EPA may also jointly decide to send the urine to another treatment site that is approved by EPA.

g. Caumsett State Historic Park: Defendant shall install a urine separation system in the New Calf Barn Comfort Station and Master Garage which system shall separate the urinals in the men's portion of the comfort stations at the Calf Barn and Masters Garage from the remaining sanitary piping and divert the collected urine to a holding tank. The holding tank shall be periodically pumped and the urine taken to a NYSDEC-approved wastewater treatment facility. Parks and EPA may also jointly decide to send the urine to another treatment site that is approved by EPA.

h. Captree State Park SEP 2: Defendants shall install green technology site improvements for stormwater treatment. Defendants shall retrofit the existing stormwater drainage facilities at Captree State Park with a bioretention system.

39. Appendix D attached hereto sets forth a list and description of each SEP.

40. All SEPs must be completed within three years after the Effective Date.

41. Defendants are responsible for the satisfactory completion of each SEP in accordance with the requirements of this Consent Judgment. Defendants may use contractors or consultants in planning and implementing each SEP.

42. With regard to each SEP, Defendants certify the truth and accuracy of each of the following:

a. that all cost information provided to EPA in connection with EPA's approval of the SEP is complete and accurate. Defendants in good faith estimate that the cost to implement each SEP is as follows:

- i. Robert Moses State Park: \$75,000
- ii. Connetquot River State Park Preserve: \$125,000
- iii. Hallock State Park: \$100,000
- iv. Captree State Park SEP 1: \$250,000
- v. Sunken Meadow State Park: \$50,000
- vi. Wildwood State Park: \$60,000
- vii. Caumsett State Historic Park: \$110,000
- viii. Captree State Park SEP 2: \$250,000

b. that, as of the date of executing this Consent Judgment, Defendants are not required to perform or develop the SEP by any federal, state, or local law or regulation, and are not required to perform or develop the SEP by agreement, grant, or as injunctive relief awarded in any other action in any forum;

c. that each SEP is not a project that Defendants were planning or intending to construct, perform, or implement other than in settlement of the claims resolved in this Consent Judgment;

d. that Defendants have not received and will not receive credit for the SEP in any other enforcement action;

e. that Defendants will not receive any reimbursement for any portion of the SEP from any other person; and

f. that Defendants are not a party to any open federal financial assistance transaction that is funding or could fund the same activity as the SEPs described in Paragraph 38. For purposes of this certifications, the term “open federal financial assistance transaction” refers to a grant, cooperative agreement, loan, federally-guaranteed loan guarantee, or other mechanism for providing federal financial assistance whose performance period has not yet expired.

43. SEP Completion Reports: Within 30 days after the completion of each SEP, Defendants shall submit a SEP Completion Report to the United States, in accordance with Section XIX (Notices). Each SEP Completion Report shall contain the following information:

a. a detailed description of the SEP as implemented;

b. a description of any problems encountered in completing the SEP and the solutions thereto;

c. a certification that the SEP has been fully implemented pursuant to the provisions of this Consent Judgment; and

d. a description of the environmental and public health benefits resulting from implementation of the SEP (with a quantification of the benefits and pollutant reductions, if feasible).

44. EPA may, in its sole discretion, require information in addition to that described in the preceding Paragraph, in order to evaluate Defendants' SEP Completion Report.

45. After receiving a SEP Completion Report, the United States shall notify Defendants whether it finds that Defendants have satisfactorily completed the SEP. If the United States finds that Defendants have not satisfactorily completed the SEP in accordance with this Consent Judgment, stipulated penalties may be assessed as set forth in Section XIII (Stipulated Penalties).

46. Disputes concerning the satisfactory performance of the SEPs may be resolved under the dispute resolution procedures of Section XV (Dispute Resolution). No other disputes arising under this Section shall be subject to Dispute Resolution.

47. Each submission required under this Section shall be signed by an official with knowledge of the SEP and shall bear the certification language set forth in Paragraph 43.

48. Any prepared public statement, oral or written, in print, film, or other media, made by Defendants making reference to any SEP implemented in accordance with this Consent Judgment shall include the following language: "This nitrogen reduction project, which was designed and funded by the New York State Office of Parks, Recreation and Historic Preservation, was undertaken in connection with the settlement of an enforcement action, United States v. New York State Office of Parks, Recreation and Historic Preservation, taken on behalf of the United States Environmental Protection Agency under the Safe Drinking Water Act."

XII. REPORTING REQUIREMENTS

49. Semi-Annual Reports. Defendants shall submit in writing to the United States and EPA a report (Semi-Annual Report) for the preceding semi-annual period. The first Semi-Annual Report shall be issued on March 31, 2017, and subsequent Semi-Annual will be issued every six

months thereafter (September 30, 2017, etc.) until termination of this Consent Judgment. The Semi-Annual Report shall address the LCC closure work and SEPs required under this Consent Judgment, including:

- a. A description of the work completed during the preceding six months;
- b. The status of efforts to complete closure of each Prohibited LCC and to complete each SEP, and addressing: (i) permitting, (ii) funding, (iii) approval of plans, (iv) approvals from the State Comptroller, (v) bids, (vi) contracting, (vii) work performed, (viii) problems encountered or anticipated, together with implemented or proposed solutions, (ix) description of each milestone due to be completed during the relevant quarter, the deadlines for such milestones; (x) the status of achievement of each milestone; and (xi) a description of any work that was due but not completed.
- c. A description of the work to be performed during the following six-month period, and addressing each of the items listed in sub-paragraph 49(b).

50. Final Report. Concurrent with Defendants' request that this Consent Judgment be terminated pursuant to Paragraph 107, Defendants shall submit to the EPA a final report (Final Report) that shall provide an evaluation of their experience in implementing the requirements set forth in Sections X (Compliance Requirements) and XI (Supplemental Environmental Projects) of this Consent Judgment. This evaluation is to be provided subsequent to Defendants having fulfilled all of their obligations under this Consent Judgment, and shall include: (i) a description of the elements of the compliance requirements and/or SEPs that Defendants anticipate continuing after termination of the Consent Judgment; and (ii) a description of the elements of the compliance requirements and/or SEPs that Defendants anticipate continuing in a modified form.

This evaluation shall not be a basis for stipulated penalties or any other violation under this Consent Judgment.

51. If Defendants fail to comply with, violate, or have reason to believe that they may violate, any requirement of this Consent Judgment, Defendants shall notify the United States of such violation and its likely duration, in writing, within 14 Days of the Day Defendants first become aware of the violation, with an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, Defendants shall so state in the report. Defendants shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within 30 Days of the Day Defendants becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Defendants of their obligation to provide the notice required by Section XIV (Force Majeure).

52. Whenever any violation of this Consent Judgment or any other event affecting Defendants' performance under this Consent Judgment may pose an immediate threat to the public health or welfare or the environment, Defendants shall notify EPA orally or by electronic or facsimile transmission as soon as possible, but no later than 24 hours after Defendants first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

53. All reports shall be submitted to the persons designated in Section XIX (Notices).

54. Each report, notice, protocol, plan, or other document submitted by Defendants under this Consent Judgment shall be signed by an official of the applicable defendant and shall include the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on any personal knowledge I may have and my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

55. This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

56. The reporting requirements of this Consent Judgment do not relieve Defendants of any reporting obligations required by the SDWA or its implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

57. Any information provided pursuant to this Consent Judgment may be used by the United States in any proceeding to enforce the provisions of this Consent Judgment and as otherwise permitted by law.

XIII. STIPULATED PENALTIES

58. Defendants shall be jointly and severally liable to the United States for stipulated penalties for violations of this Consent Judgment in accordance with this Section, unless excused under Section XIV (Force Majeure) or Section XV (Dispute Resolution), except that Defendant Palisades Interstate Parks Commission shall be liable for only violations of this Consent Judgment as it pertains to prohibited LCCs located in Orange County, New York as identified in Exhibit A. A violation includes failing to perform any obligation required by the terms of this Consent Judgment, according to all applicable requirements of this Consent Judgment and within the specified time schedules established by or approved under this Consent Judgment.

59. Late Payment of Civil Penalty. If Defendants fail to pay the civil penalty required to be paid pursuant to Section IX (Civil Penalties) when due, Defendants shall pay a stipulated penalty of \$500 per Day for each Day that the payment is late. Late payment of the obligations stated in Section IX (Civil Penalties) shall be made in accordance with the payment instructions provided in that Section. Stipulated penalties under this Paragraph shall be paid as provided in this Section.

60. Compliance Milestones: The following penalties shall accrue per violation per Day for each violation for failure to comply with the requirements of Section X (Compliance Requirements) and Appendix B of this Consent Judgment, unless otherwise specified in this Section:

Days of Non-Compliance Or Violation	Penalty per Day per Violation
Day 1 through Day 30	\$500.00
Day 31 through Day 59	\$1,000.00
60 th Day and beyond	\$2,000.00

61. Reporting Requirements. The following stipulated penalties shall accrue per Day per violation for each violation of the reporting requirements set forth in Section XII (Reporting Requirements).

Days of Non-Compliance Or Violation	Penalty per Day per Violation
Day 1 through Day30	\$300.00
Day 31 through Day 59	\$500.00
60 th Day and beyond	\$2,000.00

62. SEP Compliance. The following stipulated penalties shall accrue for each violation of the SEP requirements set forth in Section XI and Appendix C of this Consent Judgment:

a. If Defendants fail to comply with the completion date set forth in paragraph 40 (Supplemental Environmental Projects) for implementing one or more of the SEPs, Defendants shall pay stipulated penalties as follows, for each SEP for which Defendants fail to meet an applicable deadline:

Days of Non-Compliance Or Violation	Penalty per Day per Violation
Day 1 through Day 30	\$300.00
Day 31 through Day 59	\$500.00
60 th Day and beyond	\$1000.00

b. If Defendants fail to implement any SEP in accordance with the provisions of this Consent Judgment, Defendants shall pay a stipulated penalty in the amount of the relevant SEP(s) cost estimate(s) for the non-implemented SEP(s) as listed in Paragraph 42(a), plus an additional 20% (*e.g.*, if Defendants fail to implement a SEP with a cost estimate of \$50,000, the stipulated penalty would be \$60,000). The penalty under this Sub-paragraph shall accrue as of the date specified for completing the SEP(s) or the date performance ceases, whichever is earlier.

63. Except as otherwise specified in this Consent Judgment, the stipulated penalties provided for in this Consent Judgment shall begin to accrue on the Day after performance is due or on the Day that a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Judgment.

64. Defendants shall pay any stipulated penalty within 30 Days of receiving a written demand from the United States.

65. The United States may, in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due it under this Consent Judgment without further order of the Court.

66. Stipulated penalties shall continue to accrue as provided in this Section during any dispute resolution process, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA that is not appealed to the Court, Defendants shall pay accrued penalties determined to be owing, together with interest, to the United States within 30 Days of the Effective Date of the agreement or the receipt of EPA's decision.

b. If the dispute is appealed to the Court and the United States prevails in whole or in part, Defendants shall pay all accrued penalties determined by the Court to be owing, together with interest, within 30 Days of receiving the Court's decision or order, except as provided in subparagraph c of this Paragraph.

c. If any Party appeals the Court's decision and the United States prevails in whole or in part, Defendants shall pay all accrued penalties determined to be owing, together with interest, within 30 Days of receiving the final appellate court decision.

67. Obligations Prior to the Effective Date. Upon the Effective Date of this Consent Judgment, the stipulated penalty provisions of this Consent Judgment shall be retroactively enforceable with regard to any and all violations of Sections X (Compliance Requirements) and XI (SEPs), and Appendix B, that have occurred from the day that Defendants signed this Consent Judgment through the Effective Date, provided that stipulated penalties that may have accrued prior to the Effective Date may not be collected unless and until this Consent Judgment is entered by the Court.

68. NYS Parks shall not be liable for stipulated penalties for any milestones in Appendix B that are marked "COMPLETED."

69. Defendants shall, as directed by the United States in its demand, pay stipulated penalties owing to the United States in accordance with the instructions to be provided by the FLU. Payment of stipulated penalties shall be accompanied by transmittal correspondence that specifies that the payment is for stipulated penalties due under this Consent Judgment to be deposited into the U.S. Treasury pursuant to 31 U.S.C. § 3302, and shall reference the case name and number. Defendants shall send a copy of the transmittal correspondence to the United States as provided in Section XIX (Notices).

70. If Defendants fail to pay stipulated penalties according to the terms of this Consent Judgment, Defendants shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due.

71. Non-Exclusivity of Remedy. Stipulated penalties are not the United States' exclusive remedy for violations of this Consent Judgment. Subject to the provisions of Section XVII (Effect of Settlement/Reservation of Rights), the United States expressly reserves the right to seek any other relief it deems appropriate for Defendants' violation of this Judgment or applicable law, including but not limited to an action against Defendants for statutory penalties, additional injunctive relief, mitigation or offset measures, and/or contempt. However, the amount of any statutory penalty assessed for a violation of this Consent Judgment shall be reduced by an amount equal to the amount of any stipulated penalty assessed and paid pursuant to this Consent Judgment.

XIV. FORCE MAJEURE

72. "Force majeure," for purposes of this Consent Judgment, is defined as any event arising from causes beyond the control of Defendants, of any entity controlled by Defendants, or of Defendants' contractors that delays or prevents the performance of any obligation under this

Consent Judgment despite Defendants' best efforts to fulfill the obligation. The requirement that Defendants exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (a) as it is occurring and (b) following the potential force majeure, such that the delay and any adverse effects of the delay are minimized. "Force majeure" does not include Defendants' financial inability to perform any obligation under this Consent Judgment.

73. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Judgment, whether or not caused by a force majeure event, Defendants shall provide notice orally and by electronic or facsimile transmission to the United States and EPA, in accordance with the notice provisions of Section XIX (Notices) within 72 hours of when any Defendant first knew that the event might cause a delay. Within seven days thereafter, Defendants shall provide in writing to the United States and EPA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Defendants' rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Defendants, such event may cause or contribute to an endangerment to public health, welfare or the environment. Defendants shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Defendants from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Defendants shall be deemed to

know of any circumstance of which Defendants, any entity controlled by Defendants, or Defendants' contractors knew or should have known.

74. If EPA agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Judgment that are affected by the force majeure event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. EPA notify Defendants in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

75. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, the United States will notify Defendants in writing of its decision. The decision of the United States shall be binding, unless Defendants invoke the dispute resolution procedures set forth in Section XV (Dispute Resolution).

76. If Defendants elects to invoke the dispute resolution procedures set forth in Section XV (Dispute Resolution), it shall do so no later than 21 Days after receipt of EPA's notice. In any such proceeding, Defendants shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or relief sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Defendants complied with the requirements of this Section. If Defendants carry this burden, the delay at issue shall be deemed not to be a violation by Defendants of the affected obligations of this Consent Judgment identified to the United States and the Court.

XV. DISPUTE RESOLUTION

77. Unless otherwise expressly provided for in this Consent Judgment, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Judgment. Defendants' failure to seek resolution of a dispute under this Section shall preclude Defendants from raising any such issue as a defense to an action by the United States to enforce any obligation of Defendants arising under this Consent Judgment.

78. Informal Dispute Resolution: Any dispute subject to Dispute Resolution under the procedures set forth in this Section shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when Defendants send the United States a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 30 Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States shall be considered binding unless, within 45 Days after the conclusion of the informal negotiation period, Defendants invoke the formal dispute resolution procedures as set forth below.

79. Formal Dispute Resolution. Defendants shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United States a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Defendants' position and any supporting documentation relied upon by Defendants.

80. The United States shall serve its Statement of Position upon Defendants within 45 Days of receipt of Defendants' statement of position. The United States' Statement of Position

shall include, but need not be limited to, factual data, analysis, or opinion supporting that position and supporting documentation relied upon by the United States. The United States' Statement of Position shall be binding on Defendants, unless Defendants file a motion for judicial review of the dispute, in accordance with the following Paragraph.

81. Defendants may seek judicial review of the dispute by filing with the Court, and serving on the United States, in accordance with Section XIX (Notices), a motion requesting judicial resolution of the dispute. The motion or, if the Court requires the filing of a pre-motion letter before the filing of a motion, pre-motion letter must be filed within 30 Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of Defendants' position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Judgment.

82. The United States shall respond to Defendants' motion within the time period allowed by the Local Rules of this Court. Defendants may file a reply memorandum, to the extent permitted by the Local Rules.

83. Standard of Review.

a. Disputes Concerning Matters Accorded Record Review. Except as otherwise provided in this Consent Judgment, in any dispute brought under Paragraph 79 pertaining to the adequacy or appropriateness of LCC closure plans, procedures to implement closure plans, schedules or any other items requiring approval by EPA under this Consent Judgment; the adequacy of the performance of work undertaken pursuant to this Consent Judgment for all disputes that are accorded review on the administrative record under applicable

principles of administrative law, Defendants shall have the burden of demonstrating, based on the administrative record, that the position of the United States is arbitrary and capricious, or otherwise not in accordance with law and that Defendants' position complies with this Consent Judgment and the SDWA, and that Defendants are entitled to relief under applicable law.

b. Other Disputes. Except as otherwise provided in this Consent Judgment, in any other dispute brought under Paragraph 79 Defendants shall bear the burden of proving that their position complies with this Consent Judgment and is consistent with the objectives of this Consent Judgment.

84. The invocation of the dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Defendants under this Consent Judgment, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 66. If Defendants do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XIII (Stipulated Penalties).

XVI. INFORMATION COLLECTION AND RETENTION

85. The United States and its representatives, including attorneys, contractors, and consultants, shall have the right of entry into any State Park covered by this Consent Judgment, at all reasonable times, upon representation of credentials to the park facility manager, to:

- a. monitor the progress of activities required under this Consent Judgment;
- b. verify any data or information submitted to the United States in accordance with the terms of this Consent Judgment;

- c. obtain samples and, upon request, splits of any samples taken by Defendants or their representatives, contractors, or consultants;
- d. obtain documentary evidence, including photographs and similar data; and
- e. assess Defendants' compliance with this Consent Judgment.

86. Upon request, Defendants shall provide EPA or its authorized representatives with splits of any samples taken by Defendants pursuant to Section X (Compliance Requirements). Upon request, EPA shall provide Defendants splits of any samples taken by EPA.

87. EPA's rights under Paragraphs 85 and 86 are in addition to any rights that United States or EPA may have under applicable laws, regulations, or permits, including to be provided with samples.

88. Defendants shall retain, and shall instruct their contractors and agents to preserve, all non-identical copies of all Documents, records, or other information (including Documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to Defendants' performance of their obligations under this Consent Judgment until five years after the termination of this Consent Judgment. This information-retention requirement shall apply regardless of any contrary State or institutional policies or procedures. At any time during this information-retention period, upon request by the United States, Defendants shall provide copies of any non-privileged Documents, records, or other information required to be maintained under this Paragraph.

89. At the conclusion of the information-retention period provided in the preceding Paragraph, Defendants shall notify the United States at least 90 Days prior to the destruction of

any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States, Defendants shall deliver any such documents, records, or other information to EPA. Defendants may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege recognized by federal law. If Defendants assert such a privilege, it shall provide the following: (a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the name and title of each author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the subject of the document, record, or information; and (f) the privilege asserted by Defendants. However, the final version of documents, records, or other information that must be provided to EPA pursuant to the requirements of this Consent Judgment shall not be withheld on grounds of privilege.

90. Defendants may also assert that information required to be provided under this Section is protected as Confidential Business Information (CBI) under 40 C.F.R. Part 2. As to any information that Defendants seek to protect as CBI, Defendants shall follow the procedures set forth in 40 C.F.R. Part 2.

91. This Consent Judgment in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or EPA pursuant to applicable laws, regulations, or permits, nor does it limit or affect any duty or obligation of Defendants to maintain Documents, records, or other information imposed by applicable laws, regulations, or permits.

XVII. EFFECT OF SETTLEMENT/RESERVATIONS OF RIGHTS

92. This Consent Judgment resolves the civil claims of the United States for the violations alleged in the Complaint filed in this action through the Date of Lodging.

93. The United States reserves all legal and equitable remedies available to enforce the provisions of this Consent Judgment. This Consent Judgment shall not be construed to limit the rights of the United States to obtain penalties or injunctive relief under the SDWA or under other federal or state laws, regulations, or permit conditions except as to those claims resolved pursuant to this Consent Judgment as set forth in Paragraph 92. The United States further reserves all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, the Prohibited LCCs, whether related to the violations addressed in this Consent Judgment or otherwise.

94. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, civil penalties, other appropriate relief relating to the Prohibited LCCs, Defendants shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses, based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 92.

95. This Consent Judgment is not a permit, or a modification of any permit, under any applicable federal or state, or local laws or regulations. Defendants are responsible for achieving and maintaining complete compliance with all applicable federal, state, and local laws, regulations, and permits (if any); and Defendants' compliance with this Consent Judgment shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States does not, by its consent to the entry of this Consent Judgment, warrant or aver in any manner that Defendants' compliance with any aspect of this

Consent Judgment will result in compliance with any provision of the SDWA, or with any other provisions of any applicable federal state, or local laws, regulations, or permits.

96. This Consent Judgment does not limit or affect the rights of Defendants or of the United States against any third parties, not party to this Consent Judgment, nor does it limit the rights of third parties, not party to this Consent Judgment, against Defendants, except as otherwise provided by law.

97. This Consent Judgment shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Judgment.

98. The Defendants' obligations under Paragraph 23 (Civil Penalties) and Sections X (Compliance Requirements) and XI (SEPs) can only be paid from appropriated funds legally available for such purpose. If no appropriated funds are legally available for such purpose, Defendants shall use best efforts to obtain new appropriated funds legally available for such purpose. Nothing in this Consent Judgment is a commitment or requirement that the Defendants will obligate or pay funds in contravention of the New York State Constitution, New York State Finance Law Section 41, or any other applicable provision of law. For purposes of this Paragraph, "best efforts" means that the Defendants must each actively take steps to seek new appropriations to meet Defendants' obligations under Paragraph 23 and Sections X and XI, and must seek from EPA, in writing, extensions of any applicable deadline set forth in this Consent Judgment until such time as funds are secured to cover the cost of the commitments set forth herein. Nothing in this Paragraph affects Defendants' obligations or the rights reserved by the United States under this Consent Judgment, including, but not limited to, those specified in Paragraph 93.

XVIII. COSTS

99. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by Defendants.

XIX. NOTICES

100. Unless otherwise specified in this Consent Judgment, all notifications, submissions, or communications required by this Consent Judgment shall be made in writing and addressed as follows:

To the United States:

Matthew Silverman
Assistant United States Attorney
United States Attorney's Office
Eastern District of New York
271 Cadman Plaza East, 7th Floor
Brooklyn, NY 11201

To the EPA:

Phyllis Feinmark, Chief
Water and General Law Branch
Office of Regional Counsel
U.S. Environmental Protection Agency, Region 2
290 Broadway, 16th Floor
New York, NY 10007

Douglas McKenna, Chief
Water Compliance Branch
U.S. Environmental Protection Agency, Region 2
290 Broadway, 20th Floor
New York, NY 10007

To Defendants:

Paul J. Laudato
General Counsel
N.Y.S. Office of Parks, Recreation

and Historic Preservation
625 Broadway
Albany, NY 12238

Counsel@parks.ny.gov

Yueh-ru Chu
Assistant Attorney General
Office of the Attorney General
Environmental Protection Bureau
120 Broadway, 26th floor
New York, NY 10271

101. Any Party may, by written notice to the other Party, change its designated notice recipient or notice address provided above.

102. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Judgment or by mutual agreement of the Parties in writing.

XX. EFFECTIVE DATE

103. The Effective Date of this Consent Judgment shall be the date upon which this Consent Judgment is entered by the Court or a motion to enter the Consent Judgment is granted, whichever occurs first, as recorded on the Court's docket; provided, however, that Defendants hereby agree that they shall be bound to perform duties scheduled to occur prior to the Effective Date. In the event the United States withdraws or withholds consent to this Consent Judgment before entry, or the Court declines to enter the Consent Judgment, then the preceding requirement to perform duties scheduled to occur before the Effective Date shall terminate.

XXI. RETENTION OF JURISDICTION

104. The Court shall retain jurisdiction over this action until termination of this Consent Judgment, for the purposes of resolving disputes arising under this Consent Judgment, entering orders modifying this Consent Judgment, pursuant to Sections XV (Dispute Resolution)

and XXII (Modification), or effectuating or enforcing compliance with the terms of this Consent Judgment.

XXII. MODIFICATION

105. The terms of this Consent Judgment, including its appendices, may be modified only by a subsequent written agreement signed by both Parties. Where the modification constitutes a material change to this Consent Judgment, it shall be effective only upon approval by the Court.

106. Any disputes concerning modification of this Consent Judgment shall be resolved in accordance with the dispute resolution procedures of Section XV (Dispute Resolution), except that the Party seeking the modification must demonstrate that it is entitled to the requested modification for one of the reasons set forth in Federal Rule of Civil Procedure 60(b).

XXIII. TERMINATION

107. After Defendants have: (i) completed all of the requirements set forth in Sections X (Compliance Requirements) and Section XI (Supplemental Environmental Projects) to the satisfaction of the United States; and (ii) paid the civil penalty and any accrued stipulated penalties as required by this Consent Judgment, Defendants may serve upon the United States a Request for Termination, stating that Defendants have satisfied those requirements, together with all necessary supporting documentation.

108. Following receipt by the United States of Defendants' Request for Termination, the Parties shall confer informally concerning the request and any disagreement that the Parties may have as to whether Defendants have satisfactorily complied with the requirements for termination of this Consent Judgment. If the United States agrees that this Consent Judgment

may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating this Consent Judgment.

109. If the United States does not agree that this Consent Judgment may be terminated, Defendants may invoke dispute resolution under Section XV (Dispute Resolution). However, Defendants shall not seek dispute resolution for any dispute regarding termination until 90 Days after service of its Request for Termination.

XXIV. PUBLIC PARTICIPATION

110. This Consent Judgment shall be lodged with the Court for a period of not less than 30 Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent to the entry of this Consent Judgment if the comments regarding the Consent Judgment disclose facts or considerations indicating that this Consent Judgment is inappropriate, improper, or inadequate. Defendants consent to entry of this Consent Judgment without further notice and agree not to withdraw from or oppose entry of this Consent Judgment by the Court or to challenge any provision of this Consent Judgment, unless the United States has notified Defendants in writing that it no longer supports entry of this Consent Judgment. Defendants consent to entry of this Consent Judgment.

XXV. SIGNATORIES AND SERVICE

111. Each undersigned representative of Defendants, and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Judgment and to execute and legally bind the Party he or she represents to the terms of this Consent Judgment.

112. This Consent Judgment may be signed in counterparts, and its validity shall not be challenged on that basis. Defendants agree to accept service of process by mail with respect to all matters arising under or relating to this Consent Judgment and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons. The Parties agree that Defendants need not file answers to the Complaint in this action unless or until this Court expressly declines to enter this Consent Judgment.

XXVI. INTEGRATION

113. The following Appendices to this Consent Judgment are part of the Consent Judgment and fully enforceable as if set forth within this Consent Judgment:

Appendix A Prohibited LLCs

Appendix B Closure Schedule

Appendix C EPA Region 2 UIC Program Instructions for Class V
Remediation/Closure Plans, last modified March 16, 2015.

Appendix D List and description of NYS Parks SEPs

114. This Consent Judgment constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Consent Judgment and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. Other than deliverables that are to be subsequently submitted and approved pursuant to this Consent Judgment, no other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of this Consent Judgment or the settlement it represents, nor shall it be used in construing the terms of this Consent Judgment.

XXVII. FINAL JUDGMENT

115. Upon approval and entry of this Consent Judgment by the Court, this Consent Judgment shall constitute a final judgment of the Court as between the Parties.


* * * * *

DATED and ENTERED this ____ day of _____, 2017:

LEONARD D. WEXLER
UNITED STATES DISTRICT JUDGE

The Parties, by their undersigned representatives, enter into this Consent Judgment in *United States v. State of New York, New York State Office of Parks, Recreation and Historic Preservation and the Palisades Interstate Park Commission.*

FOR THE UNITED STATES OF AMERICA:



JOHN C. CRUDEN
Assistant Attorney General
Environmental and Natural Resources Division
U.S. Department of Justice

ROBERT L. CAPERS
United States Attorney for the
Eastern District of New York

By:

MATTHEW SILVERMAN
Assistant United States Attorney
United States Attorney's Office
Eastern District of New York
271 Cadman Plaza East
Brooklyn, NY 11201

Attorneys for the United States of America

Dated: Washington, D.C.,
December 19, 2016

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:



ERIC SCHAAF
Regional Counsel
U.S. Environmental Protection Agency, Region 2
290 Broadway
New York, NY 10007

OF COUNSEL:

LAUREN FISCHER
Assistant Regional Counsel
Water and General Law Branch
U.S. Environmental Protection Agency, Region 2
290 Broadway
New York, NY 10007

FOR THE NEW YORK STATE OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION, AND THE PALISADES INTERSTATE PARK COMMISSION:

Dated: Albany, New York
November 15, 2016



PAUL J. LAUDATO
General Counsel
N.Y.S. Office of Parks, Recreation
and Historic Preservation
625 Broadway
Albany, NY 12238

Dated: Albany, New York
November 15, 2016



PAUL J. LAUDATO
General Counsel
Palisades Interstate Park Commission

Dated: New York, New York
November 16, 2016

ERIC T. SCHNEIDERMAN
Attorney General
State of New York

By: Yueh-Ru Chu

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Appendix A

Appendix A to Consent Decree, Large-Capacity Cesspools List of Prohibited Wells

NYS Parks Region	County	NYS Park Name	Location(s)	Number of LCCs
5 - Central				
	Broome	Chenango Valley State Park	Camp Evans (closed)	1
7 - Taconic				
	Columbia	Taconic State Park Copake Falls Area	Ironworkers Cabin	1
8 - Palisades				
	Orange	Harriman-Lake Kanawake	Camps K-1, K-3, K-3, K-24, and K-31	5
	Orange	Harriman-Various Locations	Camps K-20, K-20, and UT-2	3
9 - Long Island				
	Nassau	Planting Fields Arboretum State Historic Park	Coe Hall, Carriage House/11 55 Residence, Hay Barn/Conference Center/Dairy Cottage	3
	Suffolk	Bayard Cutting Arboretum State Park	Administration Building Café and Public Restrooms	2
	Suffolk	Bethpage State Park	Yellow & Blue Course Refreshment Stand/Golf Cart Rental, Maintenance Building East, Red Course Refreshment Stand, Black Course Refreshment Stand, Green Course Refreshment Stand	5
	Suffolk	Caleb Smith State Park Preserve	BOCES Lab, Clubhouse/Museum Park Office, Walden Building	4
	Suffolk	Connecticut River State Park Preserve	New Annex/Main Building/Main Garage, Old Annex/Administration/ Comfort Station	5
	Suffolk	Hither Hills State Park	West Comfort Station, West Showers, East Comfort Station, Far West Comfort Station, East Showers, Employee Comfort Station/Temporary Trailer, Employee Campground Section X, Employee Campground Section Z	11
	Suffolk	Montauk Downs State Park	Pool/Snack Bar Comfort Station	1
	Suffolk	Orient Beach State Park	Bath House (Men's), Bath House (Women's), Bath House Showers (Men's), Bath House Showers (Women's), Comfort Station	2
	Suffolk	Sag Harbor State Golf Course	Clubhouse	3
10 - Thousand Islands				
	Clinton	Macomb Reservation State Park	Building #6 (closed), Building #7 (closed), Building #8 (closed), Building #9 (closed)	4
11 - Saratoga				
	Rensselaer	Bennington Battlefield State Historic Site	Comfort Station	1
	Schoharie	Max V Shaul State Park	Comfort Station, Comfort Station, Comfort Station	3

Appendix B

APPENDIX B

COMPLIANCE TABLE FOR EPA LARGE-CAPACITY CESSPOOLS (LCCs)							
Park	Region	Location	Existing Treatment (1) (2)	Pre-Closure Notification Submittal	Remediation/ Closure Plan Submittal	Construction to Start in Year/Month	Date LCC Rendered Inoperable
Hither Hills	Long Island	West Showers	Precast Cesspool	COMPLETED 16-Apr	COMPLETED 16-Jul	17-May	17-Sep
Hither Hills	Long Island	East Showers	Precast Cesspool #2	COMPLETED 16-Apr	COMPLETED 16-Jul	17-May	17-Sep
Hither Hills	Long Island	Employee Comfort Station/ Temporary Trailer	Block Cesspool #2	COMPLETED 16-Apr	COMPLETED 16-Jul	17-May	17-Sep
Hither Hills	Long Island	Employee Campground - Section X	Precast Drywells #3	COMPLETED 16-Apr	COMPLETED 16-Jul	17-May	17-Sep
Hither Hills	Long Island	Employee Campground - Section Z	Precast Drywells #3	COMPLETED 16-Apr	COMPLETED 16-Jul	17-May	17-Sep
Sag Harbor	Long Island	Clubhouse	Block Cesspool #3	COMPLETED 16-Apr	COMPLETED 16-Jul	18-May	18-Jul
Orient Beach	Long Island	Bath House Showers (Men's)	Block Cesspool	COMPLETED 16-Jun	17-Jan	18-May	18-Jul
Orient Beach	Long Island	Bath House Showers (Women's)	Block Cesspool	COMPLETED 16-Jun	17-Jan	18-May	18-Jul
Bayard Cutting Arboretum	Long Island	Administration Building Café	Block Cesspool	COMPLETED 16-Apr	COMPLETED 16-May	17-May	17-Sep
Bayard Cutting Arboretum	Long Island	Administration Building Public Restrooms	Block Cesspool	COMPLETED 16-Apr	COMPLETED 16-May	17-May	17-Sep
Connetquot River	Long Island	New Annex/Main Building/Main Garage	Brick Cesspool #3	COMPLETED 16-Apr	COMPLETED 16-Jun	17-May	17-Sep
Connetquot River	Long Island	Old Annex/Administration/Comfort Station	Precast Cesspool #2	COMPLETED 16-Apr	COMPLETED 16-Jun	17-May	17-Sep
Planting Fields	Long Island	Carriage House / LI 55 Residence	Precast Cesspool #3	COMPLETED 16-Jun	17-Jan	18-May	18-Sep

Park	Region	Location	Existing Treatment (1) (2)	Pre-Closure Notification Submittal	Remediation/ Closure Plan Submittal	Construction to Start in Year/Month	Date LCC Rendered Inoperable
Caleb Smith	Long Island	BOCES Lab	Precast Cesspool #2	COMPLETED 16-Apr	COMPLETED 16-Jul	17-May	17-Jul
Caleb Smith	Long Island	Clubhouse/Museum/Park Office	Precast Cesspool #2	COMPLETED 16-Apr	COMPLETED 16-Jul	17-May	17-Jul
Bethpage	Long Island	Yellow & Blue Course Refreshment Stand/Golf Cart Rental	Precast Cesspool	COMPLETED 16-Apr	COMPLETED 16-Aug	17-May	17-Jul
Bethpage	Long Island	Maintenance Building East	Precast Cesspool	COMPLETED 16-Apr	COMPLETED 16-Aug	17-May	17-Jul
Bethpage	Long Island	Red Course Refreshment Stand	Precast Cesspool	COMPLETED 16-Apr	COMPLETED 16-Aug	17-May	17-Jul
Bethpage	Long Island	Black Course Refreshment Stand	Block Cesspool	COMPLETED 16-Apr	COMPLETED 16-Aug	17-May	17-Jul
Bethpage	Long Island	Green Course Refreshment Stand	Block Cesspool	COMPLETED 16-Apr	COMPLETED 16-Aug	17-May	17-Jul
Montauk Downs	Long Island	Pool/Snack Bar Comfort Station	Precast Cesspool	COMPLETED 16-Jun	17-Feb	18-May	18-Jul
Harriman-Lake Kanawake	Palisades	K-1 Camp	Cesspool	16-Dec	17-Dec	19-May	19-Jul
Harriman-Lake Kanawake	Palisades	K-31 Camp	Cesspool	16-Dec	17-Dec	19-May	19-Jul
Harriman-Lake Kanawake	Palisades	K-3 Camp	Cesspool	16-Dec	17-Dec	19-May	19-Jul
Harriman-Lake Kanawake	Palisades	K-3 Camp	Cesspool	16-Dec	17-Dec	19-May	19-Jul
Harriman-Lake Kanawake	Palisades	K-24 Camp	Cesspool	16-Dec	17-Dec	19-May	19-Jul
Harriman - Various Locations	Palisades	K-20 Camp	Cesspool	16-Dec	17-Mar	18-May	18-Jul

Park	Region	Location	Existing Treatment (1) (2)	Pre-Closure Notification Submittal	Remediation/ Closure Plan Submittal	Construction to Start in Year/Month	Date LCC Rendered Inoperable
Harriman -Various Locations	Palisades	K-20 Camp	Cesspool	16-Dec	17-Mar	18-May	18-Jul
Harriman -Various Locations	Palisades	UT-2 Camp	Cesspool	16-Dec	17-Mar	18-May	18-Jul
Max V Shaul	Saratoga/Capital District	Comfort Station	Precast Cesspool	17-Mar	17-Jul	18-May	18-Jul
Max V Shaul	Saratoga/Capital District	Comfort Station	Precast Cesspool	17-Mar	17-Jul	18-May	18-Jul
Max V Shaul	Saratoga/Capital District	Comfort Station	Precast Cesspool	17-Mar	17-Jul	18-May	18-Jul
Bennington Battlefield	Saratoga/Capital District	Comfort Station	Precast Cesspool	COMPLETED 16-Apr	COMPLETED	COMPLETED	COMPLETED
Taconic-Copake	Taconic	Ironworkers Cabin	Cesspool	COMPLETED 16-Aug	16-Dec	17-May	17-Jul
Macomb Reservation	Thousand Islands	Building # 8 (closed)	Block Cesspool	COMPLETED	COMPLETED	COMPLETED	COMPLETED
Macomb Reservation	Thousand Islands	Building # 6 (closed)	Block Cesspool	COMPLETED	COMPLETED 15-Jul	COMPLETED 16-Aug	COMPLETED
Macomb Reservation	Thousand Islands	Building # 7 (closed)	Block Cesspool	COMPLETED	COMPLETED 15-Jul	COMPLETED 16-Aug	COMPLETED
Macomb Reservation	Thousand Islands	Building # 9 (closed)	Block Cesspool	COMPLETED	COMPLETED 15-Jul	COMPLETED 16-Aug	COMPLETED
Catskill Valley	Central	Camp Evans (closed)	Cesspool	COMPLETED	COMPLETED	16-Dec	COMPLETED

(1) All final treatment will consist of code compliant septic tank systems. (2) "#" indicates number of cesspools at that location.

Appendix C

ATTACHMENT 1

EPA Region 2 Underground Injection Control (UIC) Program Instructions for Class V Remediation/Closure Plans

- To ensure UIC Class V well remediation/closure is conducted in accordance with regulatory requirements and in a manner protective of the environment, the United States Environmental Protection Agency Region 2 (EPA) UIC Program requires that the following information be included in a Class V Remediation/Closure Plan (“Plan” or “Workplan”). As outlined in this document, please be advised that the requirements vary depending on the type of UIC structure, the type of facility, and the fluid(s) discharged to the well.
- UIC Class V Remediation/Closure Plans must be submitted to and approved by the EPA prior to initiation of **any** drain sealing, well sampling and/or clean-out activities. You will be notified in writing that EPA has approved your Plan or that the Plan requires modifications to meet the regulatory requirements. *Please Note:* State and/or local regulatory agencies may have additional regulations and requirements.
- Failure to properly implement these requirements will result in EPA considering all available enforcement options.
- All Remediation/Closure Plans and Final Reports must be submitted to EPA Region 2 for review and approval. Documents can be mailed to:

Chief
Ground Water Compliance Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

SECTION I: GENERAL REQUIREMENTS

The following information must be included in a Remediation/Closure Plan (“Plan” or “Workplan”) for all types of Class V wells. If the item is not applicable to your site, please indicate so in the Plan.

A. Site Schematic and Well-System Diagram. The diagram must include all buildings; drinking water wells; drains (e.g., floor drains, sink drains, storm drains); piping; all storage areas for chemicals, oils, or wastes; chemical or sanitary waste processing units (e.g., oil-water separators, septic tanks, wastewater treatment systems) and final discharge points for all drainage (e.g., drywells/overflow drywells, septic tanks/leach fields, open underground pipes, retention basins, surface waters/streams, municipal sanitary/storm sewer connections).

B. Description of business. Description must include all activities conducted, or known to have been conducted, at the facility and a listing of chemicals and wastes used, generated, disposed of and/or stored at the facility. In addition, include the Standard Industry Code (SIC) for the current use or, if vacant, the immediate prior use.

C. Description of all fluids injected. Description must include fluids which enter, may enter or may have entered the injection well(s); or are suspected or known to have been used at the facility. Include any recent analytical results for pertinent wastewater, sludge and/or soil sampling.

The Workplan for a large capacity cesspool that has received only sanitary waste must include supporting information to affirm the sanitary only discharge (i.e. facility either does not use, generate or store chemicals or chemical wastes; or no drains of any kind are located near chemicals/chemical wastes are delivered, used, stored or generated).

D. Verification of connection between drain and UIC well. Connection between all drains and the injection well(s) must be verified by an independent third party and/or witnessed by an EPA inspector. A statement must be included indicating who will be performing the verification and what verification method will be used.

E. Description of permanent closure. If applicable, include a description of the plug emplacements or how the drain(s) and/or well(s) will be permanently closed.

As of April 5, 2005, large capacity cesspools were banned and must be permanently closed or upgraded to septic systems by installing a septic tanks. As of January 1, 2008, all motor vehicle waste disposal wells must be permanently closed unless permitted.

F. Contaminant removal: Describe the procedures to be used to pump, excavate, or otherwise remove all contaminated liquid, sludge and soil from within, beneath and around the injection well until: (1) visibly clean soil is reached; or (2) structural integrity of the excavation or buildings/structures near the excavation, may be compromised, or (3) ground water is encountered in sufficient quantities to preclude additional excavation. If a point of compromised structural integrity is reached or ground water flow precludes removal of all contamination, soil borings or other remedial methods may be required to delineate the extent of any remaining contamination within, beneath or around the injection well. If there is a treatment tank (e.g., oil-water separator, septic tank) or associated piping in the drainage system discharging to the injection well(s), the contents of the tank(s) and piping must be cleaned out and disposed of properly. Any cleaning of tank(s) or piping must be done in a manner that does not release contaminants into the environment. The Workplan must describe the procedures to be used.

Please note, excavation of soil is typically not required for large capacity cesspools that have received only sanitary waste. However, the contents of the sanitary only cesspool must be pumped out and disposed of properly by a licensed hauler.

G. On-site storage of excavated material: Include a description of on-site storage for excavated material to be used while awaiting proper disposal of all wastes (soil, gravel, sludge, liquids or other materials) removed from the Class V well system (i.e., drain, treatment tank and injection well).

The waste storage methodology utilized must ensure that contaminants are not released back into the environment during the period of storage. Dry soils and other dry wastes may be stored on, and covered by, heavy gauge plastic or stored in roll-off containers designed for such a use. Liquid wastes must be stored in covered drums, tanks or roll-off containers designed to contain such wastes.

H. Waste characterization: All excavated material (soil, gravel, sludge, liquid or other materials) must be characterized for disposal purposes and disposed of or otherwise managed, in accordance with all applicable Federal, State, and local requirements. The Workplan must describe the procedures to be used.

I. Minimum sampling and analytical requirements: Specific sampling and analytical requirements are dependent on the type well structure and type of facility at which the well is being remediated. See Sections II and III for the minimum well sampling and analytical requirements.

Samples should be collected in a manner consistent with the sampling procedures outlined in EPA's compendium of analytical and sampling methods titled "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", also known as SW-846 (see <http://www.epa.gov/epawaste/hazard/testmethods/sw846/online/index.htm>). Workplans must outline sampling collection procedures that will be followed to ensure integrity of the sample during collection, transport and analysis.

Samples must be analyzed by a certified laboratory for all contaminants that could have entered into the groundwater as a result of the owner/operator's activities. The laboratory's Practical Quantitation Limit (PQL) achieved for all initial and/or endpoint samples must be at or below the corresponding Region 2 UIC Clean-up Objectives (see Table 1). If the PQL for any analyte is not at or below the corresponding clean-up objective, a detailed explanation must be included as to why the PQL was not, and/or cannot, be at or below the corresponding soil cleanup objective.

J. Backfill: Clean inert soil or sand shall be used as backfill.

K. Final Report: A Final Remediation/Closure Report must be completed within 30 days of completion of remediation/closure and must include at a minimum: remediation procedures used; the name, address and telephone number of all entities that supplied backfill material; a summary table comparing the analytical results to Region 2 UIC Cleanup Objectives (see Table 1) by sample and identifying any exceedances; full laboratory report for all analytical results (including quality control analyses, sample dilution if any, clear identification of sample location and depth, chain of custody and detection levels achieved); and waste disposal manifests.

SECTION II: WELL SPECIFIC SAMPLING REQUIREMENTS

A. Drywells, Leach Pits, Cesspools, Open Pipes, Floor Drains discharging directly into the ground, and Similar Structures.

The following information must be included in a Workplan for a drywell, leach pit, cesspool, open pipe, or floor drain discharging directly into the ground.

1.) Large capacity cesspools that have received only sanitary waste.

“Large capacity” means serves or designed to serve 20 or more people per day. The cesspool must be pumped out and the wastes must be disposed of properly by a licensed hauler. Excavation, end-point sampling and analysis are typically not required.

2.) Drywells, cesspools, open pipes, or floor drains that have received industrial contaminants (directly or through a septic tank).

Endpoint soil samples must be collected after all contaminated liquids, sludges and soils have been removed from in, around and below the well at a depth of 6 inches to 1 foot below the base of the excavation. (If no apparent contamination is present in the injection well, a sample may be collected from a depth of 6 inches to 1 foot below the bottom of the injection well). If ground water is encountered during the remediation, a representative ground water sample shall be collect.

Endpoint samples must be analyzed for the constituents listed in Section III based on facility type and must include all contaminants that could enter into the groundwater as a result of the owner/operator’s activities.

B. Drainfields, Tile fields, Leachfields and Similar Subsurface Fluid Distribution Structures

The following information must be included in a Workplan for a drainfield, tile field, leachfield, or other subsurface fluid distribution system that has or may have received industrial waste.

1.) Pre-excavation sampling. Due to the expense of excavation of a subsurface fluid distribution structure, EPA Region 2 allows pre-excavation sampling to determine if excavation of the injection well is necessary. Pre-excavation samples must be analyzed for the constituents listed in Section III based on facility type in addition to any contaminants that could enter groundwater as a result of the owner’s or operator’s activities. The pre-excavation sample results shall be tabulated. The full laboratory analytical report and the summary table shall be submitted to EPA for review. EPA will advise you of any additional sampling and/or remediation that may be necessary. Pre-excavation sampling must be performed as follows:

a.) Industrial waste discharges to a septic system which then discharges to a drainfield, tile field, leach field or similar structure (i.e. all waste passes through the septic tank).

i.) If the septic tank has not been pumped out in the last 12 months, collect 1 liquid sample and 1 sludge sample from within the septic tank.

ii.) If the septic tank has been pumped out within the last 12 months, collect 1 soil sample from the center of the drainfield at a depth of 1 foot below the burial depth of the laterals.

b.) Industrial waste discharges directly to a drainfield, tile field, leachfield or similar structure (i.e. all waste by-passes septic tank).

i.) Collect 1 soil sample from the center of the drainfield at a depth of 1 foot below the burial depth of the laterals.

c.) Industrial waste discharges to a septic system which then discharges to a drainfield, tile field, leach field or similar structure AND industrial wastes discharges directly to a drainfield, tile field, leach field or similar structure (i.e. some waste passes through septic tank, some waste by-passes septic tank).

i.) If the septic tank has not been pumped out in the last 12 months, collect 1 liquid sample and 1 sludge sample from within the septic tank, AND

ii.) Collect 1 soil sample from the center of the drainfield at a depth of 1 foot below the burial depth of the laterals.

2.) Post-Excavation Sampling. If excavation is required, a soil sample must be collected from a depth of between 6 inches to 1 foot below the base of the excavation and analyzed for the constituents listed in Section III based on facility type and must include all contaminants that could enter into the groundwater as a result of the owner/operators activities. If ground water is encountered during the remediation, a representative ground water sample must be collected. EPA recommends that the excavation not be backfilled until EPA has reviewed the Final Report and has notified the facility in writing that no additional remediation is necessary. If immediate backfilling is necessary, e.g. the excavation disrupts business or endangers the public, the excavation may be backfilled. However, removal of the backfill may be necessary if additional remediation is required.

SECTION III: ANALYTICAL REQUIREMENTS

Samples must be collected in accordance with the collection procedures outlined in SW-846 and analyzed by a certified lab in accordance with EPA approved methods for the constituents listed in the following table and must include all contaminants that could enter into the groundwater as a result of the owner/operator's activities. Other EPA-approved analytical methods may be substituted with prior written approval of EPA. Please note, composite samples are not allowed for volatile organic compound sampling.

a) Motor Vehicle Waste Disposal Wells:

Compound	Analytical Method	
	Soil/Wastewater/Sludge	Ground Water
Volatile Organic Compounds (VOCs)	EPA Method 8260B	EPA Method 524.2 Rev 4.1
Semi-volatile organic compounds	EPA Method 8270D	EPA Method 525.2 Rev 2.0
Arsenic, cadmium, chromium, and lead	EPA Method 200.7 Rev. 4.4	EPA Method 200.7 or 200.8 Rev 5.4

b) Funeral Home Waste Disposal Wells:

Compound	Analytical Method	
	Soil/Wastewater/Sludge	Ground Water
Volatile Organic Compounds (VOCs)	EPA Method 8260B	EPA Method 524.2
Phenol, 2-methylphenol and 4-methylphenol	EPA Method 8270C or 8041A	EPA Method 8270C or 8041A
Formaldehyde	EPA Method 8315A	EPA Method 8315
Arsenic, cadmium, chromium, copper, lead and mercury	EPA Method 200.7 Rev. 4.4	EPA Method 200.7 Rev. 4.4 or 200.8 Rev. 5.4

c) Dry Cleaner Waste Disposal Wells:

Compound	Analytical Method	
	Soil/Wastewater/Sludge	Ground Water
Volatile Organic Compounds (VOCs)	EPA Method 8260B	EPA Method 524.2
Semi-volatile organic compounds	EPA Method 8270C	EPA Method 525.2

d) Other Industrial Waste Disposal Wells:

Compound	Analytical Method	
	Soil/Wastewater/Sludge	Ground Water
Volatile Organic Compounds (VOCs)	EPA Method 8260B	EPA Method 524.2
Semi-volatile organic compounds	EPA Method 8270C	EPA Method 525.2
Any other site specific contaminants of concern		

Appendix D

NYS OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION

Appendix D

Nitrogen Reducing Supplemental Environmental Projects Long Island State Parks Region				
Nitrogen Reducing Supplemental Environmental Projects				
Park	Project <i>Location/Technology</i>	Budget Estimate	Nitrogen Reduction(1)	Pounds of Nitrogen per Year
1. Robert Moses State Park	Urine Separation System - Field 5 Comfort Station	\$75,000(2)(3)	30%	143
2. Connetquot River State Park Preserve	Nitrogen Reducing Technology System for Sanitary Waste System - Hatchery Comfort Station and Residence	\$125,000(3)	90%	48
3. Hallock State Park	Nitrogen-Reducing Treatment System for Sanitary Waste - Visitor's Center	\$100,000(3)	90%	67
4. Captree State Park	Constructed Wetland for Sanitary Waste Treatment - Main Comfort Station and Restaurant	\$250,000(3)	80% - 90%	338
5. Sunken Meadow State Park	Urine Separation System Year Round Bathroom, Field No. 1.	\$50,000(2)(3)	30%	42
6. Wildwood State Park	Urine Separation System E Area Comfort Station	\$60,000(2)(3)	30%	25
7. Caumsett State Historic Park	Urine Separation System for New Calf Barn Comfort Station and Master Garage	\$110,000(2)(3)	30%	50
8. Captree State Park	Green technology Site Improvements for Storm Water Treatment	\$250,000(3)	40%-60%	105
	TOTAL	\$1,020,000		

- Notes:
- (1) Estimate based on current literature
 - (2) Based on only men's urinals connected to urine collection system.
 - (3) Includes all costs-Design, Construction, Construction Inspection, Maintenance Contracts and Monitoring.

**INSTALLATION OF NITROGEN REDUCING SYSTEM (URINE DIVERSION) AT ROBERT MOSES STATE PARK
FIELD 5 COMFORT STATION**

Project Location:

Robert Moses State Park
Field 5 Comfort Station
Babylon, New York 11702

Project Summary:

The proposed Supplemental Environmental Project (Project) at Robert Moses State Park will separate the urinals in the men's portion of the comfort station at Field 5 from the remaining sanitary piping and divert the collected urine to a 3,000-gallon holding tank. The holding tank will be periodically pumped, and the urine will be taken to a NYSDEC-approved wastewater treatment facility. It is estimated that approximately 30% of the nitrogen at the Field 5 comfort station will be diverted to the urine holding tank. Parks and EPA may also jointly decide to send the urine to another treatment site that is approved by EPA. This process would substitute for discharge to the local groundwater in proximity to coastal embayments.

Field 5 is a major ocean beach facility which receives hundreds of thousands of visitors each season, and the comfort station is subject to heavy use.

Nexus/Environmental Benefits:

As the increasing pollution of lakes, streams, and coastal waters by excess nutrients becomes more evident, there has been a recent corresponding increase in the search for solutions. For nutrients that originate in wastewater, one option that is beginning to draw some attention in the U.S. is urine diversion. Also known as urine harvesting or source separation, it has been used successfully in a number of developed and developing countries. European countries, and Sweden in particular, have been installing and studying urine diversion systems since the early 1990s.

Urine diversion involves separating urine from the wastewater stream at the point of excretion. The interest in this approach centers on the fact that urine makes up only a small percentage of the typical wastewater stream but contains about 80 percent of the nitrogen, 55 percent of the phosphorus, 60 percent of the potassium, plus smaller amounts of other nutrients including sulfur, calcium and magnesium. Nitrogen and phosphorus are the two nutrients most responsible for the over-enrichment of freshwater and coastal waters causing the proliferation of harmful algae blooms, negative changes in aquatic plant and animal life, and loss of fisheries. Wastewater is not the only source of these nutrients but it is a contributor, and decreasing the amount of nutrients released in wastewater is expected to help protect and rehabilitate our aquatic resources. The separation of approximately 30% of the nitrogen from the comfort station at Field 5 will directly reduce it from entering the local groundwater, and also serve as a demonstration of contemporary concepts in nutrient reduction technology.

Project Manager

Scott Fish, the Capital Facility Manager for the Office of Parks, Recreation and Historic Preservation will oversee the project construction. Timothy Byrne, the Park Manager III at Robert Moses/Captree State Parks for the Office's Long Island Region will oversee its operations and maintenance.

Estimated Costs:

The estimated total construction cost for this project is \$75,000. This includes design, construction, construction inspection, monitoring and urine holding costs. There are no significant operational/maintenance costs associated with the urine separation. Parks personnel will take level measurements and arrange for pumping and transport of the urine when the tank is full, and there will be costs associated with hauling and disposal proportional to the amount of urine removed.

Status and Duration:

A proposal to renovate the Field 5 comfort station is out to bid with bids due this July 2016. The renovation includes re-piping of the urinals and installation of the urine holding tank. Work should be completed by late spring or early summer of 2017. Future steps will explore the re-use of the urine. Hygienic and public perception concerns of Park patrons will be monitored.

**NITROGEN-REDUCING SANITARY WASTEWATER TREATMENT SYSTEM, CONNETQUOT RIVER STATE
PARK PRESERVE- HATCHERY AND RESIDENCE**

Project Location:

Connetquot River State Park Preserve
Hatchery and Residence
Oakdale, NY 11769

Project Summary:

Beginning in the early 1990s several state, county and independent testing organizations began investigating the feasibility of enhancing nitrogen removal in onsite septic systems. There is growing interest in Suffolk County to investigate, conduct pilot studies and ultimately approve and apply nitrogen removal technologies on resident and commercial systems. Based on the work completed by these state, county and independent testing organizations, the Office of Parks, Recreation and Historic Preservation (Parks) proposes as a Supplemental Environmental Project (Project) to install a technology that has demonstrated proven track record of reducing the nitrogen down to 19 mg/l or less.

At Connetquot River State Park Preserve a Nitrex Wastewater Treatment system by Lombardo Associates was selected for installation for this Project. It will be installed such that if the Nitrex system does not operate properly the park can quickly switch back to a standard septic systems. The system will provide additional data to evaluate its effectiveness, and also provide the direct benefit of reducing nitrogen discharges to the groundwater at the park. This is particularly important as this park is on the Connetquot River which has been designated by New York State as a Wild, Scenic and Recreational River.

Nexus/Environmental Benefits:

The role of nitrogen in the degradation of many marine estuarine environments is now widely accepted. As recent research focuses on determining the maximum amount of nitrogen capable of being assimilated by an estuary without exhibiting detrimental environmental effects, resource managers have sought measures to control nitrogen sources in the contributing watersheds. In many estuary watersheds, a major contributor of nitrogen has shown to be domestic wastewater. The flow of nutrient enriched groundwater is thought to be a source of nitrogen to local surface waters.

The primary method of treating/disposing of wastewater in Suffolk County is the onsite septic system. Comprised of various components, the purpose of a septic system is to stabilize sanitary waste and render disease organisms harmless. The well-designed onsite septic system achieves these tasks by oxidizing many of the chemical/organic portions of the wastewater and maintaining adequate separation between sites of disposal and areas of potential human exposure.

Despite the ability of the onsite septic system to remove certain contaminants, the nitrogen portion of the wastewater is only partially treated. Estimates are that conventional septic systems remove approximately 50% of the nitrogen from the waste. That means the effluent contains on the order of 40-50 mg/l of nitrogen.

Based on testing of various State, County and independent testing organizations (National Sanitation Foundation) a nitrogen reduction between 75% and 90% can be expected. Sampling will be conducted monthly for the first six months and quarterly for the next four-and-one-half years. These data will be

shared with Suffolk County Department of Health Services to further their research into nitrogen reduction technology.

Additionally as this Park will be visited by large groups of young students, therefore, Parks plans to provide an educational component to introduce these young minds to the issues surrounding excess nitrogen and possible solutions, including the Nitrex System.

Project Manager

Scott Fish, the Capital Facility Manager for the Office of Parks, Recreation and Historic Preservation will oversee the project construction. Gil Bergen, the Park Manager at Connetquot River State Park Preserve for the Office's Long Island Region will oversee its operations and maintenance.

Estimated Costs:

It is estimated that the costs for design, construction, construction inspection, monitoring and maintenance is \$125,000. All routine maintenance will be completed in accordance with the system manufacturing guidelines. As part of the installation, the installing contractor will be required to provide a five year maintenance and monitoring contract with Parks.

Status and Duration:

Upgrades to the sanitary systems at this park are scheduled for 2017. The Nitrex system will be included as part of the bid documents. It is expected to be completed in the late 2017.

**NITROGEN-REDUCING SANITARY WASTEWATER TREATMENT SYSTEM, HALLOCK STATE PARK
PRESERVE**

Project Location:

Hallock State Park Preserve
Riverhead, NY 11901

Project Summary:

Beginning in the early 1990s several state, county and independent testing organizations began investigating the feasibility of enhancing nitrogen removal in onsite septic systems. There is growing interest in Suffolk County to investigate, conduct pilot studies and ultimately approve and apply nitrogen removal technologies on resident and commercial systems. Based on the work completed by these state, county and independent testing organizations, the Office of Parks, Recreation and Historic Preservation (Office) proposes as a Supplemental Environmental Benefit Project (Project) to install a technology that has demonstrated proven track record of reducing the nitrogen down to 19 mg/l or less.

At Hallock State Park Preserve a Microfast 1.5 system by BioMicrobics was selected for installation for this Project. It will be installed in parallel with a septic tank, so that if the Microfast system does not operate properly the park can quickly switch back to a standard septic system. The system will provide additional data to evaluate its effectiveness, and also provide the direct benefit of reducing nitrogen discharges to the groundwater at the park.

Nexus/Environmental Benefits:

The role of nitrogen in the degradation of many marine estuarine environments is now widely accepted. As recent research focuses on determining the maximum amount of nitrogen capable of being assimilated by an estuary without exhibiting detrimental environmental effects, resource managers have sought measures to control nitrogen sources in the contributing watersheds. In many estuary watersheds, a major contributor of nitrogen has shown to be domestic wastewater. The flow of nutrient enriched groundwater is thought to be a source of nitrogen to local surface waters.

The primary method of treating/disposing of wastewater in Suffolk County is the onsite septic system. Comprised of various components, the purpose of a septic system is to stabilize sanitary waste and render disease organisms harmless. The well-designed onsite septic system achieves these tasks by oxidizing many of the chemical/organic portions of the wastewater and maintaining adequate separation between sites of disposal and areas of potential human exposure.

Despite the ability of the onsite septic system to remove certain contaminants, the nitrogen portion of the wastewater is only partially treated. Estimates are that conventional septic systems remove approximately 50% of the nitrogen from the waste. That means the effluent contains on the order of 40-50 mg/l of nitrogen.

Based on testing of various State, County and independent testing organizations (National Sanitation Foundation) a nitrogen reduction between 75% and 90% can be expected. Sampling will be conducted monthly for the first six months and quarterly for the next four-and-one-half years. These data will be shared with Suffolk County Department of Health Services to further their research into nitrogen reduction technology.

Additionally as this newly upgraded Park Preserve will be visited by large groups of young students, therefore, the Office plans to provide an educational component to introduce these young minds to the issues surrounding excess nitrogen and possible solutions, including the Microfast System.

Project Manager

Scott Fish, the Capital Facility Manager for the Office of Parks, Recreation and Historic Preservation will oversee the project construction. The Park Manager will oversee its operation and maintenance.

Estimated Costs:

It is estimated that the costs for design, construction, construction inspection, monitoring and maintenance is \$100,000. All routine maintenance will be completed in accordance with the system manufacturing guidelines. As part of the installation, the installing contractor will be required to provide a five year maintenance and monitoring contract with Parks.

Status and Duration:

The Visitors Center at this park is currently under construction. It is expected to be completed in the spring of 2017 and will include the Microfast System.

**NITROGEN-REDUCING SANITARY WASTEWATER TREATMENT SYSTEM, CAPTREE
STATE PARK - MAIN COMFORT STATION AND RESTAURANT**

Project Location:

Captree State Park
Main Comfort Station and Restaurant
Babylon, NY 11702

Project Summary:

Beginning in the early 1990s several state, county and independent testing organizations began investigating the feasibility of enhancing nitrogen removal in onsite septic systems. There is growing interest in Suffolk County to investigate, conduct pilot studies and ultimately approve and apply nitrogen removal technologies on resident and commercial systems. Based on the work completed by these state, county and independent testing organizations, the Office of Parks, Recreation and Historic Preservation (Office) proposes as a Supplemental Environmental Project (Project) to install a Constructed Wetlands (CW) system.

Constructed Wetlands, also referred to as artificial wetlands, are a growing technology choice for natural wastewater and stormwater treatment. CWs are “engineered systems, designed and constructed to utilize the natural functions of wetland vegetation, soils, and their microbial populations to treat contaminants in surface water, groundwater or waste streams.” Although CWs mimic the natural environment, careful design practices allow the user substantial control and customization of these systems. Some aspects to consider include: wetland size, sediment type and grain size, flow control, and vegetation type. These aspects can be modified depending on the characterizations of the wastewater, the presence or absence of pretreatment, the influent flow rate, climate, and several other factors. CWs remove pollutants through transformation of the pollutant compounds through biological processes or through direct plant uptake. The natural look of constructed wetlands make it a more ideal approach for use in parks.

Nexus/Environmental Benefits:

The role of nitrogen in the degradation of many marine estuarine environments is now widely accepted. As recent research focuses on determining the maximum amount of nitrogen capable of being assimilated by an estuary without exhibiting detrimental environmental effects, resource managers have sought measures to control nitrogen sources in the contributing watersheds. In many estuary watersheds, a major contributor of nitrogen has shown to be domestic wastewater. The flow of nutrient enriched groundwater is thought to be a source of nitrogen to local surface waters.

The primary method of treating/disposing of wastewater in Suffolk County is the onsite septic system. Comprised of various components, the purpose of a septic system is to stabilize sanitary waste and render disease organisms harmless. The well-designed onsite septic system achieves these tasks by oxidizing many of the chemical/organic portions of the wastewater and maintaining adequate separation between sites of disposal and areas of potential human exposure.

Despite the ability of the onsite septic system to remove certain contaminants, the nitrogen portion of the wastewater is only partially treated. Estimates are that conventional septic systems remove approximately 50% of the nitrogen from the waste. That means the effluent contains on the order of 40-50 mg/l of nitrogen.

CW systems fulfill the minimum performance criteria with expected reductions of 80% to 90% which provides a superior means to reduce nitrogen in effluent in a parks setting. This technology is considered to be the most innovative as its primary application in the U.S. to date has focused on stormwater. However, the process has been used successfully at over 150 wastewater sites worldwide, mainly in Europe. Studies concluded that CW systems are capable of treating wastewater and meeting the European Union's minimum total nitrogen discharge limit of 15mg/L. Therefore, it CW systems may be an innovative and effective means to treat wastewater in the U.S.

Sampling will be conducted monthly for the first six months and quarterly for the next four-and-one-half years. These data will be shared with Suffolk County Department of Health Services to further their research into nitrogen reduction technology.

Additionally, as this Park receives a large number of visitors (over 500,000 per year), the Office plans to provide an educational component to introduce more of the general public to the issues surrounding excess nitrogen and possible solutions, including how constructed wetlands function.

Project Manager

Scott Fish, the Capital Facility Manager for the Office of Parks, Recreation and Historic Preservation will oversee the project construction. Timothy Byrne, the Park Manager III at Robert Moses/Captree State Parks for the Office's Long Island Region will oversee its operations and maintenance.

Estimated Costs:

It is estimated that the costs for design, construction, construction inspection, monitoring and maintenance is \$250,000. All routine maintenance will be completed in accordance with the system manufacturing guidelines. As part of the installation, the installing contractor will be required to enter into a five-year maintenance and monitoring contract with Parks.

Status and Duration:

It is anticipated design for the Constructed Wetland will be completed in 2017 and construction completed in the winter of 2018.

**INSTALLATION OF NITROGEN REDUCING SYSTEM (URINE DIVERSION) AT SUNKEN MEADOW STATE
PARK FIELD 1 COMFORT STATION**

Project Location:

Sunken Meadow State Park
Field 1 Comfort Station
Kings Park, New York 11754

Project Summary:

The proposed Supplemental Environmental Project (Project) at Sunken Meadow State Park will separate the urinals in the men's portion of the comfort station at Field 1 from the remaining sanitary piping and divert the collected urine to a 3,000-gallon holding tank. The holding tank will be periodically pumped, and the urine will be taken to a NYSDEC-approved wastewater treatment facility. It is estimated that approximately 30% of the nitrogen at the Field 1 comfort station will be diverted to the urine holding tank. Parks and EPA may also jointly decide to send the urine to another treatment site that is approved by EPA. This process would substitute for discharge to the local groundwater in proximity to coastal embayments.

Field 1 is a major beach facility which receives hundreds of thousands of visitors each season, and the comfort station is subject to heavy use.

Nexus/Environmental Benefits:

As the increasing pollution of lakes, streams, and coastal waters by excess nutrients becomes more evident, there has been a recent corresponding increase in the search for solutions. For nutrients that originate in wastewater, one option that is beginning to draw some attention in the U.S. is urine diversion. Also known as urine harvesting or source separation, it has been used successfully in a number of developed and developing countries. European countries, and Sweden in particular, have been installing and studying urine diversion systems since the early 1990s.

Urine diversion involves separating urine from the wastewater stream at the point of excretion. The interest in this approach centers on the fact that urine makes up only a small percentage of the typical wastewater stream but contains about 80 percent of the nitrogen, 55 percent of the phosphorus, 60 percent of the potassium, plus smaller amounts of other nutrients including sulfur, calcium and magnesium. Nitrogen and phosphorus are the two nutrients most responsible for the over-enrichment of freshwater and coastal waters causing the proliferation of harmful algae blooms, negative changes in aquatic plant and animal life, and loss of fisheries. Wastewater is not the only source of these nutrients but it is a contributor, and decreasing the amount of nutrients released in wastewater is expected to help protect and rehabilitate our aquatic resources. The separation of approximately 30% of the nitrogen from the comfort station at Field 1 will directly reduce it from entering the local groundwater, and also serve as a demonstration of contemporary concepts in nutrient reduction technology.

Project Manager

Scott Fish, the Capital Facility Manager for the Office of Parks, Recreation and Historic Preservation will oversee the project construction. Kevin Brew, the Park Manager at Sunken Meadow State Park for the Office's Long Island Region will oversee its operation and maintenance.

Estimated Costs:

The estimated total construction cost for this project is \$50,000. This includes design, construction, construction inspection, monitoring and urine holding costs. There are no significant operational/maintenance costs associated with the urine separation. Parks personnel will take level measurements and arrange for pumping and transport of the urine when the tank is full, and there will be costs associated with hauling and disposal proportional to the amount of urine removed.

Status and Duration:

The re-piping of the urinals has been completed as part of ongoing renovations of the public restrooms. Parks is in the process of obtaining quotes/bids for the tank installation. Installation is expected before the end of the year. Future steps will explore the re-use of the urine. Hygienic and public perception concerns of Park patrons will be monitored.

**INSTALLATION OF NITROGEN REDUCING SYSTEM (URINE DIVERSION) AT WILDWOOD STATE PARK
EAST CAMP COMFORT STATION**

Project Location:

Wildwood State Park
East Camp Comfort Station
Wading River, New York 11792

Project Summary:

The proposed Supplemental Environmental Project (Project) at Wildwood State Park will separate the urinals in the men's portion of the comfort station at the East Camp comfort station from the remaining sanitary piping and divert the collected urine to a 3,000-gallon holding tank. The holding tank will be periodically pumped, and the urine will be taken to a NYSDEC-approved wastewater treatment facility. It is estimated that approximately 30% of the nitrogen at the East Camp comfort station will be diverted to the urine holding tank. Parks and EPA may also jointly decide to send the urine to another treatment site that is approved by EPA. This process would substitute for discharge to the local groundwater in proximity to coastal embayments.

The East Camp comfort station serves a major camping facility which is subject to heavy use.

Nexus/Environmental Benefits:

As the increasing pollution of lakes, streams, and coastal waters by excess nutrients becomes more evident, there has been a recent corresponding increase in the search for solutions. For nutrients that originate in wastewater, one option that is beginning to draw some attention in the U.S. is urine diversion. Also known as urine harvesting or source separation, it has been used successfully in a number of developed and developing countries. European countries, and Sweden in particular, have been installing and studying urine diversion systems since the early 1990s.

Urine diversion involves separating urine from the wastewater stream at the point of excretion. The interest in this approach centers on the fact that urine makes up only a small percentage of the typical wastewater stream but contains about 80 percent of the nitrogen, 55 percent of the phosphorus, 60 percent of the potassium, plus smaller amounts of other nutrients including sulfur, calcium and magnesium. Nitrogen and phosphorus are the two nutrients most responsible for the over-enrichment of freshwater and coastal waters causing the proliferation of harmful algae blooms, negative changes in aquatic plant and animal life, and loss of fisheries. Wastewater is not the only source of these nutrients but it is a contributor, and decreasing the amount of nutrients released in wastewater is expected to help protect and rehabilitate our aquatic resources. The separation of approximately 30% of the nitrogen from the comfort station at East Camp will directly reduce it from entering the local groundwater, and also serve as a demonstration of contemporary concepts in nutrient reduction technology.

Project Manager

Scott Fish, the Capital Facility Manager for the Office of Parks, Recreation and Historic Preservation will oversee the project construction. David Zapasek, the Park Manager at Wildwood State Park, for the Office's Long Island Region will oversee its operations and maintenance.

Estimated Costs:

The estimated total construction cost for this project is \$60,000. This includes design, construction, construction inspection, monitoring and urine holding costs. There are no significant operational/maintenance costs associated with the urine separation. Parks personnel will take level measurements and arrange for pumping and transport of the urine when the tank is full, and there will be costs associated with hauling and disposal proportional to the amount of urine removed.

Status and Duration:

Parks is in the process of obtaining quotes/bids for the re-piping of the urinals and tank installation. Installation is expected before the end of 2016. Future steps will explore the re-use of the urine. Hygienic and public perception concerns of Park patrons will be monitored.

INSTALLATION OF NITROGEN REDUCING SYSTEM (URINE DIVERSION) AT CAUMSETT STATE HISTORIC PARK PRESERVE CALF BARN AND MASTERS GARAGE COMFORT STATIONS

Project Location:

Caumsett State Historic Park Preserve State Park
Calf Barn and Masters Garage Comfort Stations
Huntington, New York 11743

Project Summary:

The proposed Supplemental Environmental Project (Project) at Caumsett State Historic Park Preserve will separate the urinals in the men's portion of the comfort stations at the Calf Barn and Masters Garage from the remaining sanitary piping and divert the collected urine to a 3,000-gallon holding tank. The holding tank will be periodically pumped, and the urine will be taken to a DEC-approved wastewater treatment facility. It is estimated that approximately 30% of the nitrogen at the Calf Barn and Masters Garage comfort stations will be diverted to the urine holding tank. Parks and EPA may also jointly decide to send the urine to another treatment site that is approved by EPA. This process would substitute for discharge to the local groundwater in proximity to coastal embayments.

The Calf Barn and Masters Garage comfort station serve this significant historic State Park with more than 150,000 visitors a year.

Nexus/Environmental Benefits:

As the increasing pollution of lakes, streams, and coastal waters by excess nutrients becomes more evident, there has been a recent corresponding increase in the search for solutions. For nutrients that originate in wastewater, one option that is beginning to draw some attention in the U.S. is urine diversion. Also known as urine harvesting or source separation, it has been used successfully in a number of developed and developing countries. European countries, and Sweden in particular, have been installing and studying urine diversion systems since the early 1990s.

Urine diversion involves separating urine from the wastewater stream at the point of excretion. The interest in this approach centers on the fact that urine makes up only a small percentage of the typical wastewater stream but contains about 80 percent of the nitrogen, 55 percent of the phosphorus, 60 percent of the potassium, plus smaller amounts of other nutrients including sulfur, calcium and magnesium. Nitrogen and phosphorus are the two nutrients most responsible for the over-enrichment of freshwater and coastal waters causing the proliferation of harmful algae blooms, negative changes in aquatic plant and animal life, and loss of fisheries. Wastewater is not the only source of these nutrients but it is a contributor, and decreasing the amount of nutrients released in wastewater is expected to help protect and rehabilitate our aquatic resources. The separation of approximately 30% of the nitrogen from the comfort station at Calf Barn and Masters Garage will directly reduce it from entering the local groundwater, and also serve as a demonstration of contemporary concepts in nutrient reduction technology.

Project Manager

Scott Fish, the Capital Facility Manager for the Office of Parks, Recreation and Historic Preservation will oversee the project construction. Leonard Krauss Jr., the Park Manager at Caumsett State Historic Park Preserve for the Office's Long Island Region will oversee its operation and maintenance of the SEP.

Estimated Costs:

The estimated total construction cost for this project is \$110,000. This includes design, construction, construction inspection, monitoring and urine holding costs. There are no significant operational/maintenance costs associated with the urine separation. Parks personnel will take level measurements and arrange for pumping and transport of the urine when the tank is full, and there will be costs associated with hauling and disposal proportional to the amount of urine removed.

Status and Duration:

Design for the Calf Barn is complete and re-piping is being completed by Parks staff. The design for the Masters Garage is in progress and will be completed by September. At that time Parks will obtain quotes/bids for the re-piping of the urinals at the Masters Garage and tank installations. Installation is expected before the end of the year. Future steps will explore the re-use of the urine. Hygienic and public perception concerns of Park patrons will be monitored.

**NITROGEN-REDUCING STORMWATER RUNOFF TREATMENT SYSTEM
CAPTREE STATE PARK**

Project Location:

Captree State Park
3500 East Ocean Parkway
Bay Shore, NY 11706

Project Summary:

This proposed Supplemental Environmental Project (Project) will retrofit the existing stormwater drainage facilities at Captree State Park within the Office of Parks, Recreation and Historic Preservation (Office) with an innovative nitrogen technology known as a bioretention system.

The role of nitrogen in the degradation of many marine estuarine environments is now widely accepted. As recent research focuses on determining the maximum amount of nitrogen capable of being assimilated by an estuary without exhibiting detrimental environmental effects, resource managers have sought measures to control nitrogen sources in the contributing watersheds. In many estuary watersheds, major contributors of nitrogen have been shown to be surface runoff and nutrient enriched groundwater.

Currently, parking lots at Captree State Park collect runoff into piped systems that discharge to surface waters or the lot surface drains to the perimeters where the runoff enters the sandy soils and quickly drains to groundwater. During larger storm events the volume of water could bypass the existing mitigation measures.

Bioretention systems are soil- and plant-based stormwater treatment methods that combine a drainage swale with a bioretention area at the base of the swale. The swale provides both conveyance and treatment functions while the bioretention system, which consists of a porous filter media at the base of the swale, provides treatment functions and infiltration. Bioretention systems are distinguished from a simple drainage/grassed swales by the addition of carefully selected, permeable soil (usually sandy loam), check dams, and an underdrain system of free draining materials or a collection pipe with discharge to an outfall. These design features ensure that infiltration of stormwater will not depend solely on the infiltration rate of the existing natural soils.

This process operates by filtering stormwater runoff through surface vegetation and then percolating the runoff through the soil media filter which provides fine filtration, extended detention treatment and biological uptake. Bioretention areas act to disconnect runoff from impervious areas from the downstream waters. The swale component provides pre-treatment of stormwater to remove coarse to medium sediments while the filter removes finer particulates and associated contaminants. The vegetation within the bioretention area performs several functions including promoting evapotranspiration, maintaining soil porosity, encouraging biological activity, promoting uptake of some pollutants.

Bioretention systems are designed to treat the first flush of stormwater runoff; in New York State that is the 90% storm event or a 1.3" rainfall on Long Island.

Nexus/Environmental Benefits:

Bioretention systems demonstrate good pollutant removal, typically removing 65 percent of total phosphorus (TP), 50 percent of total nitrogen (TN), and between 80 and 90 percent of metals. The total suspended solids (TSS) removal for bioretention is typically between 80 and 90 percent. In addition, the bioretention system should effectively remove petroleum hydrocarbons based on the performance reported for grass channels. The vegetated surface of the bioretention basin acts in a similar manner to a grassed channel which has been shown to remove petroleum hydrocarbons as the runoff filtersthrough the vegetation.

A bioretention system is designed to capture and filter runoff from a water quality rainfall event. In designing a bioretention system it is important to first determine the volume of water to be stored. This establishes the basic area dimensions of width, length, and side slopes. Infiltration rates for soils are quite variable, even within a single textural class and soil for the bioretention media must be selected to allow the water quality volume to slowly infiltrate over a period on about 24 hours.

The current literature on stormwater best management practices (BMPs) includes the typical nitrogen removal rates for Green Infrastructure BMPs. Bioretention systems without an underdrain where the volume of filtered runoff is recharged to the below soils and groundwater have typical removal rates of 60% for Total Phosphorus and 50% for Total Nitrogen. Bioretention systems that utilize an underdrain have typical removal rates of 60% for Total Phosphorus and 30% for Total Nitrogen.

Bioretention systems provide the majority of treatment by the process of soil filtration, which filters suspended pollutants and facilitates adsorption of dissolved pollutants. It has been found that the mass removal of pollutants in bioretention systems is roughly proportional to the mass runoff that infiltrates through the bottom of the channel (Yousef et al., 1985). The residence time in bioretention systems can be relatively long (on the order of a day), and its importance in the design is to select a soil that permits infiltration of the stored stormwater within that time period.

Project Manager:

Scott Fish, the Capital Facility Manager for the Office of Parks, Recreation and Historic Preservation will oversee the project construction. Timothy Byrne, the Park Manager III at Robert Moses/Captree State Parks for the Office's Long Island Region will oversee its operations and maintenance.

Estimated Costs:

It is estimated that the total cost for design, construction, and construction inspection will be \$250,000. All routine maintenance will be completed in accordance with NYS Municipal Separate Storm Sewer System (MS4) guidelines for inspection and maintenance of drainage systems. There are no significant operational/maintenance costs associated with the bioretention systems. Parks personnel will be required to inspect the systems on a regular basis. If sediment build up is observed, maintenance personnel will remove and dispose of the sediment. If, in the future, infiltration rates are reduced significantly and create standing water conditions, the bioretention media will need to be excavated and replace with new media and the vegetation re-established.

Status and Duration:

Design will be completed in 2017 with construction in 2018.