



New Jersey Department of Environmental Protection
Site Remediation Program

RECEPTOR EVALUATION FORM

☒ Non-LSRP (Existing Cases) ☐ LSRP ☐ Subsurface Evaluator

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Former Kenvil Works Facility

List all AKAs: _____

Street Address: 100 Howard Boulevard

Municipality: Kenvil (Township, Borough or City)

County: Morris Zip Code: 07847

Mailing Address if different than street address: 5200 Blazer Parkway, Building DS/4, Dublin, Ohio 43017

Program Interest (PI) Number(s): 000741 Case Tracking Number(s): 14794

The purpose of this form is to document the existence of receptors and the actions taken to protect receptors and is required unless an unrestricted remedial action is completed before the due date of the **initial** Receptor Evaluation. At the time of the initial or interim Receptor Evaluation the Department acknowledges that the remedial investigation may not be fully complete. The Receptor Evaluation should be completed in accordance with requirements and timeframes in the Technical Requirements for Site Remediation and is an ongoing process as the extent of contamination is defined. The Receptor Evaluation should be submitted within the Mandatory Timeframes.

☒ Initial Submission ☐ Interim Submission
☐ No Change (if no change, indicate last RE date and skip to Section G: _____)

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 boundary (check all that apply):

	On-site	Off-site
None of the following.....	☐	☐
Residences or residential property	☒	☒
Public or Private Schools grades K-12	☐	☐
Child care centers	☐	☐
Public parks, playgrounds or other recreation areas	☐	☐
Other sensitive population use(s) Explain <u>Farm/Preserve</u>	☒	☒

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. (See attached table and figure)

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

☐ Industrial	☒ Residential	☐ Commercial	☒ Agricultural
☐ School or child care	☐ Government	☐ Park or recreational use	
☒ Vacant	☐ Other _____		

3. Planned future site uses and offsite use within 200 ft of site boundary (check all that apply):

☒ Industrial	☒ Residential	☒ Commercial	☒ Agricultural
☐ School or child care	☐ Government	☐ Park or recreational use	
☐ Vacant	☒ Other <u>Wildlife Management Area</u>		

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

☒ Initial Submission ☐ Interim Submission
☐ No Change (if no change, indicate last RE date and skip to Section G: _____)

SECTION C. DESCRIPTION OF CONTAMINATION

1. Identify if any of the following exist at the site (check all that apply):

- ☐ Free product [N.J.A.C. 7:26E-1.8]
☐ Residual product [N.J.A.C. 7:26E-1.8]
☒ Other high concentration source materials not identified above (e.g., buried drums, containers, unsecured friable asbestos)

Explain Residual 2,4,6-trinitrotoluene in soil.

2. If this evaluation is submitted with a technical document that includes this 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. (See attached)

- ☒ Initial Submission ☐ Interim Submission
☐ No Change (if no change, indicate last RE date and skip to Section G: _____)

SECTION D. GROUND WATER USE

1. The requirement for ground water sampling has been triggered. If "No," proceed to Section F..... ☒ Yes ☐ No

2. Ground water is contaminated above the Ground Water Remediation Standards [N.J.A.C.7:9C]..... ☒ Yes ☐ No

Or ☐ Awaiting laboratory data with the expected due date: _____

If "Yes," provide the date that the laboratory data were available and contamination exists above the Ground Water Remediation Standards. Date 04/11/2001

If "No," or awaiting laboratory data proceed to Section F.

3. Identify if any of the following conditions exist based on the well search [N.J.A.C.7:26E-1.17(a)] (check all that apply):

- ☒ Potable wells located within 1000 feet from the downgradient edge of the currently known extent of contamination.
☐ Potable well located 250 feet upgradient or 500 feet side gradient of the currently known extent of contamination.
☒ Ground water contamination is located within a wellhead protection area Tier 1 or Tier 2 (WHPA).

Tier: Identify if **Tier 1** ☒ or **Tier 2** ☒. (See Figure D-1)

4. Complete and attach the Well Search spreadsheet.

5. Potable use wells have been identified in the well search and the area has been canvassed for additional ground water use (potable and irrigation wells, etc.)..... ☐ Yes ☒ No

6. Potable wells and non-potable use wells were identified and ☒ potable well and/or ☒ non-potable use well sampling has been conducted. ☐ Yes ☒ No

7. Contamination identified above Ground Water Remediation Standards but not suspected to be from the site (if "Yes," provide justification)..... NA ☐ Yes ☐ No

8. Potable wells were sampled and results were above State or Federal Drinking Water Standard. NA ☐ Yes ☐ No

Date _____ Or ☐ Awaiting laboratory data with the expected due date _____

If "Yes" to #8 for potable well contamination not attributable to background follow the IEC Guidance Document at http://www.nj.gov/dep/srp/guidance/srra/iec_guidance_draft.pdf.

IEC was abated ☐ Yes ☐ No

Date _____ NJDEP Case Manager _____

9. Receptors abated as part of mitigation (provide a brief narrative description)..... NA ☐ Yes ☐ No

10. Non-potable use wells were sampled and results were above GWQS. NA

Date _____ Or ☐ Awaiting laboratory data and the expected due date: _____

- ☒ Initial Submission ☐ Interim Submission
☐ No Change (if no change, indicate last RE date and skip to Section G: _____)

SECTION E. VAPOR INTRUSION (VI)

1. Contaminants present in ground water exceed vapor intrusion ground water screening levels (see NJDEP Vapor Intrusion Guidance) that trigger a VI evaluation..... ☒ Yes ☐ No

Or ☐ Awaiting laboratory data and the expected due date: _____

Provide the date that the laboratory data was available and confirmed contamination above the Vapor Intrusion trigger levels. 11/11/2005

If "No," or awaiting laboratory data, proceed to Section F.

2. Identify and locate on scaled map any structures/sensitive populations that exist within the following distances from ground water contamination with concentrations above the Ground Water Screening Levels for Vapor Intrusion or specific threats (check all that apply):

- ☐ 30 feet of dissolved petroleum hydrocarbon contamination in ground water.
☐ 100 feet of any free product or any non-petroleum dissolved volatile organic ground water contamination.
☒ No structures exist within the specified distances
☐ Unsaturated zone contamination ☐ Methanogenic conditions
☐ Landfills on or adjacent to site ☐ Elevated soil gas or indoor vapors
☐ Elemental mercury ☐ Basement or sump contains contaminated ground water or product
☐ Other _____

3. A VI evaluation has been conducted of the structures to address threats identified ☐ Yes ☒ No
4. The vapor intrusion pathway is not a concern at or adjacent to the site (if "yes", attach justification) ^{See Attached} ☒ Yes ☐ No
5. Contamination identified but not suspected to be from the site (if "Yes," attach justification) ☐ Yes ☒ No
6. Indoor air sampling was conducted and results were above the Department's proposed vapor intrusion Rapid Action Levels. NA ☐ Yes ☐ No

Or ☐ Awaiting laboratory data

Provide the date that the laboratory data was received and detected contamination above the proposed vapor intrusion Rapid Action Levels. _____

If "Yes" to #6 above, required actions for contamination follow the IEC Guidance Document at http://www.nj.gov/dep/srp/guidance/srra/iec_guidance_draft.pdf.

The IEC receptor engineering system response for receptor control was implemented for all identified structures. ☐ Yes ☐ No

Date _____ NJDEP Case Manager _____

7. Indoor air sampling was conducted and results were above the Department's Indoor Air Screening Levels but at or below the proposed vapor intrusion Rapid Action Levels NA ☐ Yes ☐ No

Or ☐ Awaiting laboratory data

If "Yes" to #7 above, required actions are:

Vapor Concern Response Action Form notification of the exceedances of the data has been completed (date _____) ☐ Yes ☐ No

A plan to mitigate and monitor the exposure has been submitted (date _____) ☐ Yes ☐ No

The mitigation response action report has been submitted (date _____) ☐ Yes ☐ No

8. The vapor intrusion investigation is being completed and stepping out as part of the site investigation or remedial investigation (if "No" attach justification) NA ☐ Yes ☐ No

☒ Initial Submission ☐ Interim Submission

☐ No Change (if no change, indicate last RE date and skip to Section G: _____)

SECTION F. ECOLOGICAL RECEPTORS

1. Identify any of the following conditions that exist based on the investigations conducted to date (check all that apply):

The results of a baseline ecological evaluation [N.J.A.C.7:26E- 3.11] required that a remedial investigation of ecological receptors [N.J.A.C.7:26E-4.7] is conducted (See attached) ☒ Yes ☐ No

Provide the name(s) of any surface water body on or within 200 feet of the site. Duck Pond, Shooting Pond and various unnamed ponds and streams (see Attachment C-5).

Free product or residual product is located within 100 feet from an ecological receptor. ☐ Yes ☒ No

2. Available data indicates an impact on ecological receptor(s), surface water or sediment. ☒ Yes ☐ No

☒ Initial Submission ☐ Interim Submission

☐ No Change (if no change, indicate last RE date and skip to Section G: _____)

SECTION G. PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible for Conducting the Remediation: Gary Allen

Representative First Name: Gary Representative Last Name: Allen

Title: Director of Remediation

Phone Number: (614) 790-3049 Ext: _____ Fax: (614) 790-3461

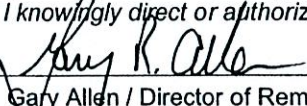
Mailing Address: 5200 Blazer Parkway, Building DS/4

City/Town: Dublin State: Ohio Zip Code: 43017

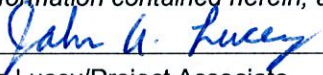
Email Address: gallen@ashland.com

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: 2-28-11

Name/Title: Gary Allen / Director of Remediation No Changes Since Last Submittal ☒

SECTION H. NON-LSRP SITE REMEDIATION PROFESSIONAL STATEMENTFirst Name: John Last Name: LuceyPhone Number: (302) 525-4255 Ext: _____ Fax: (302) 525-4099Mailing Address: 301 East Germantown Pike, Third FloorCity/Town: Newark State: DE Zip Code: 19702Email Address: john.lucey@obg.com*I believe that the information contained herein, and including all attached documents, is true, accurate and complete.*Signature:  Date: 2/28/11Name/Title: John Lucey/Project Associate No Changes Since Last Submittal ☐Company Name: Obrien & Gere Engineers

Submit this form to the assigned case manager, municipal clerk and designate health department. If there is no assigned case manager, submit this form to:

Bureau of Case Assignment & Initial Notice
New Jersey Department of Environmental Protection
Site Remediation Program
401 East State Street, PO Box 434
Trenton, NJ 08625

SECTION H. LICENSED SITE REMEDIATION PROFESSIONAL INFORMATION AND STATEMENT

LSRP ID Number: _____

First Name: _____ Last Name: _____

Phone Number: _____ Ext: _____ Fax: _____

Mailing Address: _____

City/Town: _____ State: _____ Zip Code: _____

Email Address: _____

This statement shall be signed by the LSRP who is submitting this notification in accordance with SRRA Section 16 d. and Section 30 b.2.

I certify that I am a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey. As the Licensed Site Remediation Professional of record for this remediation, I:

[SELECT ONE OR BOTH OF THE FOLLOWING AS APPLICABLE]:

- ☐ *directly oversaw and supervised all of the referenced remediation, and/or*
☐ *personally reviewed and accepted all of the referenced remediation presented herein.*

I believe that the information contained herein, and including all attached documents, is true, accurate and complete.

It is my independent professional judgment and opinion that the remediation conducted at this site, as reflected in this submission to the Department, conforms to, and is consistent with, the remediation requirements in N.J.S.A. 58:10C-14.

My conduct and decisions in this matter were made upon the exercise of reasonable care and diligence, and by applying the knowledge and skill ordinarily exercised by licensed site remediation professionals practicing in good standing, in accordance with N.J.S.A. 58:10C-16, in the State of New Jersey at the time I performed these professional services.

I am aware pursuant to N.J.S.A. 58:10C-17 that for purposely, knowingly or recklessly submitting false statement, representation or certification in any document or information submitted to the board or Department, etc., that there are significant civil, administrative and criminal penalties, including license revocation or suspension, fines and being punished by imprisonment for conviction of a crime of the third degree.

LSRP Signature: _____ Date: _____

LSRP Name/Title: _____ **No Changes Since Last Submittal** ☐

Company Name: _____

Submit this form to the assigned case manager, municipal clerk and designate health department. If there is no assigned case manager, submit this form to:

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New Jersey Department of Environmental Protection
Site Remediation Program
401 East State Street, PO Box 434
Trenton, NJ 08625

SECTION H. SUBSURFACE EVALUATOR UST REPORT CERTIFICATION FORM

I certify under penalty of law that the work was performed under my oversight and I have reviewed the report and all attached documents, and the submitted information is true, accurate and complete in accordance with the requirements of N.J.A.C. 7:14B and N.J.A.C. 7:26E. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information including fines and/or imprisonment.

Name: _____	UST Cert. No.: _____
Firm: _____	Firm's UST Cert. Number: _____
Firm Address: _____	
City/Town: _____	State: _____ Zip Code: _____
Phone Number: _____	Ext: _____ Fax: _____
Signature: _____	Date: _____
No Changes Since Last Submittal ☐	

Submit this form to the assigned case manager, municipal clerk and designate health department. If there is no assigned case manager, submit this form to:

Bureau of Case Assignment & Initial Notice
New Jersey Department of Environmental Protection
Site Remediation Program
401 East State Street, PO Box 434
Trenton, NJ 08625

**RECEPTOR EVALUATION FORM
SUPPLEMENTAL INFORMATION**

Former Kenvil Works

Street Address: 100 Howard Boulevard

Municipality: Kenvil

County: Morris

Zip Code: 07847

Program Interest Number: 000741

Case Tracking Number: 14794

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

Table B-1 provides a list of sensitive populations with 200 feet of the site. Figure B-1 shows the location sensitive populations with 200 feet of the site.

**Table B-1 Sensitive Use Properties Within 200 Feet of the Former Kenvil Works.
Former Kenvil Works; Kenvil, New Jersey.**

Municipality	Block	Lot	Owner	Location Address	Land Use
Roxbury	2605	2	PETILLO ENTERPRISES	8 DEHART ST	Residential
Roxbury	4002	2	STICKLE, JESSE R JR/GLORIA J	8 HERCULES RD	Residential
Roxbury	4002	3	KANTROWITZ, DEBRA B	10 HERCULES RD	Residential
Roxbury	4002	4	HAGENS,ROBERT	12 HERCULES RD	Residential
Roxbury	4002	6	KENNY, JOHN/BETHANY	52 HERCULES RD	Residential
Roxbury	4002	7	WENG, JIAN HUI	54 HERCULES RD	Residential
Roxbury	4002	8	LAW, JULIANNE M	54A HERCULES RD	Residential
Roxbury	4002	9	GONI, OSCAR E/DARLENE R	56 HERCULES RD	Residential
Roxbury	4002	10	KOWZUN, GEORGE/MARYANN	58 HERCULES RD	Residential
Roxbury	4002	11.01	FENSKE, GEORGE E/LOIS E	60 HERCULES RD	Residential
Roxbury	4002	11.02	BERRY, LEONARD W/VILMA F	29 BERKSHIRE VALLEY RD	Residential
Roxbury	4002	25	BILENKI, STEVEN T	765 ROUTE 46, KEN	Residential
Roxbury	4003	1	SERRA/SANGIOVANNI, MICHAEL/MICHELE	55 HERCULES RD	Residential
Roxbury	4003	2	SCHULTE/KATZENBERGER,DENISE/MICHAEL	57 HERCULES RD	Residential
Roxbury	4003	3	COSTANZO, FRANCIS T/WANDA JEAN	59 HERCULES RD	Residential
Roxbury	4003	4	COATS, WARREN/MARGARET/JEREMY	61 HERCULES RD	Residential
Roxbury	4003	5	EGBERT, WILLIAM/WINONA	63 HERCULES RD	Residential
Roxbury	4003	7	SECKIN, ATILLA/TAMI L	33 BERKSHIRE VALLEY RD	Residential
Roxbury	5301	6	SAI, HEMENT D% TIMING BELT SHOP	894 ROUTE 46, KEN	Residential
Roxbury	5301	7	AMATO, FRANK	890 ROUTE 46, KEN	Residential
Roxbury	5301	8	HANDEL CONTRACTORS,INC	884 ROUTE 46, KEN	Residential
Roxbury	5301	10	DEL TATTO, ALFONSO/NANCY	874 ROUTE 46, KEN	Residential
Roxbury	5301	11	CHARLES NAPOLI REAL ESTATE HOLDINGS	868 ROUTE 46, KEN	Residential
Roxbury	5301	12	CHARLES NAPOLI REAL ESTATE HOLDINGS	862 ROUTE 46, KEN	Residential
Roxbury	6601	23	UNKNOWN	UNKNOWN	Farm
Roxbury	6601	24	DOSCO PROPERTIES, LLC%FULLERTON	60 MT ARLINGTON RD	Residential
Roxbury	6701	3	NGUYEN, TAN/TIEN	5 HERCULES RD	Residential
Roxbury	6801	1	LEWIS, LEE ANN	41 BERKSHIRE VALLEY RD	Residential
Roxbury	6801	2	BRINSTER, WENDY	43 BERKSHIRE VALLEY RD	Residential
Roxbury	6801	3	BETANCUR, CARLOS I/YOLANDA	45 BERKSHIRE VALLEY RD	Residential
Roxbury	6802	1	MARRERO, LUIS/ELIZABETH	38 BERKSHIRE VALLEY RD	Residential
Roxbury	6802	2	HOFGESANG, MATTHEW J/WANDA A	40 BERKSHIRE VALLEY RD	Residential
Roxbury	6802	3	WICKRAMASINGHE, THUSHARA/DUSHANI	42 BERKSHIRE VALLEY RD	Residential
Roxbury	6802	4	MC DONOUGH, SHAWN/CHRISTINE	44 BERKSHIRE VALLEY RD	Residential
Roxbury	6802	5	MILLER, JEREMIAH/APRIL	46 BERKSHIRE VALLEY RD	Residential
Roxbury	6802	6	KHAN, MOHAMAD O/NEELAN	46A BERKSHIRE VALLEY RD	Residential
Roxbury	6802	7	MORI, ARVIND/BINDU	48 BERKSHIRE VALLEY RD	Residential
Roxbury	6802	8	FITZPATRICK, SHARRON	52 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	1	SICSKO, MICHAEL/CAROL E	157 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	2.01	AEDO, JUAN A	161 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	2.02	RANA, ANIL/SHAH, TRUSHNA	159 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	3	DOUGAR, ANDREW/LUCY	165 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	6	MANGANELLA, SAMUEL G/ELVIRA A	5 OLD TIMBERS CT	Residential
Roxbury	7001	7	GREMSPERGER, ADRIAN/DIANE	6 OLD TIMBERS CT	Residential
Roxbury	7001	8	MISEO, GIOVANNI/JOAN	4 OLD TIMBERS CT	Residential
Roxbury	7001	11	CARRERO, LUIS/ROBYN	177 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	12	GAZZOLI, JAMES M/JUDITH D	179 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	13	ORBIN, DOUGLAS	181 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	14	JOHNSON, ELAINE	183 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	15	MILNE, CLARA	185 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	16	ROMAN, EDVIN/ROSSANA	187 BERKSHIRE VALLEY RD	Residential
Roxbury	7001	17	RODRIQUEZ, JOSE A/HERMINIA	189 BERKSHIRE VALLEY RD	Residential
Roxbury	7204	6	SOTO, CARMEN I/JUAN C	369 W DEWEY AVE	Residential

**Table B-1 Sensitive Use Properties Within 200 Feet of the Former Kenvil Works.
Former Kenvil Works; Kenvil, New Jersey.**

Municipality	Block	Lot	Owner	Location Address	Land Use
Roxbury	7204	7	DZIATKOWSKI, JAN	371 W DEWEY AVE	Residential
Roxbury	7204	8	MILLER, LILLIAN	373 W DEWEY AVE	Residential
Roxbury	7204	9	MILLER, LILLIAN MAY	377 W DEWEY AVE	Residential
Roxbury	7204	10	UNKNOWN	UNKNOWN	Residential
Roxbury	7204	11	SICKSKO/SPITZER, BARBARA D/KEVIN M	387 W DEWEY AVE	Residential
Roxbury	7204	12	VERRONE, THOMAS W	389 W DEWEY AVE	Residential
Roxbury	7204	13	CHERVENACK, NICHOLAS A JR	393 W DEWEY AVE	Residential
Roxbury	7204	14	HORNYOK, JOSEPH III/SHIRLEY ANN	395 W DEWEY AVE	Residential
Roxbury	7204	15	IRETON, DANIEL K/DOREEN A	397 W DEWEY AVE	Residential
Roxbury	7204	16	PRZESTRZELSKI, ANDRZEJ/ALICJA	399 W DEWEY AVE	Residential
Roxbury	7204	17	JOYCE, EDWARD J/MARY ANN	401 W DEWEY AVE	Residential
Roxbury	7204	18	UNKNOWN	403 W DEWEY AVE	Residential
Roxbury	7204	19	TRONGONE, ROBERT J/JOAN	407 W DEWEY AVE	Residential
Roxbury	7204	20	BAUMANN/RIZZO, ROBERT L F II/DIANE	409 W DEWEY AVE	Residential
Roxbury	8801	22	VON KUEHLMAN, ANN	57 MT ARLINGTON RD	Residential
Roxbury	8901	2.01	SALMON BROS INC	15 SALMON LANE, LEDGE	Farm
Roxbury	8901	2.02	ROCKBOUND, LLC%LESLIE S WETZEL	15 SALMON LANE, LEDGE	Farm
Roxbury	8901	6	WU/LO, CHUN YING/HSIAO CHUAN	113 HOWARD BLVD	Residential

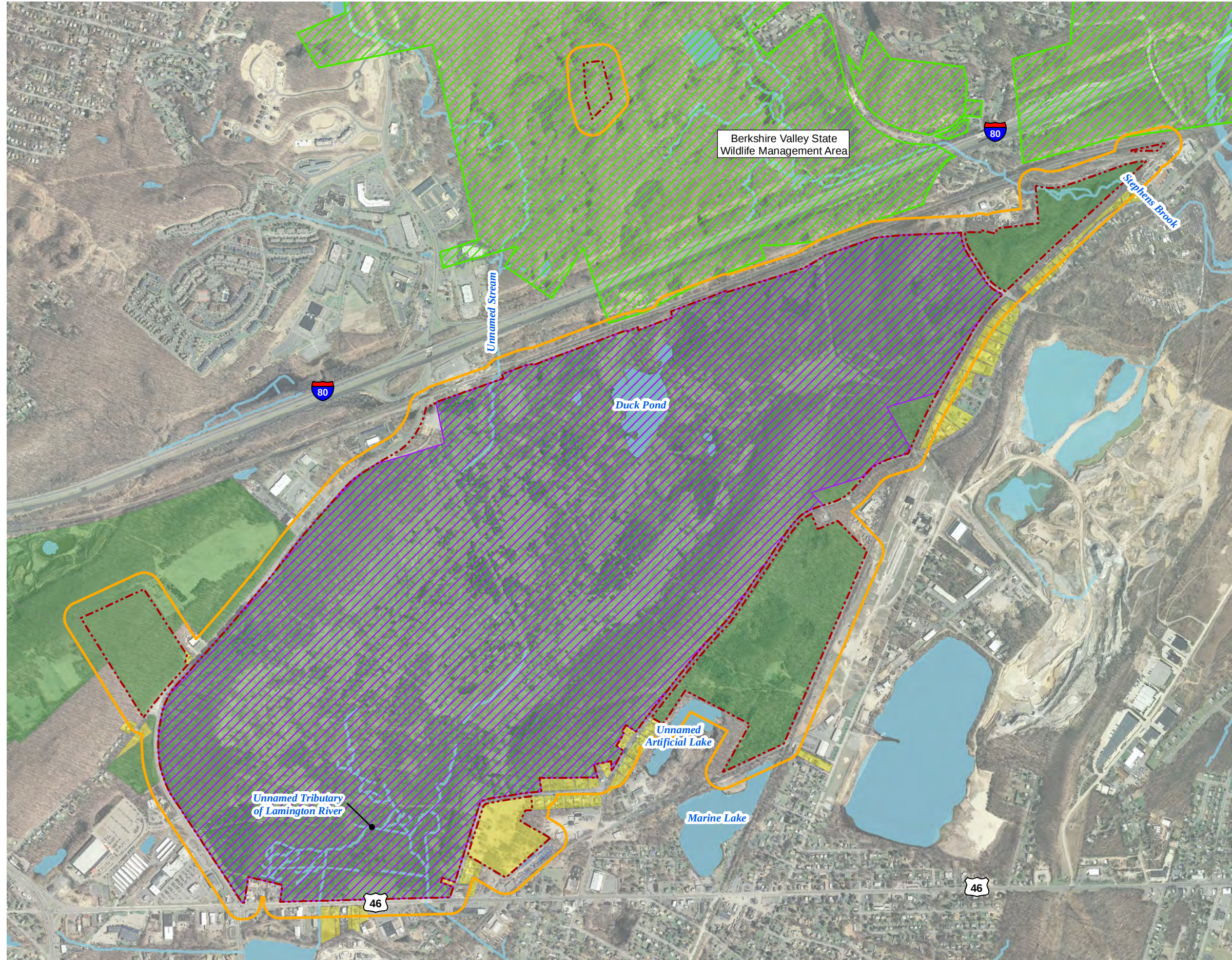


FIGURE B-1



LEGEND

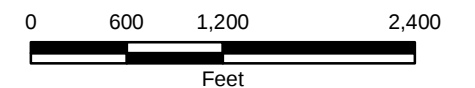
- Site Boundary
- 200 Ft. Site Buffer
- Residential Property
- Farm Property
- Potential Future Industrial Use
- State-Owned Open Space
- Surface Water

NOTES

1. 2007 Aerial Imagery: NJ Office of Information Technology (NJGIT), Office of Geographic Information Systems (OGIS).
2. State-Owned Open Sapce and Surface Water: NJ Department of Environmental Protection (NJDEP).
3. Parcel information: Morris County Planning Department and NJ Association of County Tax Boards, www.njactb.org.

**RECEPTOR EVALUATION
FORMER HERCULES KENVIL
WORKS FACILITY
KENVIL, NEW JERSEY**

**SENSITIVE USES/
POPULATIONS WITHIN
200 FEET OF SITE**



FEBRUARY 2011
2420/46424

**RECEPTOR EVALUATION FORM
SUPPLEMENTAL INFORMATION**

Former Kenvil Works

Street Address: 100 Howard Boulevard

Municipality: Kenvil

County: Morris

Zip Code: 07847

Program Interest Number: 000741

Case Tracking Number: 14794

SECTION C. Description of Contamination

Part 2 Brief Summary of Available Data

Attachment C-1 provides a description of contamination

Attachment C-2 - Figure A-4 from Volume A of the Remedial Investigation Report (Soil - Site Wide Areal Extent of Exceedances)

Attachment C-3 - Figure A-6 from Volume A of the Remedial Investigation Report (Groundwater- Site Wide Areal Extent of Exceedances)

Attachment C-4 - Figure A-7 from Volume A of the Remedial Investigation Report (Sediment- Site Wide Areal Extent of Exceedances)

Attachment C-5- Figure A-8 from Volume A of the Remedial Investigation Report (Surface Water - Site Wide Areal Extent of Exceedances)

Attachment C-6- August 2009 Community Fact Sheet provides a range of contaminants of concern present at the site.

Attachment C-1

Description of Contamination

ATTACHMENT C-1

DESCRIPTION OF CONTAMINATION

Site Investigations (SI) and Remedial Investigations (RI) have been ongoing at the Kenvil Works Facility (Facility) since 1999. The investigations included the characterization of the following media:

- Soil
- Groundwater
- Sediment
- Surface Water

A description of contamination associated with each of the investigated media, based on results reported in the May 2007 *Remedial Investigation Report – Volume A Summary* (RIR), is provided below.

SOIL

SI and RI soil investigations conducted at the Facility included the collection and analysis of 3,309 soil samples. The laboratory analysis of soil samples identified volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), Metals, energetic and explosive compounds (E&E), and Total polychlorinated biphenyls (PCBs) at concentrations exceeding the NJDEP's Soil Cleanup Criteria (SCC) (See Attachment C-3). Since the RIR was submitted, the SCC have been superseded by Soil Remediation Standards (SRS). Based on the NJDEP's November 18, 2010 comment letter, Ashland is currently re-evaluating soil sample results using the SRS.

- VOCs were detected at concentrations exceeding SRS at very few sample locations and do not represent a significant environmental condition.
- SVOCs were detected at concentrations exceeding the applicable SRS at the Facility and are comprised primarily of PAH constituents. These constituents are primarily associated with the historic fill material present at the site. To a lesser extent, these constituents are associated with historic manufacturing operations.
- 2,4/2,6-DNT (SVOC) was detected at concentrations exceeding either the applicable SRS.
- Metals were detected at concentrations exceeding the applicable SRS at the Facility and are primarily associated with the presence of historic fill and to a lesser extent historic manufacturing operations.
- E&E constituents detected at concentrations exceeding the applicable SRS.
- Total PCBs were detected at various locations throughout the Facility. Total PCBs detected above the SRS are contained within the Facility.

Limited additional soil characterization will is planned.

GROUNDWATER

Three primary aquifers underlying the Facility as described in the SI and RI include:

- Upper Valley Fill Aquifer (UVFA);
- Lower Valley Fill Aquifer (LVFA); and
- Carbonate rock aquifer.

The UVFA and LVFA are hydraulically separated by the upper confining unit. The LVFA and the carbonate rock aquifer are hydraulically separated by a confining unit.

SI and RI groundwater investigations conducted at the Facility included the collection and analysis of 326 groundwater samples. The results of the laboratory analysis of the groundwater samples identified two discernable E&E plumes and various isolated points of exceedance present at the Facility. VOCs, SVOCs, Total Metals, E&E, and Total PCBs were found in groundwater at concentrations exceeding the GWQS (Attachment C-3).

The larger groundwater plume contains several is present within Area II underlying portions of the TNT, Pentaerythritol Tetranitrate (PETN), Dynamite, and Miscellaneous/Offsite Areas. The following conclusions are drawn concerning this plume:

- The groundwater results indicate the presence of one or more of the following E&E constituents at concentrations exceeding the GWQS: TNT, 2-Amino-DNT, 4-Amino-DNT, cyclotrimethylenetrinitramine (RDX), NG, and Perchlorate.
- The presence of 2-Amino-DNT and 4-Amino-DNT identified within the plume area indicates natural attenuation of TNT is occurring.
- The UVFA is very thin on the ridge within the plume area and the LVFA is not anticipated to be present.

The smaller groundwater plume only is present within Area III underlying portions of the A-Line, Diazo, and Development Areas. The groundwater results indicate the presence of RDX at concentrations exceeding the GWQS. The horizontal and vertical limits of this plume have been defined.

The following conclusions are drawn concerning the isolated points of exceedance:

- Trichloroethylene (TCE) was detected at a concentration exceeding the GWQS at MW-18 (2 ug/l).
- SVOCs detected at concentrations exceeding the GWQS at GW-R-TR-03 are comprised primarily of PAH constituents. These constituents appear to be associated with the presence of historic fill and are not expected to be present in a dissolved/mobile state.

- 2,4/2,6-DNT was detected at concentrations exceeding the GWQS at MW-27 and MW-47.
- Metals were detected at concentrations exceeding the GWQS at MW-10, MW-16, MW-18, MW-33, MW-38D, MW-44 and OB-2. It is uncertain if the above listed metals are associated with turbid sampling conditions or are present in the dissolved state. Future evaluation is planned.
- E&E constituents were detected at concentrations exceeding the GWQS at MW-27, MW-35D.
- PCBs were detected at concentrations exceeding the GWQS at MW-41D.

SEDIMENT

SI and RI sediment investigations conducted at the Facility included the collection and analysis of 530 sediment samples. Sediment quality at the Facility is well defined and all constituents detected above the Lower Effects Level (LEL) or Severe Effects Level (SEL) (VOCs, SVOCs, Metals, and E&E) are contained within the boundary of the Facility (See Attachment C-4). A summary of constituents detected at concentrations exceeding the LEL or SEL in sediment (presented below by analytical group) is provided below:

- Tetrachloroethylene (PCE) was detected at concentrations exceeding the LEL in the Western Drainage Area but is not attributed to historic Facility operations. The sediment contamination appears to have been caused by contaminated groundwater discharge from off-site sources to surface water and sediment bodies. A large regional chlorinated VOC plume underlies the facility in the region of the Western Drainage Area.
- SVOCs were detected at concentrations exceeding either the LEL or SEL at the Facility are comprised primarily of PAH constituents. These constituents are associated with the presence of historic fill.
- Non-PAH SVOCs were detected at concentrations exceeding either the LEL or SEL at the Facility and are associated with historical manufacturing processes.
- Metals detected at concentrations exceeding either the LEL or SEL at the Facility are associated with historic fill and the handling of a spent acids containing metal constituents derived from contact with process vessels and piping.
- E&E constituents detected at concentrations exceeding the LEL at the Facility are associated with historic manufacturing operations.

SURFACE WATER

SI and RI surface water investigations conducted at the Facility included the collection and analysis of 272 surface water samples. The results of the laboratory analysis of the surface water samples identified a total of 25 discrete stream segments/areas site-wide with constituents detected at concentrations exceeding the SWQS (See Attachment C-5). Surface water quality at

the Facility is well defined and all constituents detected at concentrations above the SWQS are contained within the boundary of the Facility. A summary of constituents detected above the SWQS (VOC, SVOCs, Total and Dissolve Metals, E&E) is provided below:

- PCE was detected at concentrations exceeding the SWQS in the southern Western Drainage Area and is not associated with historic Facility operations.
- SVOCs were detected at concentrations exceeding the SWQS in the Western Drainage Area and Central Drainage Area and are comprised primarily of PAH constituents. The source of the PAH constituents is the historic fill placed in close proximity to the Facility's surface water bodies. It is uncertain if the above listed SVOCs are associated with turbid sampling conditions or are present in the dissolved state. Future evaluation is planned.
- 2,4-DNT (SVOC) was detected at concentrations exceeding the SWQS in the Central Drainage Area.
- Total Metals concentrations were detected above the SWQS and are attributed to historic fill placed in close proximity to the Facility's surface water bodies and to lesser extent the erosion soil from areas where heterogeneous deposition of metals in soil occurred as a result of historical fires and explosions. It is uncertain if the above listed metals are associated with turbid sampling conditions or are present in the dissolved state. Future evaluation is planned.
- Dissolved Metals were detected at concentrations exceeding the SWQS in Duck Pond and Tributaries Drainage and Miscellaneous Ponds Drainage and are attributed to naturally occurring tannic acid produced from decaying hardwood vegetation (e.g. oak and walnut) in the slow moving surface water present within the upland wetland areas.
- E&E constituents were detected at concentrations exceeding the SWQS in the Western Drainage Area and Central Drainage Area and are associated with historic manufacturing operations.

CONCENTRATION RANGES

Concentration ranges for chemicals of concern present in the various media are summarized in the August 2009 Community Fact Sheet (Attachment C-6). The Community Fact Sheet was issued as part of Public Notification requirements for the site.

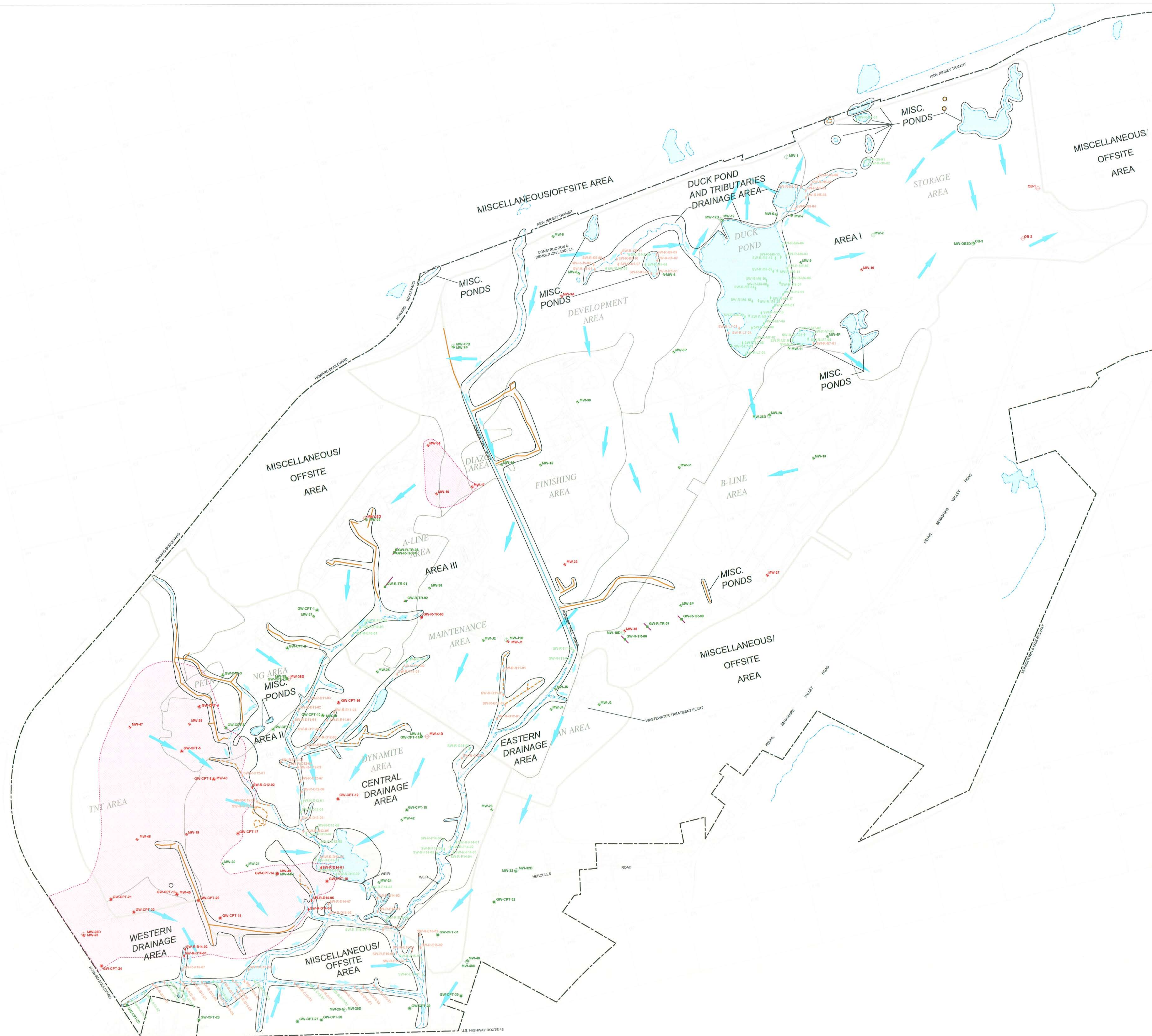
Attachment C-2

Figure A-4 from Volume A of the Remedial Investigation Report (Soil - Site Wide Areal Extent of Exceedances)

Attachment C-3

Figure A-6 from Volume A of the Remedial Investigation Report (Groundwater- Site Wide Areal Extent of Exceedances)

REV	DATE	BY	DESCRIPTION

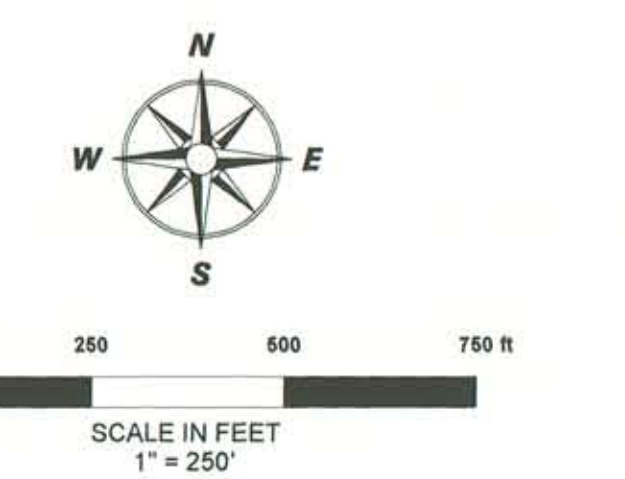


LEGEND:

- INFERRED COMPOSITE AREAL EXTENT INCLUDING ALL ANALYTICAL GROUPS EXCEEDING HUMAN HEALTH OR AESTHETIC LIFE ACUTE SWQS OR GWQS, AS APPLICABLE
- RI SURFACE WATER SAMPLE LOCATION WITH SWQS EXCEEDANCE, ATTRIBUTED TO GROUNDWATER
- RI SURFACE WATER SAMPLE LOCATION WITH SWQS EXCEEDANCE, NOT ATTRIBUTED TO GROUNDWATER
- RI SURFACE WATER SAMPLE LOCATION WITH NO SWQS EXCEEDANCE
- SHALLOW MONITORING WELL LOCATION WITH GWQS EXCEEDANCE
- SHALLOW MONITORING WELL LOCATION WITH NO GWQS EXCEEDANCE
- DEEP MONITORING WELL LOCATION WITH GWQS EXCEEDANCE
- DEEP MONITORING WELL LOCATION WITH NO GWQS EXCEEDANCE
- E&E SCREENING CONE PENETROMETER (CPT) LOCATION WITH GWQS EXCEEDANCE
- E&E SCREENING CONE PENETROMETER (CPT) LOCATION WITH NO GWQS EXCEEDANCE
- CONE PENETROMETER (CPT) LOCATION WITH GWQS EXCEEDANCE
- CONE PENETROMETER (CPT) LOCATION WITH NO GWQS EXCEEDANCE
- TRENCH SAMPLE LOCATION WITH GWQS EXCEEDANCE
- TRENCH SAMPLE LOCATION WITH NO GWQS EXCEEDANCE
- J INDICATES THAT THE COMPOUND WAS ANALYZED FOR AND WAS DETECTED BELOW THE REPORTING LIMIT. NUMBER INDICATES AN ESTIMATED VALUE.
- U INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. NUMBER INDICATES THE DETECTION LIMIT.
- SURFACE WATER FLOW DIRECTION
- GROUNDWATER FLOW DIRECTION
- DRY STREAM SEGMENT, AREA, OR FORMER DITCH (REFER TO NOTE 9)
- STREAM SEGMENT OR AREA WITHOUT SUFFICIENT WATER PRESENT (REFER TO NOTE 10)
- TRENCH FOR HYDRAULIC OIL INVESTIGATION
- WEIR
- PROPERTY LINE
- WATER FEATURE
- REMEDIAL AREA
- FORMER OPERATIONAL AREA
- UTILITY POLE
- LIGHT POLE
- WET AREA
- FENCE
- PROPERTY LINE
- GUIDE RAIL
- RAILROAD
- SMALL GAUGE RAIL
- PERIMETER OF WET AREA
- CULVERT
- STREAMS
- TRAIL/DIRT ROAD
- ELECTRIC SUBSTATION
- BUILDING

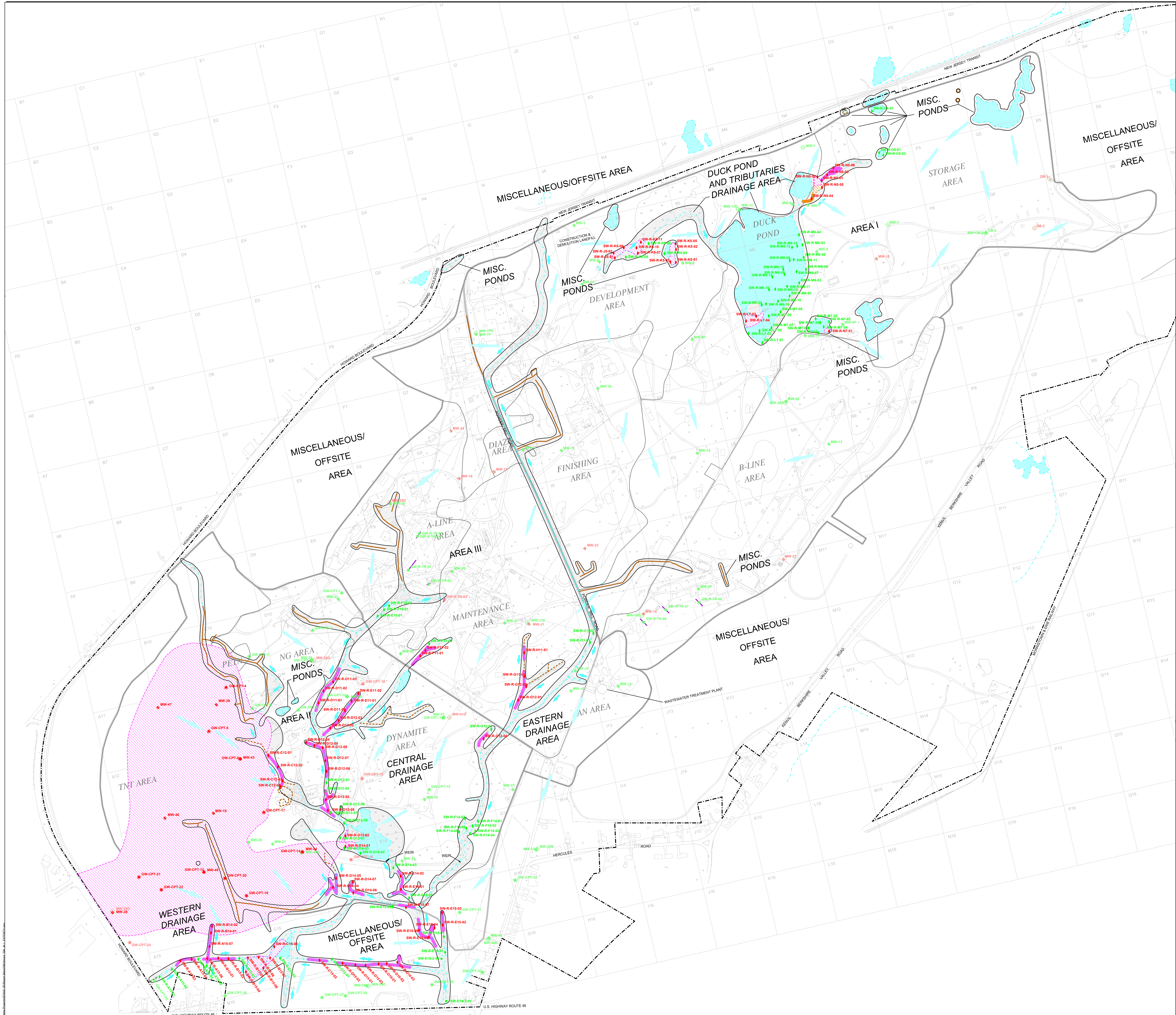
NOTES:

1. THESE FILES ARE IN THE NORTH AMERICAN DATUM 1983 NEW JERSEY STATE PLANE COORDINATE SYSTEM. THE TOPOGRAPHIC FILE REFERENCES THE NORTH AMERICAN DATUM 1988. THE FACILITY GRID SYSTEM WAS HISTORICALLY DEVELOPED BY HERCULES INCORPORATED TO AD- SITE MANAGEMENT, AND GRID LINES ARE NOT ORIENTED TO TRUE NORTH.
2. THE BOUNDARY LINE AS DELINEATED IS APPROXIMATE AND HAS BEEN DERIVED FROM A MAP ENTITLED "HERCULES INCORPORATED, KENVEL PLANT PROPERTY MAP, PLANT 250, ACCOUNT 2500, CLASSIFICATION 21045, FILE CODE 056 REVISION 1" REVISED TO JUNE 11, 1975, PROVIDED BY REPRESENTATIVES OF HERCULES, INC. AND THE TAX MAP OF THE TOWNSHIP OF ROSELAND, NEW JERSEY, INCORPORATED TO AD- SITE MANAGEMENT, AND GRID LINES ARE NOT ORIENTED TO TRUE NORTH.
3. GROUNDWATER REMEDIAL INVESTIGATION SAMPLE LOCATIONS WERE SELECTED BASED ON ANALYTICAL RESULTS PRESENTED IN THE GROUNDWATER SITE INVESTIGATION (GW-SI) REPORT (MWH, 2004). SURFACE WATER REMEDIAL INVESTIGATION SAMPLE LOCATIONS WERE SELECTED BASED ON ANALYTICAL RESULTS PRESENTED IN THE SURFACE WATER/SEGMENT SITE INVESTIGATION (SW-SI) REPORT (MWH, 2004).
4. GROUNDWATER ANALYTICAL SAMPLE RESULTS WERE COMPARED TO CRITERIA DERIVED FROM THE FOLLOWING APPLICABLE GROUNDWATER QUALITY STANDARDS (GWQS): THE 2006 GROUNDWATER QUALITY STANDARDS (GWQS), JUNE 2006; ENVIRONMENTAL PROTECTION AGENCY REGION 9 RISK-BASED CRITERIA (EPA REGION 9 RBC), APRIL 2006; ENVIRONMENTAL PROTECTION AGENCY REGION 9 RISK-BASED CRITERIA (EPA REGION 9 RBC), OCTOBER 2006.
5. SURFACE WATER ANALYTICAL SAMPLE RESULTS WERE COMPARED TO CRITERIA DERIVED FROM THE FOLLOWING APPLICABLE SURFACE WATER QUALITY STANDARDS (SWQS): THE 2006 SURFACE WATER QUALITY STANDARDS (SWQS), OCTOBER 2006; ENVIRONMENTAL PROTECTION AGENCY REGION 9 RISK-BASED CRITERIA (EPA REGION 9 RBC), APRIL 2006; ENVIRONMENTAL PROTECTION AGENCY REGION 9 RISK-BASED CRITERIA (EPA REGION 9 RBC), OCTOBER 2006.
6. AREAL EXTENTS WERE DETERMINED FOR SAMPLE LOCATIONS THAT EXCEEDED THE GROUNDWATER AND SURFACE WATER CRITERIA BY ANALYTICAL GROUP. SURFACE WATER SAMPLE LOCATIONS WERE INCLUDED IN ORDER TO ILLUSTRATE THE RELATIONSHIP BETWEEN GROUNDWATER AND SURFACE WATER.
7. ANALYTICAL SAMPLES PRESENTED ON THIS FIGURE WERE COLLECTED DURING THE REMEDIAL INVESTIGATION.
8. AREAL EXTENTS HAVE INCORPORATED INFERRED EXTENTS UTILIZING THE ISOCONCENTRATION FIGURES, AS APPLICABLE.
9. SOLID BROWN LINES REPRESENT DRY STREAM SEGMENTS OR FORMER DITCHES THAT NO LONGER CARRY WATER SINCE MANUFACTURING OPERATIONS HAVE CEASED. THESE AREAS ARE NO LONGER CONSIDERED SURFACE WATER OR SEGMENT BODIES AND ARE CONSIDERED SOIL IN THE REMEDIAL INVESTIGATION REPORT.
10. DASHED BROWN LINES REPRESENT STREAM SEGMENTS OR AREAS WITHOUT SUFFICIENT WATER PRESENT FOR SURFACE WATER SAMPLE COLLECTION, HOWEVER SATURATED SEGMENTS ARE PRESENT.



Attachment C-4

Figure A-7 from Volume A of the Remedial Investigation Report (Sediment- Site Wide Areal Extent of Exceedances)



REV	DATE	BY	DESCRIPTION

LEGEND:

- INFERRED COMPOSITE AREAL EXTENT INCLUDING ANALYTICAL GROUPS EXCEEDING THE HUMAN HEALTH SWQS, GWS, OR THE AQUATIC LIFE ACUTE SWQS FOR DISSOLVED METALS, AS APPLICABLE
- INFERRED COMPOSITE AREAL EXTENT EXCEEDING THE AQUATIC LIFE CHRONIC SWQS FOR DISSOLVED METALS
- RI SURFACE WATER SAMPLE LOCATION WITH SWQS EXCEEDANCE
- RI SURFACE WATER SAMPLE LOCATION WITH NO SWQS EXCEEDANCE
- SI SURFACE WATER SAMPLE LOCATION WITH NO SWQS EXCEEDANCE
- SHALLOW MONITORING WELL LOCATION WITH GWS EXCEEDANCE, AFFECTING SURFACE WATER
- SHALLOW MONITORING WELL LOCATION WITH GWS EXCEEDANCE, NOT AFFECTING SURFACE WATER
- SHALLOW MONITORING WELL LOCATION WITH NO GWS EXCEEDANCE, NOT AFFECTING SURFACE WATER
- DEEP MONITORING WELL LOCATION WITH GWS EXCEEDANCE, NOT AFFECTING SURFACE WATER
- DEEP MONITORING WELL LOCATION WITH NO GWS EXCEEDANCE, NOT AFFECTING SURFACE WATER
- TRENCH SAMPLE LOCATION WITH GWS EXCEEDANCE, NOT AFFECTING SURFACE WATER
- TRENCH SAMPLE LOCATION WITH NO GWS EXCEEDANCE, NOT AFFECTING SURFACE WATER
- INDICATES THAT THE COMPOUND WAS ANALYZED FOR AND WAS DETECTED BELOW THE REPORTING LIMIT, AND/OR NUMBER INDICATES AN ESTIMATED VALUE
- J INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED BELOW THE REPORTING LIMIT, AND/OR NUMBER INDICATES THE DETECTION LIMIT
- SURFACE WATER FLOW DIRECTION
- GROUNDWATER FLOW DIRECTION
- DRY STREAM SEGMENT AREA, OR FORMER DITCH (REFER TO NOTE 8)
- STREAM SEGMENT OR AREA WITHOUT SUFFICIENT WATER PRESENT (REFER TO NOTE 10)
- TRENCH FOR HYDRAULIC OIL INVESTIGATION
- WEIR
- PROPERTY LINE
- WATER FEATURE
- REMEDIAL AREA
- FORMER OPERATIONAL AREA
- UTILITY POLE
- LIGHT POLE
- WET AREA
- FENCE
- PROPERTY LINE
- GUIDE RAIL
- RAILROAD
- SMALL GAUGE RAIL
- PERIMETER OF WET AREA
- CULVERT
- STREAMS
- TRAIL/DIRT ROAD
- ELECTRIC SUBSTATION
- BUILDING

NOTES:

1. THESE FILES ARE IN THE NORTH AMERICAN DATUM 1983 NEW JERSEY STATE PLANE COORDINATE SYSTEM. THE TOPOGRAPHIC FILE REFERENCES THE NORTH AMERICAN VERTICAL DATUM 1988. THE FACILITY GRID SYSTEM WAS HISTORICALLY DEVELOPED BY HERCULES INCORPORATED TO AID SITE MANAGEMENT, AND GRID LINES ARE NOT ORIENTED TO TRUE NORTH.
2. THE BOUNDARY LINE AS DELINEATED IS APPROXIMATE AND HAS BEEN DIGITIZED FROM A MAP ENTITLED "HERCULES INCORPORATED, KENVAL PLANT PROPERTY MAP, PLANT ACCOUNT 5500, CLASSIFICATION 21045, FILE CODE SWE REVISION 1" REVISED TO JUNE 11, 1970. PROVIDED BY REPRESENTATIVES OF HERCULES, INC., AND THE TAX MAP OF THE TOWNSHIP OF BOXBURY AND NOT FROM AN ACTUAL FIELD SURVEY OR WITH THE BENEFIT OF A TITLE SEARCH.
3. GROUNDWATER REMEDIAL INVESTIGATION SAMPLE LOCATIONS WERE SELECTED BASED ON ANALYTICAL RESULTS PRESENTED IN THE GROUNDWATER SITE INVESTIGATION (GW-SI) REPORT (MAH, 2004). SURFACE WATER REMEDIAL INVESTIGATION SAMPLE LOCATIONS WERE SELECTED BASED ON ANALYTICAL RESULTS PRESENTED IN THE SURFACE WATER/SEDIMENT SITE INVESTIGATION (SW/SO-SI) REPORT (MAH, 2004).
4. GROUNDWATER ANALYTICAL SAMPLE RESULTS WERE COMPARED TO CRITERIA DERIVED FROM THE FOLLOWING APPLICABLE GROUNDWATER QUALITY STANDARDS (GWS): THE NJDEP GROUNDWATER QUALITY STANDARDS (NJDEP GWS), JUNE 2005; ENVIRONMENTAL PROTECTION AGENCY REGION III RISK BASED CRITERIA (EPA REGION III RBC), APRIL 2006; ENVIRONMENTAL PROTECTION AGENCY REGION III RISK BASED CRITERIA (EPA REGION III RBC), OCTOBER 2006.
5. SURFACE WATER ANALYTICAL SAMPLE RESULTS WERE COMPARED TO CRITERIA DERIVED FROM THE FOLLOWING APPLICABLE SURFACE WATER QUALITY STANDARDS (SWQS): THE NJDEP SURFACE WATER QUALITY STANDARDS (NJDEP SWQS), OCTOBER 2006; ENVIRONMENTAL PROTECTION AGENCY NATIONAL RECOMMENDED WATER QUALITY CRITERIA (EPA NRC), 2006; ENVIRONMENTAL PROTECTION AGENCY AMBIENT WATER QUALITY CRITERIA (AWQC), 1995.
6. AREAL EXTENTS WERE DETERMINED FOR SAMPLE LOCATIONS THAT EXCEEDED THE GROUNDWATER AND SURFACE WATER CRITERIA BY ANALYTICAL GROUP. GROUNDWATER SAMPLE LOCATIONS WERE INCLUDED IN ORDER TO ILLUSTRATE THE RELATIONSHIP BETWEEN GROUNDWATER AND SURFACE WATER.
7. ANALYTICAL SAMPLES PRESENTED ON THIS FIGURE WERE COLLECTED DURING THE REMEDIAL INVESTIGATION. SITE INVESTIGATION SAMPLES SW-E-2-01 AND SW-E-13-01 ARE INCLUDED ON THIS FIGURE TO INDICATE NO SURFACE WATER CONTAMINATION EXISTS THE FACILITY. THE ANALYTICAL RESULTS OF THESE TWO SAMPLES HAVE BEEN COMPARED TO THE CURRENT SWQS.
8. SOLID BROWN LINES REPRESENT DRY STREAM SEGMENTS OR FORMER DITCHES THAT NO LONGER CONVEY WATER SINCE MANUFACTURING OPERATIONS HAVE CEASED. THESE AREAS ARE NO LONGER CONSIDERED SURFACE WATER OR SEDIMENT BODIES AND ARE CONSIDERED SOIL IN THE REMEDIAL INVESTIGATION REPORT.
9. DASHED BROWN LINES REPRESENT STREAM SEGMENTS OR AREAS WITHOUT SUFFICIENT WATER PRESENT FOR SURFACE WATER SAMPLE COLLECTION. HOWEVER SATURATED SEDIMENTS ARE PRESENT.
10. AREAL EXTENTS HAVE INCORPORATED INFERRED HORIZONTAL EXTENTS UTILIZING THE REC AREAL EXTENT FIGURES, AS APPLICABLE.
11. REMEDIAL INVESTIGATION SAMPLES SW-R-D13-04 AND SW-R-D13-07 (CENTRAL DRAINAGE) WERE NOT ANALYZED FOR ALL ANALYTICAL GROUPS. TO BE CONSERVATIVE THESE TWO POINTS ARE NOT CONSIDERED POINTS OF COMPLIANCE ON THIS FIGURE.

0 250 500 750 N
SCALE IN FEET
1" = 250'

**REMEDIAL INVESTIGATION REPORT
HERCULES INCORPORATED
KENVAL WORKS FACILITY**

**SURFACE WATER -
SITE WIDE AREAL EXTENT OF EXCEEDANCES**

MWH

FIGURE E - 7

Kenval Works Facility Remedial Investigation Report - Surface Water Areal Extent of Exceedances

Attachment C-5

Figure A-8 from Volume A of the Remedial Investigation Report (Surface Water - Site Wide Areal Extent of Exceedances)

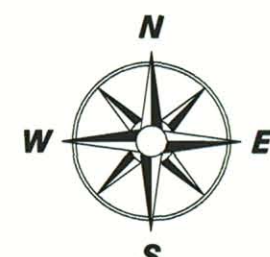
REV	DATE	BY	DESCRIPTION

LEGEND:

- INFERRED COMPOSITE AREAL EXTENT INCLUDING ALL ANALYTICAL GROUPS EXCEEDING THE SEL
- INFERRED COMPOSITE AREAL EXTENT INCLUDING ALL ANALYTICAL GROUPS EXCEEDING THE LEL
- RI SEDIMENT SAMPLE LOCATION WITH LEL OR SEL EXCEEDANCE
- SI SEDIMENT SAMPLE LOCATION WITH LEL OR SEL EXCEEDANCE
- RI SEDIMENT SAMPLE LOCATION WITH NO LEL OR SEL EXCEEDANCES
- SI SEDIMENT SAMPLE LOCATION WITH NO LEL OR SEL EXCEEDANCES
- SURFACE WATER FLOW DIRECTIONS
- DRY STREAM SEGMENT, AREA, OR FORMER DITCH (REFER TO NOTE 9)
- STREAM SEGMENT OR AREA WITHOUT SUFFICIENT WATER PRESENT (REFER TO NOTE 10)
- WEIR
- PROPERTY LINE
- WATER FEATURE
- REMEDIAL AREA
- FORMER OPERATIONAL AREA
- UTILITY POLE
- LIGHT POLE
- WET AREA
- FENCE
- PROPERTY LINE
- GUIDE RAIL
- RAILROAD
- SMALL GAUGE RAIL
- PERIMETER OF WET AREA
- CULVERT
- STREAMS
- TRAIL/DIRT ROAD
- ELECTRIC SUBSTATION
- BUILDING

NOTES:

- THESE FILES ARE IN THE NORTH AMERICAN DATUM 1983 NEW JERSEY STATE PLANE COORDINATE SYSTEM. THE TOPOGRAPHIC FILE REFERENCES THE NORTH AMERICAN VERTICAL DATUM 1988. THE FACILITY GRID SYSTEM WAS HISTORICALLY DEVELOPED BY HERCULES INCORPORATED TO AID SITE MANAGEMENT, AND GRID LINES ARE NOT ORIENTED TO TRUE NORTH.
- THE BOUNDARY LINE AS DELINEATED IS APPROXIMATE AND HAS BEEN DIGITIZED FROM A MAP ENTITLED "HERCULES INCORPORATED, KENVIL PLANT PROPERTY MAP, PLANT 080, ACCOUNT 9500, CLASSIFICATION 21045, FILE CODE ONE REVISION, 17, REVISED TO JUNE 11, 1970 PROVIDED BY REPRESENTATIVES OF HERCULES, INC., AND THE TAX MAP OF THE TOWNSHIP OF ROXBURY AND NOT FROM AN ACTUAL FIELD SURVEY OR WITH THE BENEFIT OF A TITLE SEARCH.
- DASHED TOPOGRAPHIC CONTOURS INDICATE AREAS WHERE THE GROUND IS OCCURRED BY DENSE TREES OR SHADOWS. THESE AREAS MAY NOT CONFORM TO ACTUAL STANDARDS.
- SEDIMENT REMEDIAL INVESTIGATION SAMPLE LOCATIONS WERE SELECTED BASED ON ANALYTICAL RESULTS PRESENTED IN THE SURFACE WATER/SEDIMENT SITE INVESTIGATION (SW/SD-SI) REPORT (WHS, 2004).
- SEDIMENT ANALYTICAL SAMPLE RESULTS WERE COMPARED TO CRITERIA DERIVED FROM THE FOLLOWING APPLICABLE SEDIMENT STANDARDS: NJDEP FRESHWATER SEDIMENT SCREENING GUIDELINES (FSSG) LOWEST EFFECTS LEVEL (LEL) AND SEVERE EFFECTS LEVEL (SEL); 1998 OAH ROSE NATIONAL LABORATORY RISK ASSESSMENT INFORMATION SYSTEM (RAIS); ECOLOGICAL RISK ASSESSMENT FRESHWATER SEDIMENT SCREENING BENCHMARKS (SSB).
- AREAL EXTENTS WERE DETERMINED FOR SAMPLE LOCATIONS THAT EXCEEDED THE LOWEST EFFECTS LEVEL (LEL) AND SEVERE EFFECTS LEVEL (SEL) BY ANALYTICAL GROUP.
- ANALYTICAL SAMPLES PRESENTED ON THIS FIGURE WERE COLLECTED DURING THE SITE AND REMEDIAL INVESTIGATIONS.
- AREAL EXTENTS HAVE INCORPORATED INFERRED HORIZONTAL EXTENTS UTILIZING THE FEE AREAL EXTENT FIGURES, AS APPLICABLE.
- SOLID BROWN LINES REPRESENT DRY STREAM SEGMENTS OR FORMER DITCHES THAT NO LONGER CONVEY WATER SINCE MANUFACTURING OPERATIONS HAVE CEASED. THESE AREAS ARE NO LONGER CONSIDERED SURFACE WATER OR SEDIMENT BODIES AND ARE CONSIDERED SOIL IN THE REMEDIAL INVESTIGATION REPORT.
- DASHED BROWN LINES REPRESENT STREAM SEGMENTS OR AREAS WITHOUT SUFFICIENT WATER PRESENT FOR SURFACE WATER SAMPLE COLLECTION, HOWEVER SATURATED SEDIMENTS ARE PRESENT.
- REMEDIAL INVESTIGATION SAMPLES SD-R-F14-02, SD-R-G11-01, SD-R-G12-04, SD-R-G12-05, SD-R-G12-12, SD-R-H11-04 AND SD-R-H15-01 (EASTERN DRAINAGE) AND SD-R-K3-14 (MISCELLANEOUS PONDS DRAINAGE) ARE NOT CONSIDERED AS POINTS OF COMPLIANCE, BECAUSE THESE SAMPLES WERE NOT ANALYZED FOR THE ANALYTICAL GROUPS OF CONCERN IN THE PARTICULAR AREAS. SEE SECTION 3.3 OF THE TEXT FOR DETAILED EXPLANATION.



REMEDIAL INVESTIGATION REPORT
HERCULES INCORPORATED
KENVIL WORKS FACILITY

SEDIMENT-
SITE WIDE AREAL EXTENT OF EXCEEDANCES



Attachment C-6

Community Fact Sheet

Community

FACT SHEET

Hercules Incorporated – Former Kenvil Works Facility, Kenvil, New Jersey

August 2009

Remedial Investigation Underway to Facilitate Site Remediation

Site Name:

Former Kenvil Works Facility

Site Address:

100 Howard Blvd
Kenvil, NJ 07847

Site ID Number:

Site ID: 14794

PI Number: 000741

Block and Lot Numbers:

Block 70.1 Lot 1
Block 7204 Lot 2
Block 4002 Lot 5
Block 6701 Lot 1
Block 6802 Lot 11
Block 8901 Lot 5
Block 12401 Lot 2
Block 12702 Lot 4

**For more information about this
project, please contact:**

Jim Vitak

Ashland Inc.
5200 Blazer Parkway
Dublin, Ohio 43017
Phone: (866) 323-3921

**New Jersey Department of
Environmental Protection
Office of Community Relations**

401 East State Street
6th Floor
P.O. Box 413
Trenton, NJ 08625-0413
Phone: (609) 984-3084

Working cooperatively with the New Jersey Department of Environmental Protection (NJDEP), Hercules Incorporated (a wholly-owned subsidiary of Ashland Inc.) is continuing its effort to evaluate the influence of historic manufacturing operations at the former Kenvil Works Facility located at 100 Howard Blvd., Kenvil, New Jersey. Hercules has completed Site investigation activities and is currently performing a multiphase remedial investigation to determine the best approaches for Site remediation.

Introduction

The facility was used to manufacture energetic and explosive products for approximately 125 years. Products were used by both government and commercial consumers. Following closure of manufacturing activities in 1996 the facility was demolished and environmental investigation activities commenced. The goal of the environmental investigation studies is to collect the necessary information required to remediate the Site so that it ultimately can be beneficially reused.

Accomplishments to Date

Working with NJDEP, Hercules has completed the following activities:

- Decontamination and demolition of 325 above grade structures and more than 1,000 former building foundations.
- A large facility-wide multimedia (soil, groundwater, surface water, and sediment) Site investigation (SI) was initiated in 1999 and the results were approved by the NJDEP in 2005.
- Based on the results of the SI a large multimedia remedial investigation (RI) began in 2006 and the draft RI report was submitted to the NJDEP.



History and Background

The former Kenvil Works Facility, located in Kenvil, New Jersey, is approximately 1,100 acres in size and manufactured energetic/explosive products from 1871 to 1996. The facility's primary products included propellants and explosives.

Hercules entered into a remediation agreement (RA) under the Industrial Site Recovery Act (ISRA) with the New Jersey Department of Environmental Protection (NJDEP) on March 10, 1995.

Chemicals of Concern

During the previous comprehensive environmental investigation of the facility, several compounds referred to as "chemicals of concern" were detected most frequently within the soil, groundwater, surface water, and sediment within the facility. The primary chemicals of concern are presented in the tables below. Soil is compared to the Non-Residential Direct Contact Soil Cleanup Criteria (NRDCSCC), groundwater is compared to the Class-IIA Groundwater Quality Standards (GWQS), surface water is compared to the Surface Water Quality Standards (SWQS), and sediment is compared to the Freshwater Sediment Screening Guidelines Severe Effects Levels (FSSG SEL).

Results of Most Recent Sampling

Based on the most recent round of groundwater sampling performed during the fourth quarter of 2008, concentrations of constituents present within on-Site groundwater appear stable. However, the scope of this effort included sampling groundwater off-Site in the down-gradient flow direction. Low concentrations of 2,4,6-Trinitrotoluene, 2-Amino-4,6-Dinitrotoluene, and 4-Amino-2,4-Dinitrotoluene were detected at a single location slightly exceeding the NJDEP Groundwater Quality Standard (GWQS). This sample was collected on a commercial property.

Chemical of Concern	Affected Media	Concentration Range (Mg/Kg)	NRDCSCC (Mg/Kg)	Date
Benzo(b)Fluoranthene	Soil	Not Detected – 51.0	4.0	5/07
Benzo(a)Pyrene	Soil	Not Detected – 39.0	0.66	5/07
2,4/2,6-Dinitrotoluene	Soil	Not Detected – 14,000.0	4.2	5/07
2,4,6-Trinitrotoluene	Soil	Not Detected – 120,000.0	95	5/07
Nitroglycerin	Soil	Not Detected – 476,000.0	200	5/07
Total Polychlorinated Biphenyls	Soil	Not Detected – 150.0	2	5/07
Arsenic	Soil	Not Detected – 1,150.0	20	5/07
Lead	Soil	Not Detected – 144,000	600	5/07
Thallium	Soil	Not Detected – 9.3	2	5/07

Chemical of Concern	Affected Media	Concentration Range (ug/L)	GWQS (ug/L)	Date
4-Amino-2,4-Dinitrotoluene	Groundwater	Not Detected – 330	1.4	6/09
2-Amino-4,6-Dinitrotoluene	Groundwater	Not Detected – 500	1.4	6/09
Nitroglycerin	Groundwater	Not Detected	3.7	6/09
2,4,6-Trinitrotoluene	Groundwater	Not Detected – 1,300	1.0	6/09
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine	Groundwater	Not Detected – 12.0	0.5	6/09

Chemical of Concern	Affected Media	Concentration Range (Mg/L)	SWQS (Mg/L)	Date
Arsenic	Surface Water	Not Detected – 0.469	0.000017	3/07
Lead	Surface Water	Not Detected – 3.21	0.005	3/07
Mercury	Surface Water	Not Detected – 0.0130	0.00005	3/07

(Continued from front)

Chemical of Concern	Affected Media	Concentration Range (Mg/Kg)	FSSG SEL (Mg/Kg)	Date
Arsenic	Sediment	Not Detected – 192.0	33	12/06
Copper	Sediment	Not Detected – 979.0	110	12/06
Lead	Sediment	Not Detected – 148,000.0	250	12/06
Mercury	Sediment	Not Detected – 27.0	2	12/06

Next Steps

Hercules is committed to reducing environmental impacts and protecting the communities in which it operates. Once the multiphase remedial investigation is completed, remediation will begin. The ultimate goal of the investigation and remediation is to allow beneficial reuse of the Site.

**RECEPTOR EVALUATION FORM
SUPPLEMENTAL INFORMATION**

Snows Doxsee

Street Address: 994 Ocean Drive

Municipality: Lower Township

County: Cape May

Zip Code: 08521

Program Interest Number: 46905

Case Tracking Number: 08-09-10-1658-44

SECTION D. GROUND WATER USE

4. The **Well Search Spreadsheet** is attached and will be submitted electronically to: srpgis@dep.state.nj.us.

5. Potable use wells have been identified in the well search and the area has been canvassed for additional ground water use (potable and irrigation wells, etc.)

The well search indicated two potable use wells were installed at the site. The status of this well are indicated below:

-Well 1 - Active Public Community Water Supply Well (Permit No. 4500000310)

- Well 2 - Active Public Community Water Supply Well (Permit No. 4500000311)

The locations of these wells are indicated on Figure D-1

Two domestic supply wells were identified south of the of the site (Block 5302, Lot 2 and Block 6601, Lot 32) that are within 1,000 downgradient of the site. These wells include:

- Permit No. 2500028660 - 200 ft deep.

- Permit No. 2500023718 - 150 ft deep.

The locations of these wells are indicated on Figure D-1 Ashland is in the process of canvassing the area for potable use wells. Potable well sampling will be conducted after the canvassing has been completed.

6 Potable wells and non-potable use wells were identified and potable well and /or non-potable use well sampling has been conducted

The well search indicated one industrial use was installed at the site. The status of this wells is indicated below:

- Permit No. 2500014069 - 265 ft deep

The location of this well is indicated on Figure D-1

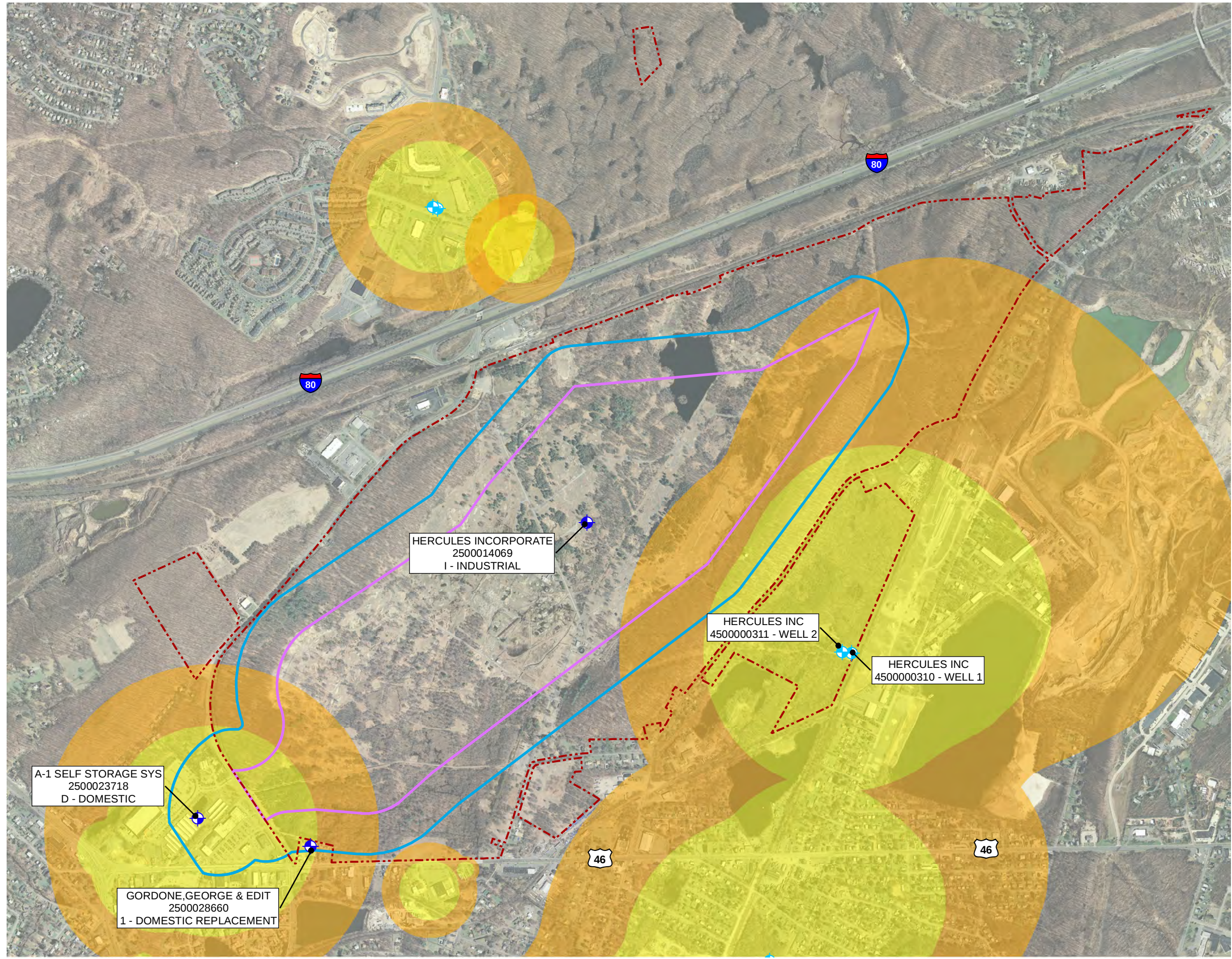


FIGURE D-1



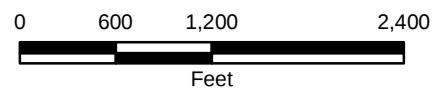
LEGEND

- Potable or Industrial Well (Well Search)
- Public Community Water Supply Well
- Extent of Contamination
- Well Search Area
- Tier 1 Well Head Protection Area
- Tier 2 Well Head Protection Area
- Site Boundary

NOTES
1. 2007 Aerial Imagery: NJ Office of Information Technology (NJGIT), Office of Geographic Information Systems (GIS).
2. Public Community Water Supply Wells and Well Head Protection Areas: NJ Department of Environmental Protection (NJDEP), NJ Geological Survey (NJGS).

RECEPTOR EVALUATION
FORMER HERCULES
KENVIL WORKS FACILITY
KENVIL, NEW JERSEY

WELL SEARCH
RESULTS



FEBRUARY 2011
2420/46424



Well Search for

CASE NAME:	Former Kenvil Works
PROGRAM INTEREST (PI) ID # :	#000741
SPREADSHEET SUBMISSION DATE:	1-Mar-11

WELL_PERMIT_NUM	WELL_TYPE	LOCATION_ADDRESS	COUNTY	MUNICIPALITY	COMU	BLOCK	LOT	X	Y	COORD_METHOD	FINISHED_DEPTH	OPEN_INTER	STATIC_LEVEL	STATUS
2500028660	domestic		Morris	Roxbury Twp	1436	2	5302	405246	743832	PARCEL MATCH	200		15	Active
2500023718	domestic		Morris	Roxbury Twp	1436	32	6601	405246	743859	PARCEL MATCH	150	140 - 150		Active
2500030834	industrial	NORHT OF HERCULES ROAD	Morris	Roxbury Twp	1436	1	6701	405346	743733	PARCEL MATCH	265		31	Inactive
4500000310	public supply	Berkshire Valley Rd	Morris	Roxbury Twp	1436	6802	11	405310.615	743704.932	PARCEL MATCH	105	75 - 105		Active
4500000311	public supply	Berkshire Valley Rd	Morris	Rockaway Twp	1435	6802	11	405310.694	743706.444	PARCEL MATCH	111			Active

**RECEPTOR EVALUATION FORM
SUPPLEMENTAL INFORMATION**

Former Kenvil Works

Street Address: 100 Howard Boulevard

Municipality: Kenvil

County: Morris

Zip Code: 07847

Program Interest Number: 000741

Case Tracking Number: 14794

SECTION E. VAPOR INTRUSION

Part 4 Technical justification for not conducting Vapor Intrusion investigation

Trichloroethylene (TCE) was the only compound detected at a concentration exceeding the NJDEP's Groundwater Screening Level (1ug/l). TCE was detected in groundwater from only one well, MW-18 at a concentration 2ug/l. No building or structures are present within 30 feet of this location. As such, a vapor intrusion investigation is not required.

**RECEPTOR EVALUATION FORM
SUPPLEMENTAL INFORMATION**

Former Kenvil Works

Street Address: 100 Howard Boulevard

Municipality: Kenvil

County: Morris

Zip Code: 07847

Program Interest Number: 000741

Case Tracking Number: 14794

SECTION F. Ecological Receptors

1. The results of a baseline ecological evaluation [N.J.A.C.7:26E- 3.11] required that a remedial investigation of ecological receptors [N.J.A.C.7:26E-4.7] is conducted

Surface water and sediment samples collected during the SI and RI have indicated ecological receptors have been impacted and the impact is limited to the site. As such, an Ecological Risk Assessment is being conducted in lieu of Baseline Ecological Evaluation.
