

Case Name: Stern Tower  
PI #: 017205

**IMPORTANT:** 1) Do not delete or copy and paste across multiple columns because it can disrupt hidden equations.  
2) If pasting from a Word document, use the Paste option: **Match Destination Formatting**  
3) If the text turns **red** you have exceeded the character limit for that column

Case Inventory Document Version 1.4 02/23/17

AOC ID	AOC Type	AOC Description	Confirmed Contamination	AOC Status	Status Date	Incident #	DEP AOC Number	Contaminated Media	Contaminants of Concern	Additional Contaminants of Concern	Additional Contaminants of Concern	Applicable Remediation Standard	Exposure Route	Additional Exposure Route	RA Type	Additional RA Type	Additional RA Type	Was an Order of Magnitude Evaluation Conducted?	Activity
1-A	Storage tank and appurtenance - Unregulated underground storage tank	7500-gallon heating fuel oil UST	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							SI samples for soil and GW were collected at former tank location, no contaminants were detected above the SRS. No further investigation is recommended.
1-B	Storage tank and appurtenance - Unregulated underground storage tank	55-gallon gasoline UST, removed 1987	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							SI samples for soil and GW were collected at former tank location, no contaminants were detected above the SRS. No further investigation is recommended.
1-C	Storage tank and appurtenance - Unregulated underground storage tank	550-gallon diesel fuel UST	Yes	RAO-A (Unrestricted Use)	1/31/2018	17-09-20-1649-01		Soil	EPH + PAHs			Remediation Standards	Ingestion/Dermal		Excavation				Soil contamination was identified and delineated during SI, tank and impacted soils were removed on 11/21/17. Post-excavation samples were non-detect for targeted compounds, no further remediation is required.
1-D	Storage tank and appurtenance - Unregulated underground storage tank	8,000-gallon heating fuel oil	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							SI samples were collected around the UST for soils and one sample was collected for groundwater analyses. No contaminants were detected above the SRS. Tank was removed on 11/21/17, no evidence of a discharge was identified below the UST and no holes were observed in the UST. Building Code Official issued approval. No further investigation is recommended.
2	Storage tank and appurtenance - Above ground storage tank	Generator Diesel AST	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							Fitting on interior "day tank" within the generator was leaking, the leak was repaired, no evidence of a discharge to the soil adjacent to the concrete slab was apparent. No further investigation was recommended in the PA. Subsequently, the "day tank" was removed when the UST was replaced with an AST.
3	Storage and staging area - Dumpster	Solid Waste and Recycling Dumpsters	No	RAO-A (Restricted Use)	1/31/2018	NA		None				Remediation Standards							PA identified a Dumpster Storage area, no stoage of hazardous subстансe and no discharge to the environment were apparent. No further investigation was recommended in the PA.
4	Drainage system and area - Building floor drain and piping	Interior floor drains at bathrooms and kitchen	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							No further investigation was recommended in the PA.
5	Drainage system and area - Storm sewer collection system	Inlets	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							No further investigation was recommended in the PA.
6	Drainage system and area - Surface water body	Heards Brook formerly routed through Site	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							The PA indicates that Heards Brook was filled and relocated off-site in the 1920's, no further investigation was recommended in the PA for the Surface Water Body.
7	Discharge and disposal area - Incinerator	Incinerator at boiler room-not in use	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							The PA identified a former incinerator at the boiler room, no discharge to the environment was identified, the proper disposal of the incinerator should be included in the future demolition plans. No further investigation was recommended in the PA.
8	Discharge and disposal area - Historic fill material area/other fill area	fill material at Site per 1962 boring logs	Yes	SI	1/31/2018	NA		Soil	EPH + BN	Metals		Remediation Standards	Ingestion/Dermal						Soil impacts related to historic fill were identified during the SI, in some locations the fill intersects GW interface. Historic fill will be remediated during the redelopment of the site.
9	Other areas of concern - Electrical transformer and capacitor	interior dry type transformers	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							The PA identified Dry Type Transformers within the building, No further investigation was recommended in the PA.
10	Other areas of concern - Any area suspected of containing contaminants	Former Auto Storage and Repair	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							The PA identified an area in the western portion of the site the was previously used for on and off-Site auto storage, 2 soil borings were advanced along the property line in the area. The samples were analyzed for Cat. 2 EPH and Full TAL/TCL+30. Aluminum, manganese, beryllium and mercury were detected in excess of the DIGWSSL. These compounds were detected in additional soil samples collected throughout the site for the investigation of Historic Fill and are not attributed to AOC-10. No further investigaiton is recommended for AOC-10.
1-E	Storage tank and appurtenance - Unregulated underground storage tank	Potential USTs at Former Structures	No	RAO-A (Unrestricted Use)	1/31/2018	NA		None				Remediation Standards							Former structures were noted in the PA with the potential of having undocumented USTs. A geophysical survey was performed of the entire site, no anomalies indicative of a UST were identified. No further investigation is recommended.
11	Other areas of concern - Other discharge area	Petroleum Impacted Soils at B-18	Yes	RAO-A (Unrestricted Use)	12/18/2019	17-09-20-1649-01		Soil	EPH + BN			Remediation Standards	Ingestion/Dermal		Excavation				Petroleum impacted soils were encountered during the investigation of Historic Fill in soil boring B-18. A remedial investigation and remedial action were performed at that location. During the RI stained soils and a heating oil odor were encountered. A groundwater sample (TW-1) was collected and analyzed for TCL VO+15 and TCL BN+15. No targeted or non-targeted compounds were detected therefore no further groundwater investigation is warrented. Excavation was completed for the removal of 44.17 tons of impacted soils, post excavation sample analysis did not reveal the presence of EPH, naphthalene or 2-methylnaphthalene in excess of the most stringent standard. No further action is required for the issuance of an unrestricted use AOC specific RAO.



**New Jersey Department of Environmental Protection**  
Site Remediation and Waste Management Program

**COVER/CERTIFICATION FORM**

(Submit with Remedial Phase Report, Receptor Evaluation, and CEA Forms)

Date Stamp  
(For Department use only)

**SECTION A. SITE INFORMATION**

Site Name: \_\_\_\_\_

AKAs: \_\_\_\_\_

Street Address: \_\_\_\_\_

Municipality: \_\_\_\_\_ (Township, Borough or City)

County: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Program Interest (PI) Number(s): \_\_\_\_\_

Case Tracking Number(s) for this submission: \_\_\_\_\_

Date Remediation Initiated Pursuant to N.J.A.C. 7:26C-2: \_\_\_\_\_

State Plane Coordinates for a central location at the site: Easting: \_\_\_\_\_ Northing: \_\_\_\_\_

List current Municipal Block and Lot Numbers of the Site:

Block # \_\_\_\_\_ Lot #(s) \_\_\_\_\_ Block # \_\_\_\_\_ Lot #(s) \_\_\_\_\_

Block # \_\_\_\_\_ Lot #(s) \_\_\_\_\_ Block # \_\_\_\_\_ Lot #(s) \_\_\_\_\_

Block # \_\_\_\_\_ Lot #(s) \_\_\_\_\_ Block # \_\_\_\_\_ Lot #(s) \_\_\_\_\_

Block # \_\_\_\_\_ Lot #(s) \_\_\_\_\_ Block # \_\_\_\_\_ Lot #(s) \_\_\_\_\_

**SECTION B. SUBMISSION STATUS**

1. Indicate how the Electronic Data Deliverable (EDD) for this submission is being provided to the NJDEP:

☐ Via Email at [srpedd@dep.nj.gov](mailto:srpedd@dep.nj.gov) (attach NJDEP confirmation email); or

☐ CD (attach to this submission)

☐ Not Applicable – No EDD

2. Complete the following Submission and Permit Status Table:

		Included in this Submission	Previously Submitted	Date of Submission	Date of Revised Submission	Date of Previous NJDEP Approval	Date of Document Withdrawal
<b>Remedial Phase Documents</b>	N/A						
Preliminary Assessment Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Site Investigation Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Remedial Investigation Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Remedial Action Work Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Remedial Action Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Response Action Outcome	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<b>Other Submissions</b>							
Alternative Soil Remediation Standard and/or Screening level Application Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Case Inventory Document		<input type="checkbox"/>					
Classification Exception Area / Well Restriction Area (CEA/WRA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Discharge to Ground Water Permit by Rule Authorization Request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

IEC Engineered System Response Action Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Immediate Environmental Concern Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
LNAPL Interim Remedial Measure Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Public Notification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Receptor Evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Technical Impracticability Determination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Vapor Concern Mitigation Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Permit Application – list:	<input type="checkbox"/>						
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				
Radionuclide Remedial Action Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Radionuclide Remedial Action Workplan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Radionuclide Remedial Investigation Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Radionuclide Remedial Investigation Workplan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

### SECTION C. SITE USE

#### Current Site Use: (check all that apply)

- ☐ Industrial      ☐ Agricultural  
☐ Residential      ☐ Park or recreational use  
☐ Commercial      ☐ Vacant  
☐ School or child care      ☐ Government  
☐ Other: \_\_\_\_\_

#### Intended Future Site Use, if known: (check all that apply)

- ☐ Industrial      ☐ Park or recreational use  
☐ Residential      ☐ Vacant  
☐ Commercial      ☐ Government  
☐ School or child care      ☐ Future site use unknown  
☐ Other: \_\_\_\_\_

### SECTION D. CASE TYPE: (check all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Administrative Consent Order (ACO)                      | <input type="checkbox"/> Landfill (SRP subject only)                          |
| <input type="checkbox"/> Brownfield Development Area (BDA)                       | <input type="checkbox"/> Regulated Underground Storage Tank (UST)             |
| <input type="checkbox"/> Child Care Facility                                     | <input type="checkbox"/> Remediation Agreement (RA)/Remediation Certification |
| <input type="checkbox"/> Chrome Site (Chromate chemical production waste)        | <input type="checkbox"/> School Development Authority (SDA)                   |
| <input type="checkbox"/> Coal Gas  | <input type="checkbox"/> School facility                                      |
| <input type="checkbox"/> Due Diligence with RAO                                  | <input type="checkbox"/> Spill Act Defense – Government Entity                |
| <input type="checkbox"/> Hazardous Discharge Remediation Fund (HDSRF) Grant/Loan | <input type="checkbox"/> Spill Act Discharge                                  |
| <input type="checkbox"/> ISRA  | <input type="checkbox"/> UST Grant/Loan                                       |
|  | <input type="checkbox"/> Other: _____   |

#### Federal Case (check all that apply)

- ☐ RCRA GPRA 2020      ☐ CERCLA/NPL      ☐ USDOD      ☐ USDOE

1. Is the party conducting remediation a government entity? ..... ☐ Yes    ☐ No  
 If "Yes," check one:    ☐ Federal    ☐ State    ☐ Municipal    ☐ County

### SECTION E. PUBLIC FUNDS

Did the remediation utilize public funds? ..... ☐ Yes    ☐ No

If "Yes," check applicable:

- |                                      |  |   |
|--------------------------------------|--|---|
| <input type="checkbox"/> UST Grant   | <input type="checkbox"/> UST Loan                      | <input type="checkbox"/> Brownfield Reimbursement Program   |
| <input type="checkbox"/> HDSRF Grant | <input type="checkbox"/> HDSRF Loan                    | <input type="checkbox"/> Landfill Reimbursement Program     |
| <input type="checkbox"/> Spill Fund  | <input type="checkbox"/> Schools Development Authority | <input type="checkbox"/> Environmental Infrastructure Trust |

## SECTION F. LICENSED SITE REMEDIATION PROFESSIONAL INFORMATION AND STATEMENT

LSRP ID Number: 628352

First Name: Jeffrey

Last Name: Kozic

Phone Numbers: (732) 676-1733

Ext.: \_\_\_\_\_

Fax: \_\_\_\_\_

Mailing Address: 11 Tindall Road

Municipality: Middletown

State: NJ

Zip Code: 07748

Email Address: jkozik@tandmassociates.com

This statement shall be signed by the LSRP who is submitting this notification in accordance with N.J.S.A. 58:10C-14, and N.J.S.A. 58:10B-1.3b(1) and (2).

- (1) I certify, as a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C-1 et seq. to conduct business in New Jersey, that for the remediation described in this submission, and all attachments included in this submission, I personally: Managed, supervised, or performed the remediation conducted at this site that is described in this submission, and all attachments included in this submission; and/or periodically reviewed and evaluated the work performed by other persons that forms the basis for the information in this submission; and/or completed the work of another site remediation professional, licensed or not, after having: (1) reviewed all available documentation on which I relied; (2) conducted a site visit and observed the then-current conditions and verified the status of as much of the work as was reasonably observable; and (3) concluded, in the exercise of my independent professional judgment, that there was sufficient information upon which to complete any additional phase of remediation and prepare workplans and reports related thereto.
- (2) I certify:
- That I have read this submission and all attachments to this submission;
  - That in performing the professional services as the licensed site remediation professional for the entire site or each area of concern, I adhered to the professional conduct standards and requirements governing licensed site remediation professionals provided in N.J.S.A. 58:10C-16;
  - That the remediation conducted at the entire site or each area of concern, that is described in this submission and all attachments to this submission, was conducted pursuant to and in compliance with the remediation requirements in N.J.S.A. 58:10C-14.c;
  - That the remediation described in this submission, and all attachments to this submission, was conducted pursuant to and in compliance with the regulations of the Site Remediation Professional Licensing Board at N.J.A.C. 7:26I; and
  - That the information contained in this submission and all attachments to this submission is true, accurate, and complete.
- (3) I certify, when this submission includes a response action outcome, that the entire site or each area of concern has been remediated in compliance with all applicable statutes, rules, and regulations and is protective of public health and safety and the environment.
- (4) I certify that no other person is authorized or able to use any password, encryption method, or electronic signature that the Board or the Department have provided to me.
- (5) I certify that I understand and acknowledge that:
- If I knowingly make a false statement, representation, or certification in any document or information I submit to the Department I may be subject to civil and administrative enforcement pursuant to N.J.S.A. 58:10C-17.a.1(a) through (f) by the Board, including but not limited to license suspension, revocation, or denial of renewal; and
  - If I purposely, knowingly, or recklessly make a false statement, representation, or certification in any application, form, record, document or other information submitted to the Department or required to be maintained pursuant to the Site Remediation Reform Act, I shall be guilty, upon conviction, of a crime of the third degree and shall, notwithstanding the provisions of subsection b. of N.J.S.2C:43-3, be subject to a fine of not less than \$5,000 nor more than \$75,000 per day of violation, or by imprisonment, or both.
- (6) I certify that I have read this certification prior to signing, certifying, and making this submission.

LSRP Signature: \_\_\_\_\_

Date: 1-15-20

LSRP Name: Jeffrey Kozic

Company Name: T&M Associates



**SECTION G. PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION**Full Legal Name of the Person Responsible for Conducting the Remediation: Woodbridge Housing AuthorityRepresentative First Name: Donna Representative Last Name: BrightmanTitle: Executive DirectorPhone Number: (732) 726-1959 Ext.: \_\_\_\_\_ FAX: \_\_\_\_\_Mailing Address: 800b Bunns LaneMunicipality: Woodbridge State: NJ Zip code: 07095Email Address: donnabrightman@hotmail.com

This certification shall be signed by the person responsible for conducting the remediation who is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

*I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.*

Signature: \_\_\_\_\_ Date: 1-16-20Name/Title: Donna Brightman/Executive Director**For CEA Submissions:**

☐ Check this box if the person above is also the property owner of the site or their representative. If this person is not the site property owner, please ensure the site property owner's name and address is in the first line of the table in Section E.2 of the Classification Exception Area / Well Restriction Area (CEA/WRA) Fact Sheet Form.

Completed forms should be sent to:

Bureau of Case Assignment & Initial Notice  
Site Remediation Program  
NJ Department of Environmental Protection  
401-05H  
PO Box 420  
Trenton, NJ 08625-0420



New Jersey Department of Environmental Protection  
Site Remediation and Waste Management Program

**AUTHORIZATION TO SUBMIT A REMEDIAL PHASE REPORT  
THROUGH NJDEP ONLINE**

**[ Except Response Action Outcome (RAO) ]**

Date Stamp  
(For Department use only)

**SECTION A. SITE NAME AND LOCATION**

Site Name: Stern Tower  
Street Address: 55 Brook Street  
Municipality: Woodbridge (Township, Borough or City)  
County: Middlesex Zip Code: 07095  
Program Interest (PI) Number(s): 017205

**SECTION B. STATEMENT OF AUTHORIZATION TO SUBMIT THE REMEDIAL PHASE REPORT**

*I authorize the Licensed Site Remediation Professional, retained for this site pursuant to the Brownfield and Contaminated Site Remediation Act at N.J.S.A. 58:10B-1.3b, and named below to submit, as applicable, the remedial phase report listed below, updated Receptor Evaluation Form, and CEA/Well Restriction Fact Sheet Form, for the Program Interest Number noted above. I understand that I am assuming full responsibility that the information provided in the remedial phase report is true, accurate, and complete.*

**Name and Date of Remedial Phase Report:**

Site Investigation/Remedial Investigation/Remedial Action Report, January 2020

**Authorized Licensed Site Remediation Professional (LSRP)**

First Name: Jeffrey Last Name: Kozic  
LSRP License #: 628352

**SECTION C. CERTIFICATION BY THE PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION**

Full Name of Person Responsible for Conducting the Remediation: Woodbridge Housing Authority  
Representative First Name: Donna Representative Last Name: Brightman  
Mailing Address: 800b Bunns Lane  
Municipality: Woodbridge State: NJ Zip Code: 07095  
Telephone Number: (732) 726-1959 Ext.: \_\_\_\_\_ Fax: \_\_\_\_\_  
Email Address: donnabrightman@hotmail.com

This certification shall be signed by the person responsible for conducting the remediation who is submitting this Authorization and Report in accordance with the Administrative Requirements for the Remediation of Contaminated Sites at N.J.A.C. 7:26C-1.5(a).

*I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.*

Signature:  Date: 1-16-20  
Name/Title: Donna Brightman/Executive Director

Completed form should be uploaded to NJDEP Online.



New Jersey Department of Environmental Protection  
Site Remediation and Waste Management Program

RECEPTOR EVALUATION (RE) FORM

Date Stamp  
(For Department use only)

SECTION A. SITE

Site Name: \_\_\_\_\_

Program Interest (PI) Number(s): \_\_\_\_\_

Communication Center Number(s) and/or ISRA number(s) for this submission: (as many as will fit in the space provided)

**This form must be attached to the Cover/Certification Form  
if not submitted through a Remedial Phase Online Service**

Indicate the type of submission:

☐ Initial RE Submission

☐ Updated RE Submission

Indicate the reason for submission of an updated RE form

☐ Submission of an Immediate Environmental Concern (IEC) source control report;

☐ Submission of a Remedial Investigation Report;

☐ Submission of a Remedial Action Report;

Check if included in updated RE

☐ The known concentration or extent of contamination in any medium has increased;

☐ A new AOC has been identified;

☐ A new receptor is identified;

☐ A new exposure pathway has been identified.

SECTION B. ON SITE AND SURROUNDING PROPERTY USE

1. Identify any sensitive populations/uses that are currently on-site or surrounding property usage within 200 feet of the site property boundary (check all that apply):

	On-site	Off-site
None of the following .....	<input type="checkbox"/>	<input type="checkbox"/>
Residences or residential property .....	<input type="checkbox"/>	<input type="checkbox"/>
Public or Private Schools Grades K-12 .....	<input type="checkbox"/>	<input type="checkbox"/>
Child care centers .....	<input type="checkbox"/>	<input type="checkbox"/>
Public parks, playgrounds or other recreation areas .....	<input type="checkbox"/>	<input type="checkbox"/>
Other sensitive population use(s) Explain .....	<input type="checkbox"/>	<input type="checkbox"/>

If any of the above applies, attach a list of addresses, facility names, type of use, and a map depicting each location relative to the site.

2. Current site uses (check all that apply):

☐ Industrial

☐ Residential

☐ Commercial

☐ School or child care

☐ Government

☐ Park or recreational use

☐ Vacant

☐ Agricultural

☐ Other: \_\_\_\_\_

3. Planned future on-site uses and off-site uses within 200 feet of the site boundary (check all that apply):

On-Site Off-Site

On-Site Off-Site

On-Site Off-Site

☐ ☐ Industrial

☐ ☐ Residential

☐ ☐ Commercial

☐ ☐ School or child care

☐ ☐ Government

☐ ☐ Park or recreational use

☐ ☐ Vacant

☐ ☐ Agricultural

☐ ☐ Other: \_\_\_\_\_

Provide a map depicting the location of the proposed changes in land use.

## SECTION C. DESCRIPTION OF CONTAMINATION

1. Identify if any of the following exist at the site:

**Yes No**

☐ ☐ Free product [N.J.A.C. 7:26E-1.8] identified is ☐ LNAPL\* or ☐ DNAPL\*\*.

Date identified: \_\_\_\_\_

☐ ☐ Residual product [N.J.A.C. 7:26E-1.8]

☐ ☐ Other primary source materials not identified above (e.g., buried drums, containers, unsecured friable asbestos). See form instructions for additional information.

Explain: \_\_\_\_\_

\* LNAPL – measured thickness of .01 feet or more

\*\*DNAPL – See *Ground Water Technical Guidance and USEPA Assessment and Delineation of DNAPL Source Zones at Hazardous Waste Sites* (attached as Appendix A of the NJDEP GW Guidance) available at: [http://www.nj.gov/dep/srp/guidance/#pa\\_si\\_ri\\_gw](http://www.nj.gov/dep/srp/guidance/#pa_si_ri_gw). Also, see US EPA DNAPL Overview available at: [http://clu.in.org/contaminantfocus/default.focus/sec/Dense\\_Nonaqueous\\_Phase\\_Liquids\\_\(DNAPLS\)/cat/Overview](http://clu.in.org/contaminantfocus/default.focus/sec/Dense_Nonaqueous_Phase_Liquids_(DNAPLS)/cat/Overview)

2. Soil Migration Pathway

Has soil contamination been delineated to the applicable Direct Contact Soil

Remediation Standard pursuant to N.J.A.C. 7:26E-4.2? ..... ☐ Yes ☐ No

Are all soils either below the applicable Direct Contact Criteria or under an institutional control (i.e. deed notice)? ..... ☐ Yes ☐ No

3. If this evaluation is submitted with a technical document that includes contaminant summary information, proceed to Section D. Otherwise, attach a brief summary of all currently available data and information to be included in the site investigation or remedial investigation report.

## SECTION D. GROUND WATER USE

1. Have all potentially contaminated areas of concern been evaluated to determine if there is a potential that ground water is contaminated pursuant to N.J.A.C. 7:26E-3.5? ..... ☐ Yes ☐ No

If “No,” proceed to Section E.

2. Is a ground water investigation required? ..... ☐ Yes ☐ No

If “No,” proceed to Section E.

3. Has a groundwater investigation been conducted? ..... ☐ Yes ☐ No

If “Yes”:

Has the laboratory data package been received? ..... ☐ Yes ☐ No

If the laboratory data package has not been received, provide the expected due date for data: \_\_\_\_\_ and proceed to Section E.

If “No”:

Proceed to Section E.

4. Is ground water contaminated above the Ground Water Remediation Standards [N.J.A.C. 7:9C]? ..... ☐ Yes ☐ No

If “Yes”: Provide the date that the laboratory data package was available and confirmed contamination was identified above the Ground Water Remediation Standards. Date: \_\_\_\_\_

If “No”: Proceed to Section E.

5. Has ground water contamination been delineated to the applicable Remediation Standard pursuant to N.J.A.C. 7:26E-4.3? ..... ☐ Yes ☐ No

6. What is the ground water classification for this site as per N.J.A.C. 7:9C? (check all that apply)

☐ Class I-A ☐ Class II-A  
☐ Class I-PL Pinelands Protection Area ☐ Class III-A  
☐ Class I-PL Pinelands Preservation Area ☐ Class III-B



7. Has a well search been completed? ..... ☐ Yes ☐ No

Date of most recent or updated well search: \_\_\_\_\_

8. Is a completed Well Search Spreadsheet or historical well search table attached and has an electronic copy of the spreadsheet been submitted to [srpgis\\_wrs@dep.nj.gov](mailto:srpgis_wrs@dep.nj.gov). .... ☐ Yes ☐ No

**Note: Redacted wells must be excluded from all non-confidential documents including maps, tables, etc. (see RE Instructions).**

If "No," explain: \_\_\_\_\_

9. Are any potable or irrigation wells located within ½ mile of the currently known extent of contamination? ..... ☐ Yes ☐ No

If "Yes,":

- A door to door survey is required in accordance with [N.J.A.C.7:26E-1.14(a)ii]. Attach results of the door to door survey.
- Identify if any of the following conditions exist based on the well search and door to door survey [N.J.A.C.7:26E-1.14(a)]:

**Yes No**

- |                          |                          |   |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Potable wells located within 500 feet from the downgradient edge of the currently known extent of contamination.    |
| <input type="checkbox"/> | <input type="checkbox"/> | Potable wells located 250 feet upgradient or 500 feet side gradient of the currently known extent of contamination. |
| <input type="checkbox"/> | <input type="checkbox"/> | Ground water contamination from the discharge is located within a Tier 1 wellhead protection area (WHPA).           |

10. Has sampling been conducted of ☐ potable well(s) and /or ☐ non-potable use well(s)? ..... ☐ Yes ☐ No

If "No," provide justification then proceed to Question 12.

11. Has contamination been identified in potable well(s), **not attributed to background conditions**, above the Class II Ground Water Remediation Standards or State Safe Drinking Water levels, N.J.A.C 7:1E, whichever is applicable? ..... ☐ Yes ☐ No

If "Yes":

- Provide the date laboratory data package was received: \_\_\_\_\_
- Follow the **IEC** Guidance Document at <http://www.nj.gov/dep/srp/guidance/IEC/index.html> for required actions and answer the following:
- Has an engineered system response action been completed on all impacted receptors? ..... ☐ Yes ☐ No  
Provide a brief narrative description:

Date completed: \_\_\_\_\_ NJDEP Case Manager: \_\_\_\_\_

12. Has contamination been identified in non-potable well(s), **not attributed to background conditions**, above the Class II Ground Water Remediation Standards? ..... ☐ Yes ☐ No

If "Yes," provide the date laboratory data package was received: \_\_\_\_\_

13. Has the ground water use evaluation been completed pursuant to N.J.A.C. 7:26E-1.14? ..... ☐ Yes ☐ No

## SECTION E. VAPOR INTRUSION (VI)

1. Indicate if any of the following conditions exist that trigger a Vapor Intrusion investigation. For each condition checked "Yes", provide the date the condition was first identified (e.g. date laboratory data package was available). (see NJDEP Vapor Intrusion Technical Guidance)

Yes	No		Date Condition First Identified
<input type="checkbox"/>	<input type="checkbox"/>	Ground water contamination in excess of the NJDEP Vapor Intrusion Ground Water Screening Levels (VIGWSL) and within 30 feet of a building for Petroleum Hydrocarbon Compounds (PHC) or 100 feet for non-PHC compounds ..	
<input type="checkbox"/>	<input type="checkbox"/>	Free product within 30 feet of a building for PHC or 100 feet for non-PHC compounds ..	
<input type="checkbox"/>	<input type="checkbox"/>	Soil gas contamination detected at concentrations that exceed the Soil Gas Screening Levels (SGSL) ..	
<input type="checkbox"/>	<input type="checkbox"/>	Indoor air contamination that exceeds the Indoor Air Screening Levels.....	
<input type="checkbox"/>	<input type="checkbox"/>	Wet basement or sump containing free product or ground water containing detectable concentration of volatile organic contaminants ..	
<input type="checkbox"/>	<input type="checkbox"/>	Methane generating conditions causing oxygen deficient or explosion concern ..	
<input type="checkbox"/>	<input type="checkbox"/>	Other human or safety concern from the VI pathway (i.e. elemental mercury, unsaturated soil contamination), <i>explain below:</i> ..	

If you checked "No" to all boxes in Question 1., proceed to Section F, "Ecological Receptors", otherwise complete the rest of this section.

2. Has ground water contamination been delineated to the applicable Vapor Intrusion Ground Water Screening Levels pursuant to N.J.A.C 7:26E-4.3? ..... ☐ Yes ☐ No
3. Was a site-specific screening level, modeling or other alternative approach employed for the VI pathway? ..... ☐ Yes ☐ No
4. Identify and locate, on a scaled map, any buildings/sensitive populations that exist within the following distances from ground water contaminant concentrations above the Vapor Intrusion Ground Water Screening Levels or other specific triggers noted in Question 1 above.:
- | Yes                      | No                       |   |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 30 feet of petroleum free product or dissolved petroleum hydrocarbon contamination in ground water  |
| <input type="checkbox"/> | <input type="checkbox"/> | 100 feet of any non-petroleum free product (e.g. chlorinated hydrocarbons) or any non-petroleum dissolved volatile organic ground water contamination |
| <input type="checkbox"/> | <input type="checkbox"/> | Other specific triggers   |
| <input type="checkbox"/> | <input type="checkbox"/> | No buildings exist within the specified distances or other specific triggers  |
5. Is the vapor intrusion pathway a concern at or adjacent to the site? (if "No," attach justification)..... ☐ Yes ☐ No
6. Has soil gas sampling of the building(s) been conducted? ..... ☐ Yes ☐ No
- If "Yes," has the laboratory data package been received? ..... ☐ Yes ☐ No
- If the data package was received, did constituents exceed the Soil Gas Screening Levels? ..... ☐ Yes ☐ No
- If "No," attach technical justification consistent with the NJDEP Vapor Intrusion Technical Guidance.
7. Has indoor air sampling been conducted at the identified building(s)? ..... ☐ Yes ☐ No
- If "Yes," has the laboratory data package been received? ..... ☐ Yes ☐ No
- If the data package has been received, did constituents exceed the Indoor Air Screening Levels? .. ☐ Yes ☐ No
- If "No," or awaiting indoor air laboratory data package, proceed to Question 12.

8. Has indoor air contamination been identified but not suspected to be from a discharge?  
(if "Yes," attach justification) ..... ☐ Yes ☐ No
9. Were indoor air results above the NJDEP's Rapid Action Levels? ..... ☐ Yes ☐ No
- If "Yes":
- Provide the date laboratory data package was received: \_\_\_\_\_
  - Follow the IEC Guidance Document at <http://www.nj.gov/dep/srp/guidance/index.html#iec> for required actions and answer the following:
  - Was the IEC engineering system response for control implemented for all impacted structures? ..... ☐ Yes ☐ No
- Date implemented: \_\_\_\_\_ NJDEP Case Manager: \_\_\_\_\_
10. Were the results of indoor air sampling above the NJDEP's Indoor Air Screening Levels but at, or below, the Rapid Action Levels ..... ☐ Yes ☐ No
- If "Yes," answer the following:
- Provide the date laboratory data package was received: \_\_\_\_\_
  - Has the Vapor Concern (VC) Response Action Form notifying the NJDEP of the exceedances been submitted? ..... ☐ Yes ☐ No
- Date: \_\_\_\_\_
- Has a plan to mitigate and monitor the exposure been submitted? ..... ☐ Yes ☐ No
- Date: \_\_\_\_\_
- Has the Mitigation Response Action Report been submitted? ..... ☐ Yes ☐ No
- Date: \_\_\_\_\_
11. Do one or more buildings have an Indeterminate VI Pathway status? ..... ☐ Yes ☐ No
- If "Yes," attach a list of the building(s) with address(s) and block/lot(s)
12. Has the vapor intrusion investigation been completed? ..... ☐ Yes ☐ No
- If "No", is the vapor intrusion investigation stepping out as part of the site investigation or remedial investigation. (If "No," attach justification) ..... ☐ Yes ☐ No

## SECTION F. ECOLOGICAL RECEPTORS

1. Has an Ecological Evaluation (EE) been conducted? [N.J.A.C. 7:26E-1.16] ..... ☐ Yes ☐ No
- Date conducted: \_\_\_\_\_
2. Are any site-related contaminants above any Ecological Screening Criteria? ..... ☐ Yes ☐ No
3. Are there any Environmentally Sensitive Natural Resources (ESNRs) on or adjacent to the site, or potentially impacted by site related contamination? [N.J.A.C. 7:26E-1.16] ..... ☐ Yes ☐ No
4. Do any potential or complete migration pathways exist between Contaminant of Potential Ecological Concern (COPECs) and ESNRs, or did historic migration pathways exist? ..... ☐ Yes ☐ No

If You answered "No" to Questions 2, 3, or 4, above **Stop Here** (form is complete).

5. If site-related free or residual product is/was present, does/did a potential or complete migration pathway exist to an ESNR? ..... ☐ Yes ☐ No
6. Do the results of an EE trigger a remedial investigation of ecological receptors? [N.J.A.C. 7:26E-4.8] ..... ☐ Yes ☐ No
- If "Yes", has a remedial investigation of ecological receptors been conducted? ..... ☐ Yes ☐ No
- Date conducted: \_\_\_\_\_

7. Do available data indicate an impact (COPECs above Ecological Screening Criteria in ESNRs) to Ecological Receptor(s), Surface water, or Sediment? ..... ☐ Yes ☐ No

If "Yes,"

- a) Check all ESNRs or media that apply:

☐ Surface water ☐ Sediment ☐ Soil ☐ Wetlands

- b) If this information is not submitted with an ecological evaluation that includes contaminant summary information, attach a brief summary of all currently available data and a description of all actions to be taken to mitigate exposure.

8. Have COPECs been fully delineated to the Ecological Screening Criteria [N.J.A.C. 7:26E-4.8(a)] in:

a) Migration pathways ..... ☐ Yes ☐ No

b) ESNR ..... ☐ Yes ☐ No

9. Has an Ecological Risk Assessment been conducted? ..... ☐ Yes ☐ No

10. Provide the following information for any on-site and/or off-site surface water body, which is potentially impacted by the site related discharges:

Surface Water Body Name	Stream Classification	Antidegradation Designation	Trout Production	Trout Maintenance
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

11. Has a Program Interest (PI) or Permit number been issued for any regulated areas by the Division of Land Use Regulation? (e.g. wetlands, transition areas, flood hazard areas, coastal areas, tidelands, etc.). ..... ☐ Yes ☐ No

If "Yes,":

Identify the type(s) of regulated areas: \_\_\_\_\_

Provide the Land Use Regulation Program (LURP) PI or Permit number(s) for the site:

\_\_\_\_\_

12. Are there any **pending** applications for LURP jurisdiction letters or approvals under review by the NJDEP for the remediation? ..... ☐ Yes ☐ No

13. Are there any **valid** LURP jurisdiction letters or approvals issued for the remediation? ..... ☐ Yes ☐ No

Completed forms should be sent to the municipal clerk, designate health department, and:

Bureau of Case Assignment & Initial Notice  
Site Remediation Program  
NJ Department of Environmental Protection  
401-05H  
PO Box 420  
Trenton, NJ 08625-0420





New Jersey Department of Environmental Protection  
Site Remediation Program

RESPONSE ACTION OUTCOME FORM

Date Stamp  
(For Department use only)

**Note:** The Case Inventory Document (CID) must be submitted in final form with all RAO submissions. The CID must identify all Areas of Concern (AOCs) associated with the RAO.

**SECTION A. SITE**

Site Name: \_\_\_\_\_

Program Interest (PI) Number(s): \_\_\_\_\_

Case Tracking Number(s) for this submission: \_\_\_\_\_

**This form must be attached to the Cover/Certification Form**

☐ **All Oversight Invoices and Annual Remediation Fees are Paid in Full.**

**SECTION B. SCOPE OF THE RESPONSE ACTION OUTCOME**

1. Indicate the extent of remediation covered by the Response Action Outcome.

Check only 1 box:

- ☐ Unrestricted RAO  
☐ Limited Restricted RAO  
☐ Restricted RAO

2. Check only 1 box:

- ☐ Area(s) of Concern Only  
☐ Entire Site  
☐ ISRA Subject Industrial Establishment (leasehold portion only)

3. Total number of contaminated AOCs associated with the case: \_\_\_\_\_

4. Total number of contaminated AOCs addressed in this submission: \_\_\_\_\_

5. Are there any outstanding contaminated AOCs associated with the case where an RAO has not been filed? ..... ☐ Yes ☐ No

6. Does this RAO address a discharge/release from a federally regulated UST? ..... ☐ Yes ☐ No

**SECTION C. RESPONSE ACTION OUTCOME PREPARATION CHECKS**

1. Was the RAO issued only to the "Person(s) that conducted the Remediation"? ..... ☐ Yes ☐ No
2. Does the language in the issued RAO document conform to the RAO shell document? ..... ☐ Yes ☐ No
3. Were all the applicable individuals/agencies noted in the shell document copied on the RAO? ..... ☐ Yes ☐ No
4. Are there electronic copies of all remediation related records included with this submission? ..... ☐ Yes ☐ No
5. Did the remedial action render the property unusable for future redevelopment or recreation use? ..... ☐ Yes ☐ No
6. Have any NJDEP-documented deficiencies been addressed in this or prior submission? ..... ☐ Yes ☐ No ☐ N/A

**SECTION D. RESPONSE ACTION OUTCOME NOTICES** (check all the apply and were used in the RAO document)

**1. General Notices**

- ☐ Well Decommissioning  
☐ Building Interiors Not Addressed (Non-Child Care)  
☐ Building Interiors Addressed

## 2. Contamination Remaining Onsite

- ☐ Regional Natural Background Levels (above Direct Contact Standards) of Materials in Soil
- ☐ Existing Classification Exception Area or Deed Notice from Prior Remediations
- ☐ Soils Only RAO when Ground Water Contamination remains from that Area(s) of Concern or Site
- ☐ Ground Water Contamination Not Yet investigated
- ☐ Ground Water Contamination Due to Regional Historic Fill
- ☐ Contamination Remaining Onsite Due to Off-site Contamination
- ☐ Known Onsite Contamination Source Not Yet Remediated
- ☐ Order of Magnitude Change to a Remediation Standard after approval of a Remedial Action Workplan
- ☐ Order of Magnitude Change to a Remediation Standard after Approval of a Final Remediation Document

## 3. ISRA Specific Notices

- ☐ ISRA Specific – RCRA Situations - Bureau of Case Assignment and Initial Notice Referral
- ☐ ISRA Specific – Multi-Tenant Situations - Bureau of Case Assignment and Initial Notice Referral
- ☐ ISRA Specific – Landfill Situations - Bureau of Case Assignment and Initial Notice Referral

## 4. Additions to Model Document

- ☐ In-Service Railroad Line, Spurs and Sidings Not Remediated
- ☐ Known Onsite Contamination Source Not Remediated - Historic Fill (RAO-A)
- ☐ Soil Contamination From an Off-Site Source Not Remediated- General
- ☐ Soil Contamination From an Off-Site Source Not Remediated - Diffuse Anthropogenic Pollution
- ☐ Naturally Occurring Levels of Constituents in Ground Water
- ☐ Historically Applied Pesticides not Addressed

## SECTION E. REMEDIATION FUNDING SOURCE

1. Has a Remediation Funding Source been posted for this site pursuant to N.J.A.C. 7:26C-5? .... ☐ Yes ☐ No

If "Yes, check a. or b. below as applicable:

- a. ☐ This RAO is for the entire site and serves as notice to the NJDEP to return the Remediation Funding Source posted for this site\*.
- b. ☐ This RAO is for an Area of Concern only and (check one below):
  - ☐ Serves as notice to the NJDEP to decrease the Remediation Funding Source posted for this site\*.
  - ☐ No adjustments to the Remediation Funding Source are requested at this time.

**Note:** If any box in a. or b. above identified with an asterisk (\*) is checked, be sure to include the completed "Remediation Cost Review and RFS-FA Form" available at <http://nj.gov/dep/srp/srra/forms>.



## State of New Jersey

PHILIP D. MURPHY  
Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
Site Remediation and Waste  
Management Program  
**BUREAU OF INSPECTION  
AND REVIEW**  
401 E. STATE STREET  
P.O.BOX 420  
MAIL CODE 401-05P

CATHERINE R. MCCABE  
Commissioner

SHEILA Y. OLIVER  
Lt. Governor

LSRP: Jeffrey Kozic  
jkozic@tandmassociates.com

January 20, 2020

Donna Brightman  
Executive Director  
Woodbridge Housing Authority  
800b  
Woodbridge Twp, NJ 07095  
Phone: (732) 726-1959  
Email: donnabrightman@hotmail.com

Donna Brightman  
Executive Director  
WOODBIDGE TWP HOUSING AUTH  
10 Bunns Lane  
Woodbridge Twp, NJ 07095  
Phone: (732) 634-2759  
Email: donnabrightman@hotmail.com

Re: Stern Towers  
55 BROOK ST  
Woodbridge Twp, Middlesex  
Case Tracking #: 166238  
SRP PI: 017205  
Activity Number Reference: LSD200002  
Submission Type: LSRP - RIR (Area of Concern)

Dear Jeffrey Kozic,

This letter serves to advise you that a Remedial Investigation Report submission has been received by the New Jersey Department of Environmental Protection (NJDEP) for Stern Towers.

On May 7, 2009, the Site Remediation Reform Act (SRRA) was enacted. SRRA establishes criteria for the licensing of site remediation professionals who will assure that contaminated sites are remediated in accordance with the Technical Requirements for Site Remediation, N.J.A.C. 7:26E. SRRA authorizes the NJDEP to establish mandatory timeframes for the completion of each phase of remediation. These timeframes, as well as other requirements of the act, have been codified in regulations that became effective November 4, 2009. The complete rule can be found at [www.state.nj.us/dep/srp/regs/arrcs/arrcs\\_rule.pdf](http://www.state.nj.us/dep/srp/regs/arrcs/arrcs_rule.pdf). N.J.A.C. 7:26C-2.4 identifies the requirements with which you must comply.

Per the NJDEP records, the following attachments have been associated with your submission:

ATTACHMENT TYPE	DESCRIPTION	FILE NAME	RECEIVED	DUE
Remedial Investigation Report (RIR)	Remedial Investigation Report (RIR)	2020-01-16_SI-RI-RAR_017205.pdf	01/20/2020	
EDD (Contaminant Results Data)	Electronic Data Deliverable (Contaminant Results Data, Zip)	EDD Submittal.zip	01/20/2020	
Receptor Evaluation (Updated)	Receptor Evaluation (Updated)	receptor_evaluation_report.pdf	01/20/2020	
Signed Affidavit	Authorization to Submit through NJDEP Online	authorization_online_form Signed.pdf	01/20/2020	

The table above displays attachments associated with your submittal. The NJDEP will proceed with its inspection of your submission at this time. You may view the status of your submission via the NJDEP DataMiner service, at <https://www13.state.nj.us/DataMiner>.

Sincerely,



Matthew Turner, Acting Bureau Chief  
BUREAU OF INSPECTION AND REVIEW



**LSRP - RIR (Area of Concern)**

**There are no additional hard copy submissions required at this time**

Per the NJDEP records, the following depicts the Areas of Concern associated with your case:

In Submission	NJDEP ID	AOC ID	AOC TYPE	DESCRIPTION	Confirmed Contamination	STATUS	DATE
X	16 63 39 9	1-A	Storage tank and appurtenance – Unreg Under ground storage tank	7500-gallon heating fuel oil UST	No	RAO-A (Unrestricted Use)	01/31/2018
X	16 63 40 0	1-B	Storage tank and appurtenance – Unreg Under ground storage tank	55-gallon gasoline UST, removed 1987	No	RAO-A (Unrestricted Use)	01/31/2018
X	16 63 40 1	1-C	Storage tank and appurtenance – Unreg Under ground storage tank	550-gallon diesel fuel UST	Yes	RAO-A (Unrestricted Use)	01/31/2018
X	16 63 40 2	1-D	Storage tank and appurtenance – Unreg Under ground storage tank	8,000-gallon heating fuel oil	No	RAO-A (Unrestricted Use)	01/31/2018
X	16 63 41 2	1-E	Storage tank and appurtenance – Unreg Under ground storage tank	Potential USTs at Former Structures	No	RAO-A (Unrestricted Use)	01/31/2018
X	16 63 41 1	10	Other areas of concern – Any area suspected of containing contaminats	Former Auto Storage and Repair	No	RAO-A (Unrestricted Use)	01/31/2018
X	16 63 41 3	11	Other areas of concern – Other discharge area	Petroleum Impacted Soils at B-18	Yes	RAO-A (Unrestricted Use)	12/18/2019
X	16 63 40 3	2	Storage tank and appurtenance – Above ground storage tank	Generator Diesel AST	No	RAO-A (Unrestricted Use)	01/31/2018
X	16 63 40 4	3	Storage and staging area – Dumpster	Solid Waste and Recycling Dumpsters	No	RAO-A (Restricted Use)	01/31/2018
X	16 63 40 5	4	Drainage system and area – Building floor drain and piping	Interior floor drains at bathrooms and kitchen	No	RAO-A (Unrestricted Use)	01/31/2018
X	16 63 40 6	5	Drainage system and area – Storm sewer collection system	Inlets	No	RAO-A (Unrestricted Use)	01/31/2018
X	16 63 40 7	6	Drainage system and area – Surface water body	Heards Brook formerly routed through Site	No	RAO-A (Unrestricted Use)	01/31/2018

X	16 63 40 8	7	Discharge and disposal area – Incinerator	Incinerator at boiler room-not in use	No	RAO-A (Unrestricted Use)	01/31/2018
X	16 63 40 9	8	Discharge and disposal area – Historic fill material area/other fill area	fill material at Site per 1962 boring logs	Yes	SI	01/31/2018
X	16 63 41 0	9	Other areas of concern – Electrical transformer and capacitor	interior dry type transformers	No	RAO-A (Unrestricted Use)	01/31/2018

Note: NJDEP recommends that you keep the NJDEP ID recorded in your Master Case Inventory Document Spreadsheet

**RESOLUTION**

**WHEREAS**, the Municipal Council of the Township of Woodbridge has commenced the process of redevelopment pursuant to N.J.S.A 40A:12A-1 et seq. and;

**WHEREAS**, the Township has designated certain areas of the Township as areas in need of redevelopment, adopted redevelopment plans and designated the Redevelopment Agency as the entity responsible for the redevelopment of the subject properties, and;

**WHEREAS** the Township of Woodbridge and the Woodbridge Redevelopment Agency has a need for professional engineering services including environmental investigation in connection with Phase II of the Stern Tower Redevelopment Project, located at 55 Brook Street, Woodbridge, NJ, also known as, Block 543.01, Lot 5, and;

**WHEREAS**, the Woodbridge Redevelopment Agency received a proposal pursuant to a fair and open process for said professional services from T&M Associates. T&M will perform environmental investigation and report findings to the Woodbridge Redevelopment Agency as stated in the proposal associated with Project # WOOD00484..

**NOW, THEREFORE, BE IT RESOLVED BY THE WOODBRIDGE REDEVELOPMENT AGENCY THAT;**

The Executive Director of the Redevelopment Agency is hereby authorized and directed to enter into an agreement with T&M Associates, for professional engineering services related to Phase II of the Stern Tower Redevelopment Project, located at 55 Brook Street, Woodbridge, NJ, also known as, Block 543.01, Lot 5, at a cost not to exceed \$48,500 as proposed in the proposal associated with Project #WOOD00484.

**CERTIFICATION AND AVAILABILITY OF FUNDS**

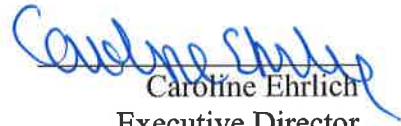
I certify that subject to the Redevelopment Agency appropriating same in the FY 2018 Budget, funds will be committed and encumbered for the above items under Account # 8-22-850-8000-0000-4895. No items, more or less, shall be negotiated unless funds are available and approved by the Redevelopment Agency.

  
Rose Ruvolo  
Certifying Officer  
Redevelopment Agency  
Township of Woodbridge



**ADOPTED: NOVEMBER 28, 2017**

I hereby certify that the above is a true and exact copy of the Resolution adopted by the Woodbridge Redevelopment Agency at their meeting held on November 28, 2017.



Caroline Ehrlich  
Executive Director  
Redevelopment Agency  
Township of Woodbridge



| YOUR GOALS. OUR MISSION.

## **SITE INVESTIGATION/REMEDIAL INVESTIGATION/ REMEDIAL ACTION REPORT**



### **STERN TOWERS SITE**

**TOWNSHIP OF WOODBRIDGE HOUSING AUTHORITY**

**NJDEP PI NO. 017205**

**55 BROOK STREET**

**BLOCK 543.01, LOT 5 (543A/5)**

**TOWNSHIP OF WOODBRIDGE**

**MIDDLESEX COUNTY, NEW JERSEY**

*Prepared for:*

**TOWNSHIP OF WOODBRIDGE**

**ONE MAIN STREET**

**WOODBIDGE, NJ 07095**

*Prepared by:*



**40 MONMOUTH PARKWAY, SUITE 2  
WEST LONG BRANCH, NEW JERSEY 07764**

**WOOD00484**

**JANUARY 2020**

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## **APPENDICES**

### **APPENDIX 1 – NJDEP FORMS**

NJDEP Certification Form  
Authorization to Submit a Remedial Phase Report Form  
Receptor Evaluation Form  
Response Action Outcome Form  
Case Inventory Document

### **APPENDIX 2 - FIGURES**

Figure 1 USGS Location Map – Plainfield and Perth Amboy, NJ topographic maps  
Figure 2 Site Plan with Areas of Concern  
Figure 3 Sample Location Plan  
Figure 4 UST Cross-Sections and Sample Locations  
Figure 5 Remedial Investigation Sample Location Plan  
Figure 6 Excavation Area and Post Excavation Sample Location Plan

### **APPENDIX 3 – TABLES**

### **APPENDIX 4 – SOIL BORING LOGS**

### **APPENDIX 5 - GEOPHYSICAL REPORT**

### **APPENDIX 6 – UST DOCUMENTATION, MANIFESTS AND CLEAN FILL RECEIPTS**

### **APPENDIX 7 – ANALYTICAL REPORTS**

### **APPENDIX 8 – RECEPTOR EVALUATION**

### **APPENDIX 9 – DEP CORRESPONDENCE**





## 1.0 INTRODUCTION

T&M Associates (T&M) was retained to complete a Preliminary Assessment (PA) for the Stern Towers Site located at 55 Brook Street in the Township of Woodbridge, Middlesex County, NJ. The Site is comprised of Lot 5 in Block 543.01 and is owned and operated by the Township of Woodbridge Housing Authority (WHA). The Site is improved with the six-story Stern Towers apartment building (ground floor and five residential floors), paved parking areas and grass lawn areas. A Site Location Map is included in **Appendix 2** as **Figure 1** and a Site Plan is appended as **Figure 2**.

The PA identified the following fourteen (14) Areas of Concern (AOCs):

### ***UNDERGROUND STORAGE TANKS (USTs) AND ASSOCIATED PIPING***

AOC-1-A Tank 00E1

AOC-1-B Tank E2

AOC-1-C Tank E3

AOC-1-D Tank E4

AOC-1-E Potential undocumented USTs at Project Site

### ***ABOVEGROUND STORAGE TANKS (ASTs) AND ASSOCIATED PIPING***

AOC-2 AST at Generator

### ***DUMPSTERS***

AOC-3 Solid waste dumpsters

### ***FLOOR DRAINS, TRENCHES AND PIPING***

AOC-4 Interior floor drains and sumps

AOC-5 Storm Sewer Collection System

### ***SURFACE WATER BODIES***

AOC-6 Heards Brook surface water body

### ***INCINERATORS***

AOC-7 Former Incinerator and stack

### ***HISTORIC FILL OR ANY OTHER FILL MATERIAL***

AOC-8 Fill material utilized to achieve current grade

### ***ELECTRICAL TRANSFORMERS AND ELECTRICAL COMPONENTS***

AOC-9 Transformers at interior of structure

### ***FORMER STRUCTURES AND OPERATIONS***

AOC-10 Former auto storage and repair at Site

Based on the finding and recommendations summarized in the Preliminary Assessment Report (PAR), T&M performed site investigation (SI) activities at AOC-1-A thru 1E, AOC-6, AOC-8 and AOC-10.



## **2.0 SITE DESCRIPTION**

### **2.1 Site Location and Description**

The Stern Towers Site is located at 55 Brook Street in the Township of Woodbridge, Middlesex County, NJ. The Site is comprised of Lot 5 in Block 543.01 and is owned and operated by WHA. The Site is improved with the six-story Stern Towers apartment building, paved parking areas and grass lawn areas.

The position at the approximate center of the Project Site is Latitude 40.5554720" North, Longitude 74.2790830" West, and Easting 553,507.2, Northing 627,332.4. The property parcel information acquired from the Township of Woodbridge indicates that the Zoning/Usage is "Public Housing" with Property Class 15C – Public Property.

### **2.2 Physical Setting**

#### **2.2.1 Topography**

The site topography is depicted on the Perth Amboy, NJ topographic Quadrangle map as predominantly level and even with no steep slopes or hollows with surface elevation of approximately 20 feet above Mean Sea Level (MSL).

#### **2.2.2 Geology and Soils**

Physiographic Province: Based on a review of the NJDEP GeoWeb layer for Geology, the Site lies within the Coastal Plain physiographic province of eastern New Jersey.

Surficial Geology: The United States Department of Agriculture (USDA) Web Soil Survey (WSS) (<http://websoilsurvey.nrcs.usda.gov>), depicts the *Haledon-Urban land complex*, 0 to 3 percent slopes (HasA) at the Project Site.

NJDEP State Fill Areas: The NJDEP Division of Water Supply and GeoScience Historic Fill Map – (HFM-62) does not depict any mapped *State fill areas* at the Site.

Hydrology/Groundwater: The Boring Location Plan & Data plan dated June 1962 indicates the depth to groundwater at the borings advanced at the footprint of the current structure as ranging from 5.2 feet below grade to 7 feet below grade. According to the New Jersey Register (24 N.J.R. 201) groundwater in the vicinity of the Project Site is potentially classified as Class II-A. Class II-A is designated as potable water uses and conversion (through conventional treatment, mixing or other similar technique) to potable water. It is secondarily designated for use as agricultural water and industrial applications. Local groundwater occurs within the unconsolidated overburden deposits. Topographically influenced groundwater flow is typical, as shallow groundwater tends to originate in areas of topographic highs and flow towards areas of topographic lows.



### **2.2.3 Surface Water**

There are no current surface water bodies located at the Site. The Heards Brook surface water course is currently located approximately 100 feet to the north of the Site across Brook Street. However, the Sanborn Maps for 1886 through 1924 depict the original course of Heards Brook as routed through the north portion of the Site. The 1929 Sanborn Map depicts Heards Brook at the present location, indicating that Heards Brook was rerouted to the north and the former location was filled sometime between 1924 and 1929.

### **2.3 Land Uses at Site and Site Vicinity**

The NJDEP GeoWeb Program's 2012 Land Use theme depicts the General Land Use Category at the Site and the adjoining properties to the northeast, southwest and northwest as *Urban*. Specific land uses depicted for the Project Site include multi-unit residential. Adjoining land uses include municipal fire department to the north; and commercial/storefront/office to the south, east and west.

## **3.0 RECEPTOR EVALUATION**

As per N.J.A.C. 7:26E-1.12 a Receptor Evaluation (RE) was completed for the Site. The RE included a land use evaluation of properties within 200 feet of the Site's property boundary as well as an ecological evaluation.

### **3.1 Land Use**

The Site is described as approximately 1-acre lot, Lot 5, in Block 543.01 situated to the South of Brook Street. The Site was previously utilized as a senior housing complex and is currently in the process of redevelopment for residential apartments.

The Site is listed as Public Property. Surrounding land use includes six (6) residential properties, three (3) public properties, fifteen (15) commercial properties, two (2) rail road parcels, one (1) apartment and one (1) other exempt property.

### **3.2 Ecological Evaluation**

In order to assess the potential for adverse ecological effects on wildlife and plants in environmentally sensitive natural resources (ESNRs) resulting from site-related contamination an ecological evaluation (EE) was completed.

As per NJAC 7:26E-1.16 an ecological receptor evaluation is conducted to determine if any ESNRs, other than groundwater, are present on-Site, adjacent to the Site or may have been or currently are impacted by contamination from the Site. It is also conducted to determine if any contaminant concentration is present at the Site above the applicable ecological screening level or surface water quality standard, classifying it as a contaminant of potential ecological concern (COPEC).



### **3.2.1 Environmentally Sensitive Natural Resources (ESNRs)**

ESNRs are habitats where concern for plant and wildlife exposure to Site COPECs is paramount. In order to identify ESNRs within the Site boundaries, on properties adjacent to the Site and at all other locations that may have been potentially impacted by discharges at the Site, T&M utilized the online NJDEP tool, NJ GeoWeb, as well as previous and subsequent Site visits to confirm the initial findings.

A portion of the Site and the area to the north, northeast and northwest are mapped as a Rank 1 areas, listed as urban cover including high density or multiple dwelling residential, commercial/services, railroad and recreational. In addition, Heards Brook is located in the recreational area to the north. Heards Brook lies within a Rank 3 Area identified as Steams and Canals.

*“Rank 1 is assigned to species-specific habitat patches that meet habitat-specific suitability requirements such as minimum size or core area criteria for endangered, threatened or special concern wildlife species, but that do not intersect with any confirmed occurrences of such species (see Appendix V for descriptions of all habitat-specific suitability requirements). Rank 1 habitat patches without documented occurrences are not necessarily absent of imperiled or special concern species. Patches with a lack of documented occurrences may not have been systematically surveyed. Thus, the Rank 1 designation is used for planning purposes, such as targeting areas for future wildlife surveys.*

*Rank 3 is assigned to species-specific patches containing one or more occurrences of State threatened species.”*

### **3.2.2 Contaminants of Potential Ecological Concern (COPECs)**

COPECs are a substance detected at a contaminated site that has the potential to adversely affect ecological receptors because of its concentration, distribution, and mode of toxicity. Contaminants with concentrations above their respective New Jersey Surface Water Quality Standards (SWQS) or ecological screening criteria are identified as contaminants of potential ecological concern.

Remediation has been completed to remove petroleum compounds identified in two areas at the Site. Remaining impacted soils are present which include various polycyclic aromatic hydrocarbons (PAHs) and metals, these compounds are attributed to Site wide historic fill. The Site is currently undergoing a redevelopment and the historic fill will be properly remediated during construction.



### **3.2.3 Contaminant Migration Pathways**

The historic fill contaminants are determined to be Site wide and the historic fill material may intersect groundwater. Engineering controls will be installed during redevelopment and a deed notice will be established. The groundwater investigation conducted during the SI of the Site and following remedial investigation (RI) in the area of AOC-11 (Petroleum Impacted Soil at B-18) did not identify any volatile or base neutral compound impacts. If necessary, a historic fill Classification Exception Area (CEA) will be established.

### **3.2.4 Ecological Evaluation Conclusions and Recommendations**

Based on the findings of this evaluation all impacted material has either been remediated or will be remediated through the installation of engineering and institutional controls during redevelopment. Therefore, no further investigation is recommended for the ecological evaluation. The Receptor Evaluation documents are included in **Appendix 8**.

## **4.0 SITE INVESTIGATION**

### **4.1 Field Activities**

On August 23 and September 13, 2017, T&M and East Coast Drilling Inc (ECDI) mobilized to the Site to perform a soil and groundwater investigation via Geoprobe <sup>™</sup> in the area surrounding several of the AOCs identified during the PA. All soil borings were field screened with a calibrated photoionization detector (PID) for the presence of volatile organic compounds, the concentrations were compared to the background concentration (0.0 ppm) and were noted on the soil boring logs (**Appendix 4**). All samples were collected from the 6-inch soil interval biased toward the highest suspected contamination based on the PID readings, visual observations, odors or depths corresponding to the AOC being investigated.

All samples were sealed in laboratory supplied glassware and shipped in a chilled cooler, under standard chain of custody procedures to Aqua ProTech Laboratories (NJDEP Certification #07010). A summary of the corresponding AOC, sample depth, media and constituents analyzed is included as **Appendix 3 - Table 1** and the location of each soil boring is depicted on **Figure 3**.

#### **4.1.1 August 23, 2017**

On August 23, 2017, T&M and ECDI mobilized to the Site for the investigation of potential soil impacts associated with the AOC-1-C Tank E3. This tank is a 550-gallon UST that was designed to service the emergency generator. The top of the tank was approximately 43-inches below grade while the invert of the tank was approximately 90-inches below grade. A total of five (5) soil borings (B-1 thru B-5) were advanced around the tank, B-1 thru B-4 were in each of the cardinal directions surrounding the tank. Soil boring, B-5 was advanced at an offset an additional 10-feet to the north to delineate potential impacts observed in boring B-3. The locations of the borings are included on **Figure 3 – Sample Location Plan**. All borings were advanced to a depth of 10 feet below surface grade (bsg), generally the soils became moist at approximately 6-feet bsg and the



soil sample depths were biased toward the highest anticipated area of contamination, all samples were analyzed for Category 1, Extractable Petroleum Hydrocarbons (EPH) with contingent analysis for naphthalene and 2-methylnaphthalene. Soil boring B-3 was the only location that exhibited obvious signs of a discharge including stained soils, elevated PID readings and a petroleum odor. The highest PID readings also corresponded to the depth of initial moisture. B-3 was extended to a depth of 15-feet bsg and a temporary well point was set. No separate phase product was encountered using an interface probe and the depth to water stabilized at approximately 9.4 feet bsg. A peristaltic pump was used to purge water from the temporary point but the well pumped dry immediately and no sample was obtained. Soil Boring Logs detailing the materials encountered in each boring are included as **Appendix 4**.

#### **4.1.2 September 13, 2017**

On September 13, 2017, T&M and ECDI returned to the Site along with Envirophysics to continue SI activities. The focus of the investigation was to identify potential impacts related to AOC-1-A, AOC-1-B, AOC-1-D, AOC-1-E, AOC-6, AOC-8 and AOC-10.

Prior to advancing any soil borings, Envirophysics performed a geophysical survey to identify the location of the 8,000-gallon fiberglass UST associated with AOC-1-D Tank E4, which is situated in the same location as the former 7,500-gallon UST (AOC-1-A Tank 00E1). The survey was continued throughout the entire parcel in an effort to locate potential undocumented USTs at the Site as identified in the PAR as AOC-1-E. The geophysical survey utilized a combination of geophysical techniques including electromagnetic metal detection, ground penetrating radar, metal detection and magnetometry, used to identify buried targets.

Once the extents of AOC-1-D Tank E4 were established, a total of six (6) soil borings (B-6 thru B-11) were advanced around the limits of the tank. Each boring was advanced to a depth of 15-feet bsg, the soils were cataloged and field screened with a calibrated PID. Samples were collected from discrete six-inch intervals at either 9.5'-10.0' bsg or 10.0'-10.5' based on the approximate invert of the UST. The only exception was sample B-11, which was collected at 11.8'-12.4' bsg biased to the interval exhibiting the highest PID readings. The PID readings at this interval were slightly elevated (0.2-0.3 ppm) as compared to background (0.0 ppm), the soils at this interval contained a slight sulfur odor. All samples were delivered under standard chain of custody procedures to Aqua ProTech Laboratory (APL) of Fairfield, NJ for Category 1 Extractable Petroleum Hydrocarbon (Cat. 1 EPH) analysis and held for contingent naphthalene and 2-methylnaphthalene analysis.

Soil boring B-12 was advanced at the location of AOC-1-B Tank E2 (Former 50-gallon gasoline UST). Based on the current location of a gazebo and wooden walkway, access to the immediate area could only be gained for the advancement of one boring. The boring was advanced to a depth of 15' bsg, and the soils were catalogued and field screened with a calibrated PID. No





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elevated PID readings or evidence of a discharge were encountered, therefore sample B-12 was collected at an interval 6.0'-6.5' bsg which corresponds to the depth of first moisture. The sample was submitted to APL for EPA Targeted Compound List volatile organic compounds plus a library search of fifteen non-targeted compounds (VO+15), tertbutyl alcohol (TBA), 1,2-dibromoethane, 1,2-dichloroethane and lead analysis. Additionally, to investigate the potential of groundwater contamination related to either UST E2 or UST E4, boring B-12 was converted to a temporary well point (TWP-1) via the installation of 1-inch diameter slotted PVC (10' in length) with a 5-foot section of 1-inch PVC riser. The well point was purged via a peristaltic pump, then sampled utilizing a Teflon® bailer. The sample was delivered to APL for VO+15, SVO+15, TBA, 1,2-dichloroethane and 1,2-dibromoethane analysis.

Soil borings SB-13, SB-14, SB-17 and SB-18 were advanced throughout the Site to investigate potential impacts associated with AOC-8 Fill Material Boring. Each of these soil borings was advanced to a depth of 10' bsg. As indicated in the Soil Boring Logs, upon visual observation non-native fill material was noted ranging in depth from approximately 2' to 6' bsg. In accordance with the NJDEP SRP Historic Fill Material Technical Guidance the borings were advanced a minimum of 2-feet into the underlying native material and the samples were collected from varying fill types at discrete six-inch intervals between 18-24" bsg (B-14 & B-17), 28-34" bsg (B-13) and 54-60" bsg (B-18). The samples were delivered to APL under standard chain of custody procedures for analysis of Cat. 2 EPH, EPA Targeted Compound List (TCL) PAHs, Target Analyte List Metals (TAL), the samples were then held for contingent full TAL/TCL plus 30 analyses based on the results of the initial analyses.

Soil borings B-15 and B-16 were located along the property line near AOC-10 Former Auto Storage and Repair Operations. The borings were advanced to a depth of 10' bsg, the soils were catalogued and field screened with a calibrated PID. Soil samples were collected from borings B-15 and B-16 at six-inch intervals at depths of 54-60" bsg and 18-24" bsg, respectively. The samples were delivered to APL under standard chain of custody procedures for analysis of Cat. 2 EPH and full TAL/TCL plus 30 analyses.

## **4.2 Results and Conclusions**

### **4.2.1 AOC-1-C Tank E3**

On August 23, 2017 T&M collected five soil samples (B-1 thru B-5) proximal to the 550-gallon diesel UST servicing the emergency generator at the Site. The samples were initially analyzed for Cat. 1 EPH, with contingent analysis for naphthalene and 2-methylnaphthalene, analytical results are summarized in **Table 2** and full analytical reports are included in **Appendix 7**. Soil boring B-3 was the only boring that exhibited evidence of a discharge and the analysis resulted in an EPH concentration of 7,090 milligrams per kilogram (mg/kg). The EPH results for all the other soil samples were non-detect. Based on the elevated EPH concentration in B-3, the contingent analyses were activated. The result of the naphthalene and 2-methylnaphthalene analyses on



sample B-3 were 10.3 mg/kg and 38.9 mg/kg, respectively. These concentrations are in excess of the most stringent NJDEP Soil Remediation Standard (SRS) and/or Soil Screening Level (SSL). Therefore, the contingent analyses were activated on the remaining samples and the results of each analysis were non-detect.

Based on the results of this investigation T&M recommended the removal of the UST. When the final results were received from the laboratory confirming the contaminants in excess of the NJDEP SRS, a discharge was reported and Case Number 17-09-20-1649-01 was assigned.

#### ***4.2.2 AOC-1-A Tank 00E1, AOC-1-B Tank E2 and AOC-1-D Tank E4***

On September 13, 2017, T&M personnel mobilized to the Site and collected soil samples B-6 thru B-12 and groundwater sample TWP-1 in the vicinity of the former 7,500 -gallon heating oil tank (Tank E001), former 50-gallon (Tank E2) and dormant 8,000-gallon heating oil tank (Tank E4). The soil samples B-6 thru B-11 were analyzed for Cat. 1 EPH and each produced a result of non-detect, therefore no contingent analyses were activated. Soil sample B-12 was analyzed for VO+15, TBA, 1,2-dibromoethane, 1,2-dichloroethane and lead, and the only compound that was detected at a concentration greater than the most stringent NJDEP SRS or SSL was lead (130 mg/kg, **Table 3**). Groundwater sample TWP-1 was analyzed for VO+15, SVO+15, TBA, 1,2-dichloroethane and 1,2-dibromoethane, no targeted or non-targeted compounds were detected above the method detection limit (**Table 6**).

T&M recommends that AOC-1-D (Tank E4), dormant 8,000-gallon unregulated heating oil tank be properly removed by a contractor licensed in UST Closure. The only compound detected more than the most stringent standard was lead in sample B-12 at a concentration of 130 mg/kg, this concentration is in excess of the NJDEP Default Impact to Groundwater Soil Screening Level. However, considering no compounds related to petroleum products were encountered in these samples, T&M believes that the lead is attributed to the presence of historic fill and is not associated with the former USTs in this area.

#### ***4.2.3 AOC -1-E Potential Undocumented USTs at the Site***

On September 13, 2017 T&M personnel mobilized to the Site with EnviroPhysics, Inc. to perform a geophysical survey confirming the location of known USTs and to determine the presence of undocumented USTs related to former structures at the Site. EnviroPhysics employed a combination of multiple instruments including Schoenstadt GA72CD fluxgate magnetometer, Fisher TW-6 metal detector, GSSI SIR-3000 radar system with 200 mhz antenna, GSSI utiliscan DF radar system Geophex GEM- 2 and GSSI EMP-400 EM conductivity meters and Radiodetection RD-8000-line tracer. The results of the investigation are detailed in the attached Subsurface Delineation Report (**Appendix 5**).



As indicated in the attached report, two unexplained areas of buried metals were detected during the investigation (Anomaly 1 and 2). Each anomaly was approximately 3' by 3' in size, and neither anomaly produced a radar signal indicative of a buried UST. T&M recommends no further investigation in relation to potential undocumented USTs at the Site.

#### **4.2.4 AOC-8 Historic Fill Boring**

On September 13, 2017, T&M personnel mobilized to the Site and collected soil samples B-13, B-14, B-17 and B-18 to investigate potential impacts associated with the importation of fill material related to AOC-8 Fill Material Boring. Each of the samples were analyzed for Cat. 2 EPH, TCL PAHs, TAL Metals, additionally sample B-18 was then analyzed for the contingent full TAL/TCL plus 30 analyses based on the results of the initial analyses. The results of these analyses indicate a variety of targeted compounds were detected at concentrations exceeding the most stringent NJDEP SRS and/or SSL. EPH was detected in samples B-13, B-17 and B-18, however B-18 was the only sample for which EPH exceeded the ecological screening level (1,000 mg/kg) and required fractionation. The results of the fractionated analysis indicated a total concentration of 11,000 mg/kg, which is in excess of the sample specific Residential EPH Soil Remediation Criterion (EPH SRC) generated using the NJDEP EPH Calculator Spreadsheet, however it is below the Non-Residential EPH SRC (**Table 4**). The results for soil sample B-18 also identified the presence of 2-methynaphthalene and naphthalene in excess of the Residential NJDEP SRS and/or Default Impact to Groundwater SSL. The presence of petroleum related compounds encountered in soil sample B-18 require additional investigation and remediation, the area surrounding B-18 was investigated as a separate AOC identified as AOC-11 – Petroleum Impacted Soils at B-18.

Additionally, each of the soil samples exhibited inconsistent exceedances of the Residential and/or Non-Residential NJDEP SRS and Default Impact to Groundwater Soil Screening Level for various metals including aluminum, antimony, arsenic, beryllium, cadmium, lead, manganese, mercury and/or zinc, as well as various semi-volatile compounds including benzo(a)anthracene, benzo(a)pyrene, benzo(a)fluoranthene, benzo(k)fluoranthene, carbazole, chrysene, dibenzo(a,h)anthracene and/or indeno(1,2,3-cd)pyrene. The Site wide presence of mercury in excess of the Default Impact to Groundwater SSL was discussed via email (**Appendix 9**) with Kevin Schick and Swati Toppin. A “slightly elevated” concentration of mercury was encountered in soil sample B-18 (1.6 mg/kg), this area was excavated due to the presence of petroleum impacts. In accordance with the email, mercury at the remaining concentrations are routinely associated with historic fill and nothing more needs to be done relative to mercury impact to groundwater.

The exceedances of the most stringent SRS, EPH SRC and/or SSL indicate that the fill material imported to raise the grade of the entire Site was impacted and requires remediation. The Site is currently slated for redevelopment, therefore T&M recommends that during redevelopment activities the redeveloper shall incorporate the installation of an engineering control and shall



file the appropriate deed notice and, if necessary, a CEA for historic fill in order to issue a Response Action Outcome and close out this AOC.

#### **4.2.5 AOC – 10 Former Auto Storage and Repair at Site**

On September 13, 2017 T&M personnel mobilized to the Site and advanced soil borings B-15 and B-16 near the property line in the area of the former on-site and off-site auto storage area. The borings were field screened with a calibrated PID and soil samples B-15 and B-16 were collected from the six-inch interval biased toward the highest suspected contamination based on field observations. The soils were catalogued and documented on the attached soil boring logs, as indicated no PID readings were noted above the background concentration of 0.0 ppm.

The samples were delivered under standard chain of custody procedures to APL and analyzed for Cat. 2 EPH and the full TAL/TCL plus thirty suite of parameters. The results of the analyses indicate that aluminum and manganese were detected in excess of the DIGWSSL in samples B-15 and B-16. Additionally, beryllium and mercury were detected in excess of the DIGWSSL in sample B-15. All other compounds analyzed were either non-detect or were detected at concentrations below the most stringent standard (**Table 5**). T&M believes that these exceedances are attributed to the presence of historic fill at the Site and are not related to the former auto storage and repair activities. No future action is required for AOC-10, however this area will be included in the future remediation of historic fill.

### **5.0 REMEDIAL INVESTIGATION**

#### **5.1 AOC – 11 Petroleum Impacted Soils at B-18**

As indicated above during the investigation of Historic Fill (AOC-8) soil sample B-18 was collected and analyzed for Cat. 2 EPH and TAL/TCL+30. The results of the fractionated Cat. 2 EPH analysis of soil sample B-18 indicated a total concentration of 11,000 mg/kg, which is in excess of the EPH Default Product Limit for Unknown Sources of Petroleum, as specified in the NJDEP Site Remediation and Waste Management Program, Evaluation of Extractable Petroleum Hydrocarbons in Soil Technical Guidance, Revised June 2019. The exceedance of the default EPH product limit requires vertical and horizontal delineation, therefore the elevated EPH concentrations encountered in soil boring B-18 was investigated and evaluated as a separate AOC (AOC-11) from the Site wide historic fill.

#### **5.2 Field Activities**

On November 8, 2019, T&M mobilized to the Site for the investigation of the petroleum impacted soils identified in the SI to determine the horizontal and vertical extent. A total of sixteen soil borings (DB-1 thru DB-16) were advanced and soil samples were collected from the discrete 6-inch interval at the corresponding depth to the original impacts identified in soil sample B-18 (4.5-5.0' bsg). An additional soil sample was collected from soil boring DB-9 from 3.5-4.0' below grade due to visual observations, however no odors or elevated PID readings were observed.



Based on the observed staining and a heating oil odor identified in soil boring DB-14, the EPH analysis was performed as Category 1 as opposed to Category 2. Soil samples DB-2, DB-3, DB-6, DB-7, DB-9A, DB-9B, DB-14A, DB-14B, DB-15A, DB-16 were analyzed for Cat. 1 EPH, naphthalene and 2-methylnaphthalene. Additionally, soil samples DB-14A, DB-15A and DB-16 were analyzed for total chromium and DB-16 was analyzed for hexavalent chromium. A waste classification sample (WC-1) was collected as a 5-part composite from soil borings DB-14 and DB-15, this sample was analyzed for TAL/TCL+30, Full TCLP, RCRA Characterization and Cat. 2 EPH. Due to the odors and staining identified in DB-14, the soil boring was converted to a temporary well point and a groundwater sample (TW-1) was collected and analyzed for TCL VO+15 and TCL BN+15. Boring logs for the investigation have been included in **Appendix 4**.

### **5.3 Results and Conclusions**

As indicated on the attached Soils Analytical Summary Data Table (**Table 8**), the only compound exceeding the most stringent standard was 2-methylnaphthalene in excess of the DIGWSSL in soil sample DB-14A. Due to this exceedance synthetic precipitation leachate procedure (SPLP) analysis was performed on sample DB-14A and the vertical delineation sample DB-14B (5.5-6.0' bsg) was activated for analysis along with groundwater sample TW-1. Analysis of the contingent soil samples indicate that the SPLP result was below the Default Leachate Criterion in sample DB-14A and Cat. 1 EPH, naphthalene and 2-methylnaphthalene were not detected in vertical delineation sample (DB-14B).

Based on the results of the investigation, an area approximately 10-feet by 10-feet is proposed for excavation to a depth of 6-feet bsg due to the presence of impacted soils. The analytical results of groundwater sample TW-1 (**Table 9**) were below the Groundwater Quality Standards, therefore no further investigation is required related to groundwater. The sample locations are presented on **Figure 5**. In preparation for the proposed excavation a composite sample (WC-1) was collected and analyzed for waste classification purposes and the results are included as **Table 10**.

## **6.0 REMEDIAL ACTIVITIES**

As indicated above, T&M recommended the removal of AOC-1-C Tank E3 and AOC -1-D Tank E4. On November 11, 2017, T&M personnel mobilized to the Site with Independence Constructors, Inc. (Independence) of Bridgewater, NJ a certified UST removal contractor for the closure of the USTs.

### **6.1 AOC-1-C Tank E3**

Tank E3 was a steel 550-gallon unregulated diesel UST that previously serviced the emergency generator at the facility. Prior to its removal an above ground tank was installed to continue service to the emergency generator. As indicated during the SI, soil sample B-3 collected 6.5-7.0' below grade, exhibited elevated concentrations of EPH, naphthalene and 2-methylnaphthalene,



therefore in conjunction with the UST removal T&M and Independence were prepared for soil excavation activities as well. Throughout excavation activities the overburden was field screened with a PID and evaluated for evidence of a discharge. All the overburden was stockpiled for reuse as backfill. Upon exposing the top of the tank, the contractor cut an access port to remove residual product and clean the tank interior. The liquids were removed by A&A Recovery for off-site disposal, the receipt is included in **Appendix 6** along with the additional supporting documentation for the UST closure. After removing the UST, approximately 12-18" of impacted soils were evident in the base of the excavation.

The soils were excavated and stockpiled for off-site disposal, the excavation continued until all soils exhibiting evidence of impacts were removed. As indicated on **Figure 4** the dimensions of the final excavation were 11.5' long by 8' wide by 8'deep. A total of 8.14 tons of petroleum impacted soils were sent to Bayshore Soil Management for disposal. A post-excavation sample was collected from each of the side walls (7.5-8.0' bsg), below the product piping (2.0-2.5' bsg) and from the base of the excavation (8.0-8.5' bsg). Once the post-excavation sampling was complete, a pit was advanced in the center of the excavation to a depth of 11.0' bsg to evaluate depth to groundwater. The pit was left open for approximately 45 minutes, at which point no water had accumulated. A second bottom sample was collected from the base of the pit (11.0-11.5' bsg), the intent of this sample was to confirm that no impact to groundwater issues remained below the invert of the former UST.

Each of the samples was analyzed for Cat. 1 EPH, while the sample from the base of the excavation (PX-B) was additionally analyzed for naphthalene and 2-methynaphthalene. The results of the analyses were non-detect for all targeted compounds, as summarized in **Table 7**. The excavation was backfilled with  $\frac{3}{4}$ " clean stone from the Stavola Bound Brook Quarry and Fanwood Crushed Stone Co, the receipts for the backfill are included in **Appendix 6**. Based on the results of the post-excavation samples, no further action is required for AOC-1-C Tank E3.

## **6.2 AOC-1-D Tank E4**

Tank E4 was an 8,000-gallon double wall, fiberglass, unregulated heating oil tank (UHOT). Independence removed the overburden material to allow safe access via the existing manhole. The tank was pumped dry by A&A Recovery then cleaned by Independence personnel. After cleaning, the tank was removed from the excavation and staged on plastic sheeting in the parking lot until the local building inspector arrived. No holes were evident in the tank and no evidence a discharge was observed during or after removal. Upon inspection the building code official issued an Approval for Fire Protection for the 8,000-gallon tank removal covered under Building Permit Number 17-4329, 55 Brook Street, Woodbridge, a copy of which is included in **Appendix 6**. Based on the observations made in the field and approval from the local building code official, no further action is required for **AOC-1-D Tank E4**.





### **6.3 AOC-11 Petroleum Impacted Soils at B-18**

On December 4, 2020 T&M mobilized the Site with Enterprise Network Resolutions Contracting (ENRC) to perform excavation activities for the remediation of the petroleum impacted soils encountered at soil boring B-18. Prior to remediation the impacted material was vertically delineated in soil sample DB-14B at a depth of 5.5 to 6.0' bsg and horizontally delineated to the south by soil sample DB-15 and west by DB-16 during the RI. The excavation was monitored using a properly calibrated photoionization detector and observed for the presence of odors and staining.

The excavation progressed until the odors decreased and remaining PID readings were not observed above 5.0 ppm. The final extents of the excavation measured approximately 10'x10'x6'-deep and produced 44.17 tons of impacted material which were trucked to Pure Soil Technology of Jackson, NJ. Additional post-excavation samples were collected to confirm that remediation was complete, the samples were collected from two distinct intervals from each of the sidewalls. PX-2, PX-3, PX-4 and PX-5 were collected from 2.0-2.5' bsg, which is a higher elevation than the depth of the original impacts and the observed staining. Soil samples PX-1, PX-6, DB-15 and DB-16 were collected from 4.5-5.0' bsg which corresponds to the depth of the original exceedance and the visual/olfactory evidence. Each of the samples were analyzed by APL Laboratory for Cat. 1 EPH, naphthalene and 2-methylnaphthanthene. The results of the analysis indicated that none of the targeted compounds were detected in excess of the most stringent standard. A summary of the analytical data has been provided as **Table 11** and the post-excavation soil sample locations are depicted on **Figure 6**.

### **7.0 RECOMMENDATIONS**

Based on the Site Investigation, Remedial Investigation and Remedial Action activities performed by T&M an Unrestricted Use Response Action Outcome is appropriate for all Areas of Concern other than AOC-8 Historic Fill. During redevelopment activities, the historic fill material will require proper management and the design of the facility must include proper engineering controls, protective of human health and the environment. Upon completion of construction a deed notice and, if necessary, a CEA must be filed to document the presence of historic fill and memorialize the capping methods employed.

Since implementation of the proposed cap and Deed Notice to address the historic fill material (AOC-8) is not part T&M's scope of work, the appropriate Notice for "Known On-Site Contamination Source Not Remediated – Historic Fill" will be inserted into the AOC specific RAO. Implementation of the capping will be performed by the redeveloper of the Site and current owner with oversight and sign-off of the capping performed by an alternate Licensed Site Remediation Professional.



## APPENDICES



## **APPENDIX 1 – NJDEP FORMS**

NJDEP Certification Form  
Authorization to Submit Remedial Phase Report Online  
Receptor Evaluation Form  
Response Action Outcome Form  
Case Inventory Document