

## DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

### RCRA Corrective Action Environmental Indicator (EI) RCRIS code (CA750) Migration of Contaminated Groundwater under Control

**Facility Name:** Veolia ES Technical Solutions, LLC  
**Facility Address:** 1 Eden Lane, Flanders, Mount Olive Township,  
Morris County, New Jersey 07836  
**Facility EPA ID#:** NJD 980 536 593

#### **Definition of Environmental Indicators (for the RCRA Corrective Action)**

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EIs developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

#### **Definition of “Migration of Contaminated Groundwater under Control” EI**

A positive “Migration of Contaminated Groundwater Under Control” EI determination (“YE” status code) indicates that the migration of “contaminated” groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original “area of contaminated groundwater” (for all groundwater “contamination” subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

#### **Relationship of EI to Final Remedies**

While final remedies remain the long-term objectives of the RCRA Corrective Action program, the EIs are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993 (GPRA). The “Migration of Contaminated Groundwater under Control” EI pertains ONLY to the physical migration (i.e., further spread) of contaminated groundwater and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

#### **Duration / Applicability of EI Determinations**

EI Determination status codes should remain in the RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

#### **Facility Information**

The Veolia ES Technical Solutions, LLC (Veolia) facility is located on Eden Lane in Flanders, Mount Olive Township, Morris County, New Jersey. The property occupies approximately six acres. Surrounding land use includes light industrial, residential, wooded areas and farms. See Attachment 1 for site location map and Attachment 2 for site plan.

Veolia is a commercial environmental services company specializing in the classification, packaging and transportation of solid and hazardous waste. Veolia services a variety of industries including research and development, pharmaceutical and biotechnical, general manufacturing, educational institution, hospitals and government agencies. The facility underwent change of ownership and operated under the names Advanced Environmental Technology Corporation, Advanced Environmental Technology Services, Onyx Environmental Services, LLC and, presently, Veolia ES Technical Solutions, LLC.

Hazardous waste operations at Veolia date back to 1988. The New Jersey Department of Environmental Protection (NJDEP) issued a hazardous waste facility permit to Advanced Environmental Technology Corporation on June 30, 1988. The permit authorized the new facility to accept containerized solid and hazardous waste from off-site generators for storage prior to transfer to off-site treatment, storage and disposal facilities. Hazardous waste was authorized to be stored in drums or any Department of Transportation approved containers in the shipping and receiving area and in up to 18 trailers around the loading dock and 12 trailers in the trailer parking area. The total volume of hazardous waste authorized to be stored at the facility was limited to 2,300 55 gallon drums or the equivalent volume for other authorized containers. The permit also authorized the repacking of small containers of laboratory chemicals.

Concurrent with the 1988 NJDEP hazardous waste facility permit, the United States Environmental Protection Agency (EPA) issued a Hazardous and Solid Waste Amendments Permit (HSWA permit) to Advanced Environmental Technology Corporation on August 31, 1988. The HSWA permit required annual certification that any generation of hazardous waste be minimized to the extent practicable, comply with land disposal restrictions, notify EPA of any newly identified solid waste management units and take corrective action to mitigate any releases to the environment.

NJDEP has modified and renewed the hazardous waste facility permit, with the most recent renewal on November 22, 2006, authorizing Veolia to store containers holding hazardous waste in the shipping and receiving area and in 39 trailers up to a maximum capacity of 187,000 gallons. The volume of hazardous waste storage authorized in the shipping and receiving area is up to 14,740 gallons, and in trailers parked around the loading dock and in the designated trailer parking areas up to 172,260 gallons. There is no disposal of solid or hazardous waste at the facility. All wastes received at the facility are shipped off site in containers to authorized treatment, storage and disposal facilities.

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

X If yes - check here and continue with #2 below.

\_\_\_ If no - re-evaluate existing data, or

\_\_\_ If data are not available, skip to #8 and enter "IN" (more information needed) status code.

### **Summary of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs):**

RCRA regulated units at Veolia consist of the permitted shipping and receiving area and storage trailers. AOCs at the site consisted of two fuel oil underground storage tanks. No other SWMUs or AOCs have been identified at Veolia. (Ref. 1, 2 & 5)

### **Shipping and Receiving Area and Storage Trailers**

The Veolia facility began hazardous waste storage operations in 1988. Upon acceptance of containerized hazardous waste at the facility for storage and transfer, the waste is placed in either a trailer destined for an ultimate treatment/storage/disposal facility, the shipping and receiving area or a storage trailer. (Ref. 3)

Veolia is authorized to store containers holding hazardous waste in the shipping and receiving area and in 39 trailers up to a maximum capacity of 187,000 gallons. The volume of hazardous waste storage authorized in the shipping and receiving area is 14,740 gallons. The volume authorized to be stored in trailers parked around the loading dock and in the designated trailer parking areas is 172,260 gallons. There is no disposal of solid or hazardous waste at the facility. All wastes received at the facility are shipped off site in containers to authorized treatment, storage and disposal facilities. (Ref. 4)

Containerized waste stored in the shipping and receiving area and in trailers requires adequate aisle space of eighteen inches between rows of containers to allow for unobstructed movement of personnel and emergency equipment. Trailers storing waste must be parked in one of the designated trailer parking areas. The maximum number of trailers is thirty nine, parked around the loading dock and in the trailer parking areas. (Ref. 4)

Containerized waste that is placed in a trailer destined for an ultimate treatment, storage and disposal facility is not allowed to be held in the trailer for longer than ten working days after the accumulation start date. The accumulation start date is the date that the eighteen inches of aisle space between rows of containers is no longer maintained in the trailer. Any waste previously designated for shipment off-site but not shipped out within ten working days must be off-loaded and placed into the shipping and receiving area or a storage trailer. (Ref. 4)

### **Fuel Oil Underground Storage Tanks**

Two underground storage tanks were located outside the Veolia building for the purpose of supplying heating oil for facility operations. A 1,000 gallon tank that was used to store number 2 heating oil was located at the southwestern corner of the loading dock. A 6,000 gallon number 2 heating oil tank was located at the southeastern corner of the Veolia building. The tanks were removed on August 25 and 26, 1998. Closure was conducted in accordance with a closure plan and a tank closure report was completed in September 1998. (Ref. 5, 6 & 7)

**References:**

1. EPA HSWA Permit for Advanced Environmental Technology Corporation, dated August 31, 1988.
2. E-mail from Zafar Billah, NJDEP, to Barry Tornick, EPA, regarding AETS/Veolia/Onyx, dated September 11, 2009.
3. NJDEP Hazardous Waste Facility Permit for Advanced Environmental Technology Corporation, dated June 30, 1988.
4. NJDEP Hazardous Waste Facility Permit for Veolia ES Technical Solutions, LLC, dated November 22, 2006.
5. Tank Closure and Remedial Investigation Report, AETS, 1 Eden Lane, prepared by Vectre Corporation, dated September 1998.
6. Underground Storage Tank Facility Certification Questionnaire, dated September 8, 1998.
7. Letter from Vincent Krisak, NJDEP, to James Bell, AETS, regarding Area of Concern, dated January 20, 1999.

2. Is **groundwater** known or reasonably suspected to be “**contaminated**”<sup>1</sup> above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

\_\_\_ If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.

X If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”

\_\_\_ If unknown - skip to #8 and enter “IN” status code.

### **Rationale:**

Veolia was a newly constructed facility in 1988. It was built on a vacant lot. There was no prior use of the land or any contamination present on the property. Soil investigations and site inspections were conducted by the facility consultant during the design stage of the facility from 1985 to 1987. A certification signed and sealed by a professional engineer, stated that there was no evidence of any prior industrial, commercial, residential or agricultural use, or any evidence of soil contamination. Also an affidavit from the facility was submitted which documented that the six-acre property was never used for any purpose which could contaminate the property with hazardous materials. Based upon this submitted documentation, EPA determined in the HSWA permit that corrective action would not be required for the facility unless new information became available indicating that a corrective action investigation was warranted. (Ref. 1)

The hazardous waste facility permit was first issued by NJDEP in 1988. The permit was modified and renewed, with the most recent renewal in 2006. The permit authorized the facility to store hazardous waste in containers in the shipping and receiving area and in trailers in the loading dock and designated trailer parking area. (Ref. 2 & 3) All of the hazardous waste storage facility operations are indoors or inside trailers, which are parked in contained areas constructed with curbing and drains. All loading and unloading areas consist of steel reinforced concrete pads. The indoor shipping and receiving area is completely enclosed and stores waste containers on pallets on a concrete floor. The flooring consists of steel reinforced concrete that has been sealed with a chemical resistant epoxy. The floor is slightly sloped to a trench drain with a berm located at the upper portion of the storage area. (Ref. 4)

The outdoor operations are conducted within a secondary containment/diversion system consisting of outdoor storage bays and storage pads, trench drains, curbing and a containment basin. The entire system is constructed of steel reinforced concrete. Each containment area is sloped to a trench drain with either a berm or curb at the upper portion of the storage area. All trench drains discharge to a concrete containment basin at the northeast side of the facility. Each trench drain has a control valve that can be closed in the event of a spill or discharge, thereby reducing the risk of spreading the contaminants to other containment areas. All trench drains remain open and thus the trench drains and the containment basin are one continuous secondary containment system with a total capacity of 44,887 gallons. (Ref. 4)

The valve controlling the containment basin remains closed at all times. Stormwater that comes in contact with the active portion of the facility is collected via the trench drains into the containment basin. The stormwater is discharged in accordance with a New Jersey Pollutant Discharge Elimination System

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<sup>1</sup> “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

(NJPDES) permit after documenting that there is no visible sheen on the collected water, and that there have been no reported spills into the containment system. (Ref. 4)

The concrete containment pad, trench drains and concrete containment basin are inspected daily for cracks or other type of failure. If cracks are noted they are filled and sealed to ensure secondary containment is maintained. In the event that hazardous materials are discharged to the containment areas, the areas are required to be properly cleaned and decontaminated. All materials generated from this activity are required to be handled and disposed in accordance with all applicable regulations and requirements. (Ref. 4)

The facility is inspected daily by facility personnel to ensure that there are no leaking containers, that containers are in good condition and that aisle space between stored containers is adequate. (Ref. 4) There have been no significant leaks, spills or discharge events from hazardous waste operations at the facility. (Ref. 5)

Removal of the two fuel oil underground storage tanks referenced in Question number 1 was completed on August 25 and 26, 1998. The facility certified to NJDEP that the tanks were removed. (Ref. 6) Tank piping was drained, product was removed from the tanks using a vacuum truck and the tanks were cleaned of surficial residue. Five 55 gallon drums of number 2 heating oil and one 55 gallon drum and 1-cubic yard box of oily debris were removed from the tanks and disposed of properly. (Ref. 7)

The underground tanks were uncovered using an excavator, pipes were disconnected from the top of the tanks and the tanks were lifted from the excavations and rendered inoperable by cutting a two-foot hole in one end. The tanks were shipped off-site for recycling. Inspections of the tanks and excavations revealed no corrosion holes in the tanks, no visual or olfactory evidence of contamination and PID readings indicated no measurable volatile organic vapors in the excavations. (Ref. 7)

Fourteen soil samples were collected from the tank excavations and submitted to a certified laboratory for analysis. The samples were collected to assess the condition of the soil surrounding the tanks. Analytical results of the soil samples showed detectable concentrations of TPHCs in three of the samples, at 33.2 mg/kg, 80.5 mg/kg and 124 mg/kg, at depths of 7.5 feet, 11 feet and 11 feet below ground surface, respectively. The concentrations did not exceed NJDEP standards and no further action was required for the closure of the tanks. (Ref. 7) On January 20, 1999, NJDEP acknowledged the completion of the site investigation and determined that no further action was necessary for the remediation of the underground storage tanks. (Ref. 8)

Based on the above and confirmed by NJDEP, waste related contaminants did not migrate into groundwater and therefore, groundwater under the facility is not suspected to be contaminated above allowable limits. (Ref. 5)

### **References:**

1. EPA HSWA Permit for Advanced Environmental Technology Corporation, dated August 31, 1988.
2. NJDEP Hazardous Waste Facility Permit for Advanced Environmental Technology Corporation, dated June 30, 1988.
3. NJDEP Hazardous Waste Facility Permit for Veolia ES Technical Solutions, LLC, dated November 22, 2006.
4. Permit Renewal Application for Onyx Environmental Services, LLC, prepared by Onyx, September 2003.
5. E-mail from Zafar Billah, NJDEP, to Barry Tornick, EPA, regarding AETS/Veolia/Onyx, dated September 11, 2009.
6. Underground Storage Tank Facility Certification Questionnaire, dated September 8, 1998.
7. Tank Closure and Remedial Investigation Report, AETS, 1 Eden Lane, prepared by Vectre Corporation, dated September 1998.

8. Letter from Vincent Krisak, NJDEP, to James Bell, AETS, regarding Area of Concern, dated January 20, 1999.

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”<sup>2</sup> as defined by the monitoring locations designated at the time of this determination)?

\_\_\_ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”<sup>2</sup>.

\_\_\_ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the “existing area of groundwater contamination”<sup>2</sup>) - skip to #8 and enter “NO” status code, after providing an explanation.

\_\_\_ If unknown - skip to #8 and enter “IN” status code.

**Rationale:**

See response to Question #2, which specifies skipping to Question #8 for completion of the EI documentation.

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<sup>2</sup> “Existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.



4. Does “contaminated” groundwater **discharge** into **surface water** bodies?

\_\_\_ If yes - continue after identifying potentially affected surface water bodies.

\_\_\_ If no - skip to #7 (and enter a “YE” status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater “contamination” does not enter surface water bodies.

\_\_\_ If unknown - skip to #8 and enter “IN” status code.

**Rationale:**

See response to Question #2, which specifies skipping to Question #8 for completion of the EI documentation.

5. Is the **discharge** of “contaminated” groundwater into surface water likely to be “**insignificant**” (i.e., the maximum concentration<sup>3</sup> of each contaminant discharging into surface water is less than 10 times their appropriate groundwater “level,” and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or ecosystems at these concentrations)?

\_\_\_\_\_ If yes - skip to #7 (and enter “YE” status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration<sup>3</sup> of key contaminants discharged above their groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgment/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or ecosystem.

\_\_\_\_\_ If no - (the discharge of “contaminated” groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration<sup>3</sup> of each contaminant discharged above its groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations<sup>3</sup> greater than 100 times their appropriate groundwater “levels,” the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

\_\_\_\_\_ If unknown - enter “IN” status code in #8.

**Rationale:**

See response to Question #2, which specifies skipping to Question #8 for completion of the EI documentation.

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<sup>3</sup> As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

6. Can the **discharge** of “contaminated” groundwater into surface water be shown to be “**currently acceptable**” (i.e., not cause impacts to surface water, sediments or ecosystems that should not be allowed to continue until a final remedy decision can be made and implemented<sup>4</sup>)?

\_\_\_ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site’s surface water, sediments, and ecosystems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment<sup>5</sup>, appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialist, including an ecologist) adequately protective of receiving surface water, sediments, and ecosystems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment “levels,” as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

\_\_\_ If no - (the discharge of “contaminated” groundwater can not be shown to be “**currently acceptable**”) - skip to #8 and enter “NO” status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or ecosystem.

\_\_\_ If unknown - skip to 8 and enter “IN” status code.

**Rationale:**

See response to Question #2, which specifies skipping to Question #8 for completion of the EI documentation.

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<sup>4</sup> Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, an appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

<sup>5</sup> The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field, and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments, or ecosystems.

7. Will groundwater **monitoring**/measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the “existing area of contaminated groundwater?”

\_\_\_ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the “existing area of groundwater contamination.”

\_\_\_ If no - enter “NO” status code in #8.

\_\_\_ If unknown - enter “IN” status code in #8.

**Rationale:**

See response to Question #2, which specifies skipping to Question #8 for completion of the EI documentation.

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control."

NO - Unacceptable migration of contaminated groundwater is observed or expected.

IN - More information is needed to make a determination as to whether migration of "contaminated" groundwater is under control at the Veolia ES Technical Solutions, LLC facility, EPA ID Number NJD980536593, located on Eden Lane in Flanders, Mount Olive Township, Morris County, New Jersey. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

**Completed by:** \_\_\_\_\_ Date: \_\_\_\_\_  
Alan Straus, Project Manager  
RCRA Programs Branch  
EPA Region 2

**Reviewed by:** \_\_\_\_\_ Date: \_\_\_\_\_  
Barry Tornick, New Jersey Section Chief  
RCRA Programs Branch  
EPA Region 2

**Approved by:** Original signed by: Date: December 7, 2009  
Adolph Everett, Chief  
RCRA Programs Branch  
EPA Region 2

**Locations where references may be found:**

References reviewed to prepare this EI determination are identified after each response. Reference materials are available at the U.S. EPA Region 2, RCRA Records Center, located at 290 Broadway, 15<sup>th</sup> Floor, New York, New York, and the New Jersey Department of Environmental Protection (NJDEP) Office located at 401 East State Street, Records Center, 6<sup>th</sup> Floor, Trenton, New Jersey 08625. The NJDEP makes available its public records through formal request under the Open Public Records Act (OPRA).

**Contact telephone number and e-mail:** Alan Straus  
(212) 637-4160  
[straus.alan@epa.gov](mailto:straus.alan@epa.gov)

## **Attachments**

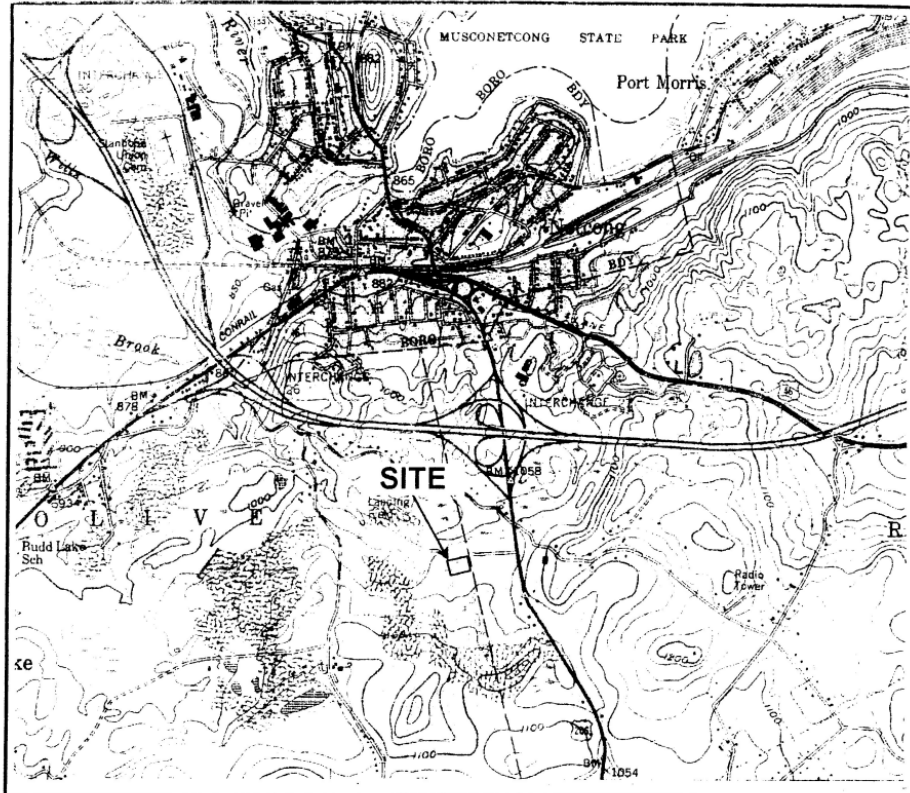
The following attachments have been provided to support this EI determination.

Attachment 1 - A site location map of Veolia ES Technical Solutions, LLC, located on Eden Lane in Flanders, Mount Olive Township, Morris County, New Jersey.

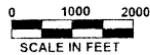
Attachment 2 - Facility map (Site Plan) of Veolia ES Technical Solutions, LLC showing the former locations of the underground storage tanks.

### Attachment 1

Site location map of Veolia ES Technical Solutions, LLC, located on Eden Lane in Flanders, Mount Olive Township, Morris County, New Jersey



SOURCE: U S G S Stanhope, N.J.  
7.5 Minute Quadrangle



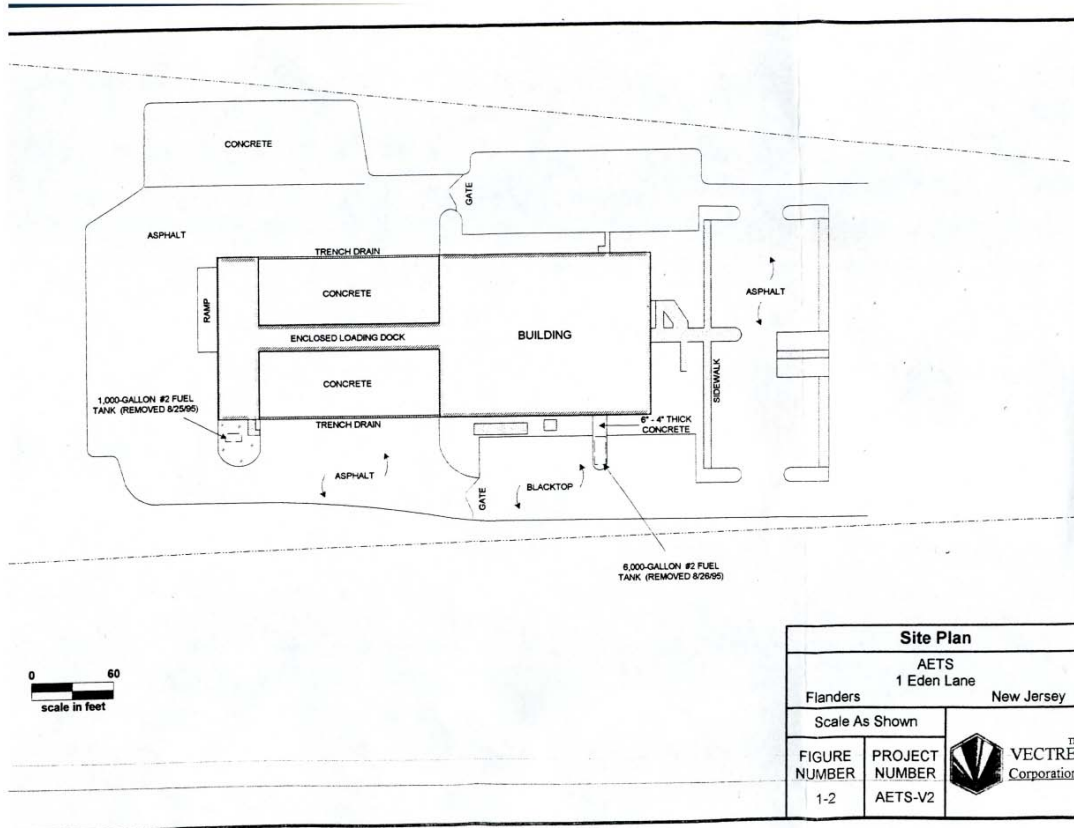
Site Location Map	
AETS, Inc. 1 Eden Place	
Flanders	New Jersey
Scale as Shown	
FIGURE NUMBER	PROJECT NUMBER
1-1	AETS-V2





### Attachment 2

Facility map (Site Plan) of Veolia ES Technical Solutions, LLC showing the showing the former locations of the underground storage tanks.



Site Plan	
AETS 1 Eden Lane	
Flanders	New Jersey
Scale As Shown	
FIGURE NUMBER	PROJECT NUMBER
1-2	AETS-V2
