August 22, 2007
Revised November 30, 2007

Pre-Design Investigation Work Plan

Amenia Town Landfill
NYSDEC Site No. 3-14-006
Town of Amenia
Dutchess County, New York

Prepared for:

TOWN OF AMENIA
Town Hall
36B Mechanic Street
Amenia, New York 12501

Prepared by:

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive
P.O. Box 727
Latham, New York 12110
(518) 786-7400
FAX (518) 786-7299

C.T. Male Project No: 07.7052

PRE-DESIGN INVESTIGATION WORK PLAN
AMENIA TOWN LANDFILL
TOWN OF AMENIA, DUTCHESS COUNTY, NEW YORK

TABLE OF CONTENTS

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TABLE OF CONTENTS
(CONTINUED)

will be conducted. Since this Work Plan is for pre-design investigations and cleanup is not part of this stage of the project, there are no notification requirements at this time. However, for the future cleanup work, per 40 CFR Part 761.61(a)(3)(iii), a waiver may be obtained on the 30-day notification requirement if a separate waiver, in writing, is received from each of the agencies required to be notified.

Restrictions On Mixing (Inadvertently or By Design) of Soil/Sediment On-Site Versus Off-Site Disposal:

No specific references were located within 40 CFR Part 761 relative to restrictions on mixing sediment and/or soil. In accordance with 40 CFR Part 761.61(a)(4)(i)(b)(3), bulk PCB remediation waste may remain at a low occupancy area cleanup site at concentrations >25 ppm and ≤100 ppm if the site is covered with a cap meeting the requirements of 40 CFR Part 761.61(a)(7) and deed restrictions are put in place meeting the requirements of 40 CFR Part 761.61(a)(8).

Management/Disposal of Soils and/or Sediments Containing Greater Than 100 PPM PCBs, If Detected

If PCBs at a concentration of greater than 100 ppm are detected within the soil and/or sediment being sampled, they will be managed and properly disposed of in accordance with the requirements of 40 CFR Part 761.61 - PCB Remediation Waste. Management/disposal options will be discussed within the Remedial Design Report.

Summary:

Based on our review of TSCA regulations and site data, it appears that this regulation applies to the Amenia Town Landfill, but only in the area of RI surface soil sample SS-W4 collected near the toe of the western side slope adjacent to West Pond where 63.6 ppm PCBs were detected in the soil sample. There were no other areas on the site where PCBs at ≥50 ppm where detected in the soil and sediment samples analyzed. In accordance with the TCSA regulations, further characterization of the soil in the area of sample SS-W4 is required.

1.4 Objectives and Goal

The objective of this Pre-Design Investigation Work Plan is to describe the method and procedures of field work, to show the proposed sampling locations, when applicable, in relation to sediment sampling in the West Pond and surface soil sampling in the area of RI sample SS-W4, to conduct a field survey to determine the horizontal and vertical extent of the sediment in West Pond, to conduct an exploratory test pit investigation to determine the limits of the landfill waste on the west side slope of the landfill, and to further evaluate soil sample location SS-W4 to meet TSCA requirements.

The goal of the pre-design investigation will be to understand the magnitude of impacts for use in determining the most suitable method of remediation (dredging, dewatering and excavation, etc.), and to gain data for the preparation of technical specifications for implementing the remedial action, capping the landfill. Information obtained from the pre-design investigation activities will also be beneficial to the characterization of current conditions at the site in conjunction with decision making for successful completion of the closing and capping of the Amenia Town Landfill.

1.5 Work Plan Requirements

To meet the objectives and goals, this Work Plan is required to be developed, reviewed and approved by the Town, then reviewed and approved by NYSDEC prior to the initiation of investigative activities. The approved Work Plan shall be followed by the Town of Amenia and C.T. Male during implementation of pre-design investigation activities.

The sediment samples will be collected with a sediment sampler that is 2 feet in length or a macro-core sampler that is 4 feet in length. Both samplers are inserted with a liner and if needed a basket that are extracted upon sample completion. This allows for discrete sample interval collection and analysis. The sampling equipment will be used according to the thickness of sediment identified through field survey prior to the start of sampling. For instance, if the depth of sediment is less than 2 feet the sediment sampler will be used, or for locations with greater than 2 feet the macro-core sampler will be used so that the entire sediment depth can be sampled with one attempt. The smaller sampler is equipped with a plunger that mitigates the water from "washing" the sample out. The larger sampler has drill rods connected to lesson the chance of "washing" the sample out. In no event shall the sample be collected with a hand auger that doesn't allow for the entire interval to be sampled all at once. These samplers are advanced manually while personnel are situated in a boat or standing on the ground in chest waders, as necessary, in more upland areas (i.e., areas that are not accessible with a canoe or row boat). A boat will be utilized to access the sampling locations where there is open water and to access the sampling locations near open water. In more upland areas, a path will be cleared to the sampling locations from the shoreline/base of the landfill side slope using a chain saw. Prior to sample collection the boat will be anchored in-place.

The procedure for collecting the sediment samples are as follows:

1. Navigate the boat and/or clear a path to the desired sample location using Real Time Kinematic (RTK) differential GPS techniques.

2. Anchor the boat in-place with rigid rods secured to at least two sides of the boat, where applicable.

3. Decontaminate sampling equipment prior to use in accordance with Section 3.6.

4. Put on a new clean pair of nitrile gloves.

5. Push sampler into the surface of the sediment taking care not to stir up the sediments while advancing the sampler.

6. While the sampler is left in-place, field survey the horizontal and vertical location of the sampler in accordance with Section 3.3.

7. Extract the sampler in a manner to minimize the amount of sediment sample loss.

8. Extract the liner and measure the amount of sample recovery. If sample recovery is poor, repeat the sample collection from Step 3.

9. Transfer, with a gloved hand or decontaminated stainless steel spatula or trowel, each selected interval into new, clean Ziploc plastic bags for homogenization by mixing within the bag.

10. Transfer, with a gloved hand or decontaminated stainless steel spatula or trowel, the sample to the laboratory-supplied containers and label accordingly. New clean glass containers with Teflon lined tops will be utilized.

11. Decontaminate sampling equipment prior to reuse in accordance with Section 3.6 and repeat the procedure at another sampling location.

12. Place laboratory containers in cooler with bagged ice and complete the chain of custody record paperwork.

13. Record all pertinent data.

3.5 Toxic Substances Control Act (TSCA) Soil Sampling

Surface soil sampling is proposed along the toe of the west side slope surrounding the RI surface soil sampling location SS-W4 to address TSCA requirements and determine the horizontal limit of soil with PCB concentrations $\geq$50 ppm. In accordance with TSCA requirements, soil samples will be collected from a grid interval of 3 meters (approximately 10 feet) centralized on existing soil sampling location SS-W4. Grab soil samples will be individually collected and homogenized from the 0 to 6 inches below grade interval, and analyzed. The TSCA regulations require soil sampling to occur from the 0 to 3 inches below grade, but to be consistent with the previous sampling interval at SS-W4, the samples will be collected from the 0 to 6 inches below grade

interval. The grid intervals will be oriented north, east, south and west of soil sampling location SS-W4. A minimum of three samples are required to be collected per TSCA requirements. It is proposed to collect one soil sample 5 feet north, east, south and west (4 samples total) of sample SS-W4 to meet the TCSA requirements (3 meter grid interval). While on-site, it is proposed to also collect one soil sample 15 feet north, east and south (3 samples total) of sample SS-W4, but these samples will only be analyzed if necessary. The second grid interval samples will be extracted within the required 5-day extraction hold time, but only analyzed if the first grid interval samples contain a concentration of PCBs $\geq$50 ppm. The second grid interval samples don't include a west sample, as sample SS-W4 is within approximately 10 feet of West Pond. At each of the identified soil sampling locations (7 total), it is also proposed to collect a sample from 6 to 12 inches below grade, but these deeper interval samples will only be analyzed if necessary. The additional depth interval samples will be extracted within the required 5-day extraction hold time, but only analyzed if the 0 to 6 inch interval samples contain a concentration of PCBs $\geq$50 ppm.

The surface soil samples will be collected with a core sampler that is 2 feet in length. This sampler is inserted with a liner and advanced manually, which allows for discrete sample interval collection and analysis. The core sampler will be advanced to a depth of 12 inches below grade to assure that the 0 to 6 inch below grade interval does not fall out of the sampler.

The procedure for collecting the soil samples are as follows:

1. Decontaminate sampling equipment prior to use in accordance with Section 3.6.

2. Place the sampler at the desired sample location using Real Time Kinematic (RTK) differential GPS techniques.

3. Put on a new clean pair of nitrile gloves.

4. Push sampler into the surface of the soil.

5. Extract the sampler, then the liner and measure the amount of sample recovery. If sample recovery is poor, repeat the sample collection within 6 inches of the original location and push the sampler to a deeper depth.

6. Transfer, with a gloved hand or decontaminated stainless steel spatula or trowel, the 0 to 6 inch below grade interval into new, clean Ziploc plastic bags for homogenization by mixing within the bag, taking care to discard the surficial leaf litter and vegetative roots.

7. Transfer, with a gloved hand or decontaminated stainless steel spatula or trowel, the sample to the laboratory-supplied containers and label accordingly. New clean glass containers with Teflon lined tops will be utilized.

8. Decontaminate sampling equipment prior to reuse in accordance with Section 3.6 and repeat the procedure at another sampling location.

9. Place laboratory containers in cooler with bagged ice and complete the chain of custody record paperwork.

10. Record all pertinent data.

3.6 Decontamination Procedures

The following decontamination procedures will be followed:

- The bucket of the excavating equipment will be decontaminated prior to the commencement of test pit excavation activities, prior to collection of discrete excavation soil samples (if collected), and at completion of the test pit activities before the equipment is removed from the site. The excavation equipment bucket will be decontaminated over the test pit by first removing gross soil/debris that may have adhered to the bucket. The bucket will then be cleaned with a high-pressure washer, or with non-phosphate (alconox) soap and tap water wash and rinsed with copious amounts of tap water, whereby the water will infiltrate the test pit just completed. If decontamination over the test pit is not feasible, a temporary decontamination pad will be constructed and utilized for the collection of water generated as part of the decontamination effort. If a decontamination pad is utilized, the decontamination water will be collected and discharged to the surface of the landfill in a controlled manner (i.e., no runoff or erosion generated), and allowed to slowly infiltrate the landfill.

- Manual soil sampling equipment including trowels, macro-core sampler, sediment sampler, etc., and surveying equipment used to measure sediment elevation and depth which come into contact with the Site's sediment will be cleaned with a non-phosphate detergent/tap water wash, a tap water rinse and a deionized or distilled water rinse prior to sampling, in between each sample location and at completion of sampling. This decontamination water will be collected and discharged to the surface of the landfill in a controlled manner (i.e., no runoff or erosion generated), and allowed to slowly infiltrate the landfill.

3.7 Disposal of Investigation-Derived Wastes

The investigation wastes for this project will consist of decontamination water, excess sediment and soil not submitted to the laboratory for analysis, and spent personal protective equipment. The investigation wastes will be handled and disposed of as follows:

- Decontamination water will be generated from cleaning of equipment that comes into contact with the sediment and soil at the site. The decontamination water will be discharged to the surface of the landfill in a controlled manner (i.e., no runoff or erosion generated), and allowed to slowly infiltrate the landfill.

- The majority of the sediment and soil samples will be used for laboratory analyses. Excess sediment and soil from the sampling will be placed in a labeled DOT approved 55-gallon drum for disposal.

- Personal protective equipment (PPE) and expendable materials to be used during the completion of the field work tasks will likely include gloves, tyvek suits, disposable overboots, paper towels, plastic sheeting and disposable sampling equipment. The items that come into contact with sediment and soil at the site will be placed in a labeled DOT approved 55-gallon drum for disposal.

The containers of waste will be staged on-site until waste characterization is performed for disposal. Until disposal, the containers will be labeled and surrounded with caution tape while on-site. Waste characterization profiles will be completed for the waste

generated and submitted to the treatment, storage or disposal facility (TSDF), as applicable, for processing. A copy of the TSDFs operating permit and the transporters' 6 NYCRR Part 364 transporter permit will be obtained and reviewed prior to any shipments of waste from the site to document the appropriate permits are in place prior to waste being removed from the site.

The wastes generated as part of this project will be removed from the site, transported by a 6 NYCRR Part 364 permitted waste transporter and disposed of at a treatment, storage or disposal facility permitted to accept the wastes being delivered. A waste manifest or bill of lading will be utilized for each shipment of waste. The waste transportation and disposal activities will be performed by a subcontractor selected by C.T. Male and approved by the Town and NYSDEC through a competitive bidding process.

3.8 Quality Assurance and Quality Control Protocols

3.8.1 Project Organization and Responsibilities

C.T. Male is responsible for the overall administration and the overall quality assurance/quality control of the pre-design investigation work plan activities. These will include project management, coordination and scheduling of in-house activities and subcontractors. The work tasks that will be performed by subcontractors under C.T. Male's observation include: 1) excavation of test pits; 2) analytical laboratory testing; and 3) transportation and disposal of investigation-derived wastes.

The subcontracted lab will be certified by the NYSDOH Environmental Laboratory Approval Program (ELAP), specifically in the field of analysis Contract Lab Protocol (NYSDEC ASP-CLP).

3.8.2 Quality Control Checks

To monitor and document the integrity of such factors as sample variability, sampling equipment cleanliness, sampling technique, analytical reproducibility and sample handling which can affect data quality, several field quality control checks will be implemented. These will include taking equipment blanks after the sampling equipment has been decontaminated to check for cross contamination and equipment cleanliness; taking field duplicate samples to monitor analytical

precision/reproducibility and sampling technique; and using site specific samples for matrix spike/matrix spike (MS/MSD) duplicate analysis by the laboratory. The MS/MSD samples are used to measure percent recoveries and the relative percent difference, and used to determine if matrix interference affected the method. For this project the field Quality Control (QC) checks will consist of one equipment blank, one field duplicate sample, and one matrix spike/matrix spike duplicate during sampling activities for every twenty (20) analytical samples per media type (i.e., sediment). Sample collection procedures are described in Section 3.8.5.

Laboratory quality control checks will be those specified in EPA Methods or in the NYSDEC ASP (Revised 2000) for the analytical method performed and could consist of some of the following:

- Blanks (method, preparation),
- initial and continuing calibrations,
- surrogate spikes,
- matrix spikes/matrix spike duplicates,
- duplicate samples, and
- control samples/matrix spike blanks.

The laboratory will be responsible for complying with appropriate standards and certifications of the selected EPA method and ASP requirements. The laboratory quality control acceptance criteria are method specific and will be the laboratory's responsibility to meet ASP (Revised 2000) criteria.

3.8.3 Sample Preparation and Analytical Procedures, and Reporting

The analytical parameters, sample preparation and analysis methods, acceptable holding times and required method detection limits are presented in Table 3.8.3-1. The analytical methods specified reflect the requirements of the NYSDEC ASP, Revised June 2000.

5.0 PRE-DESIGN INVESTIGATION REPORT AND SCHEDULE

5.1 Reporting

Upon receipt of the validated analytical laboratory data, the findings of the pre-design investigation activities will be presented in the Remedial Design (RD) Report. The RD Report will summarize the work completed, describe deviations for the approved work plan, if any, present the results obtained from completing the pre-design investigation activities, and discuss management/disposal options if PCBs at a concentration of greater than 100 ppm are detected within the soil and/or sediment samples analyzed.

For analytical reports, NYSDEC ASP Category B data deliverables will be required. The data deliverables will be subjected to data validation in accordance with NYSDEC Data Usability Summary Reports (DUSR) to document the data is valid and usable.

Waste characterization samples may be necessary for off-site disposal of investigation-derived wastes generated from the pre-design investigation activities. Analysis of characterization samples, if required, will not require NYSDEC ASP Category B data deliverables, nor will the analytical results be subjected to DUSR data validation.

5.2 Proposed Project Schedule

It is anticipated that the field work would be initiated in mid December 2007, dependent on the timing of NYSDEC's approval of the Work Plan and the weather. Field work is estimated to take 3 to 4 weeks. Laboratory reports may take up to 30 days from receipt of samples. Preparation of the DUSR may take up to two weeks.

TABLE 1

SUMMARY OF SAMPLING AND LABORATORY ANALYSES, AND QUALITY CONTROL CHECKS

TABLE 1
SUMMARY OF SAMPLING AND LABORATORY ANALYSES, AND QUALITY CONTROL CHECKS
AMENIA TOWN LANDFILL SITE

MATRIX	SEDIMENT		SOIL
LABORATORY ANALYSES [1]	TCL PCBs	TAL Metals	TCL PCBs
Number of Samples to be Collected/Analyzed	58	37	14
Number of Field Duplicate Samples [2]	3	2	1
Number of Matrix Spike/ Matrix Spike Dulicates [2]	3	2	1
Number of Equipment Blanks [2]	3	2	1

Notes:

[1] Laboratory analysis will be performed within the NYSDEC ASP (June 2000) holding times.

[2] The sampling rate will be a minimum of one for every 20 samples per media (i.e., soil, water) submitted to the laboratory.

TAL = Target Analyte List (Superfund/CLP list of target compounds).

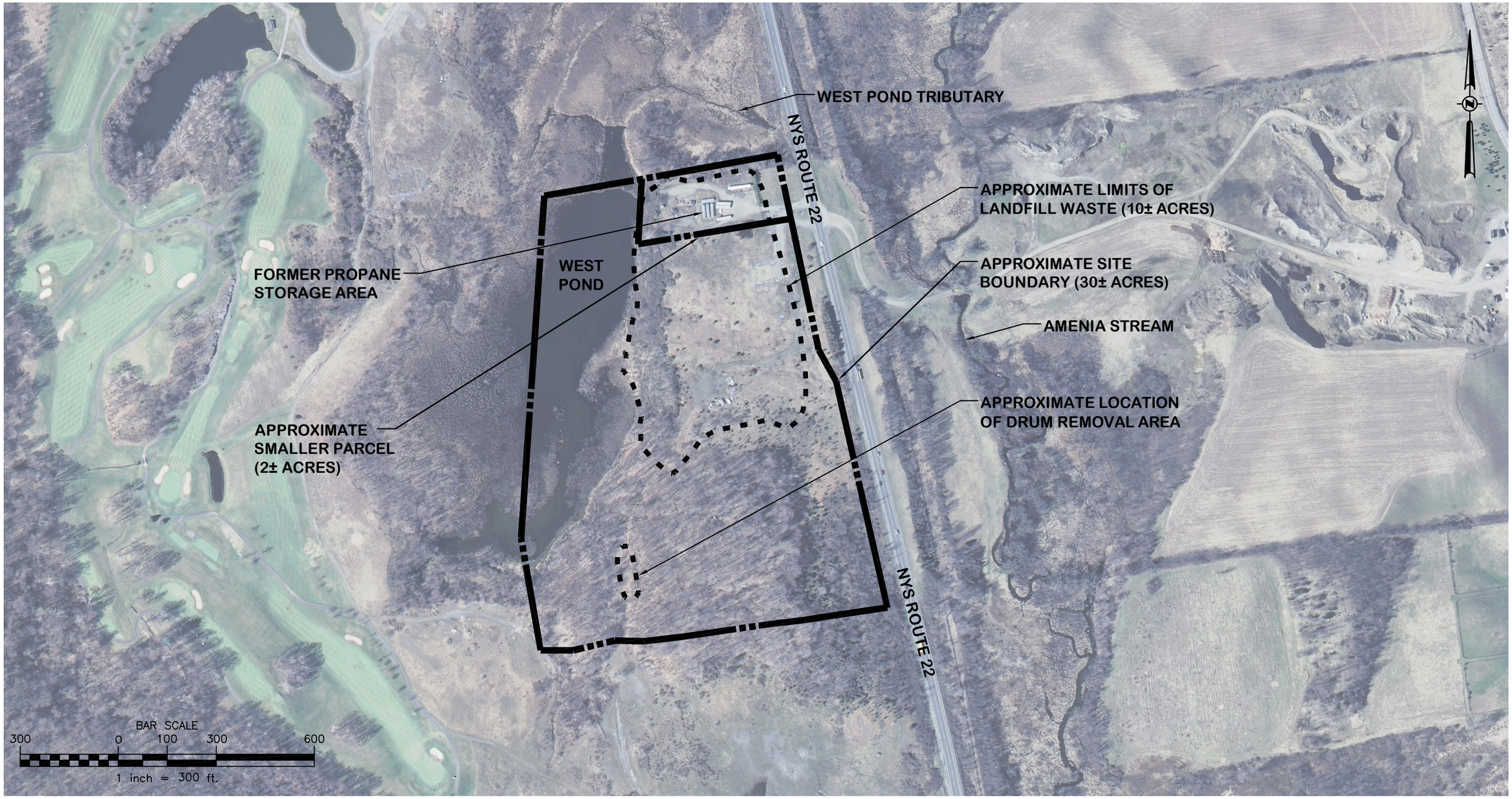
TCL = Target Compound List (Superfund/CLP list of target compounds).

FIGURE 2

SURROUNDING LAND USE MAP

XREFS: NONE

PROJECT NUMBER: 07.7052



NOTE:
1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCE:
1.) AERIAL PHOTOGRAPH COURTESY OF NYSGIS CLEARING HOUSE.

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
11/30/07	1	IDENTIFIED ADDITIONAL FEATURES	J.MARX	ROVERS	
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

DESIGNED :
DRAFTED : J.MARX
CHECKED : L.ROVERS
PROJ. NO: 07.7052
SCALE : 1"=300'±
DATE : AUG 22, 2007

FIGURE 2
SURROUNDING LAND USE MAP

AMENIA TOWN LANDFILL
PRE-DESIGN INVESTIGATION WORK PLAN

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
ARCHITECTURE & BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING
ENVIRONMENTAL SERVICES * SURVEY & LAND INFORMATION SERVICES

SHEET 1 OF 2
DWG. NO: 07–0520

CAD DWG. FILE NAME:FIG 2 – SURROUNDING LAND USE_REV2.DWG

CAD DWG. FILE NAME:FIG 2 – SURROUNDING LAND USE_REV2.DWG

APPENDIX D

CITIZEN PARTICIPATION PLAN

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Amenia Town Landfill Site
NYSDEC Site No. 3-14-006

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Town of Amenia
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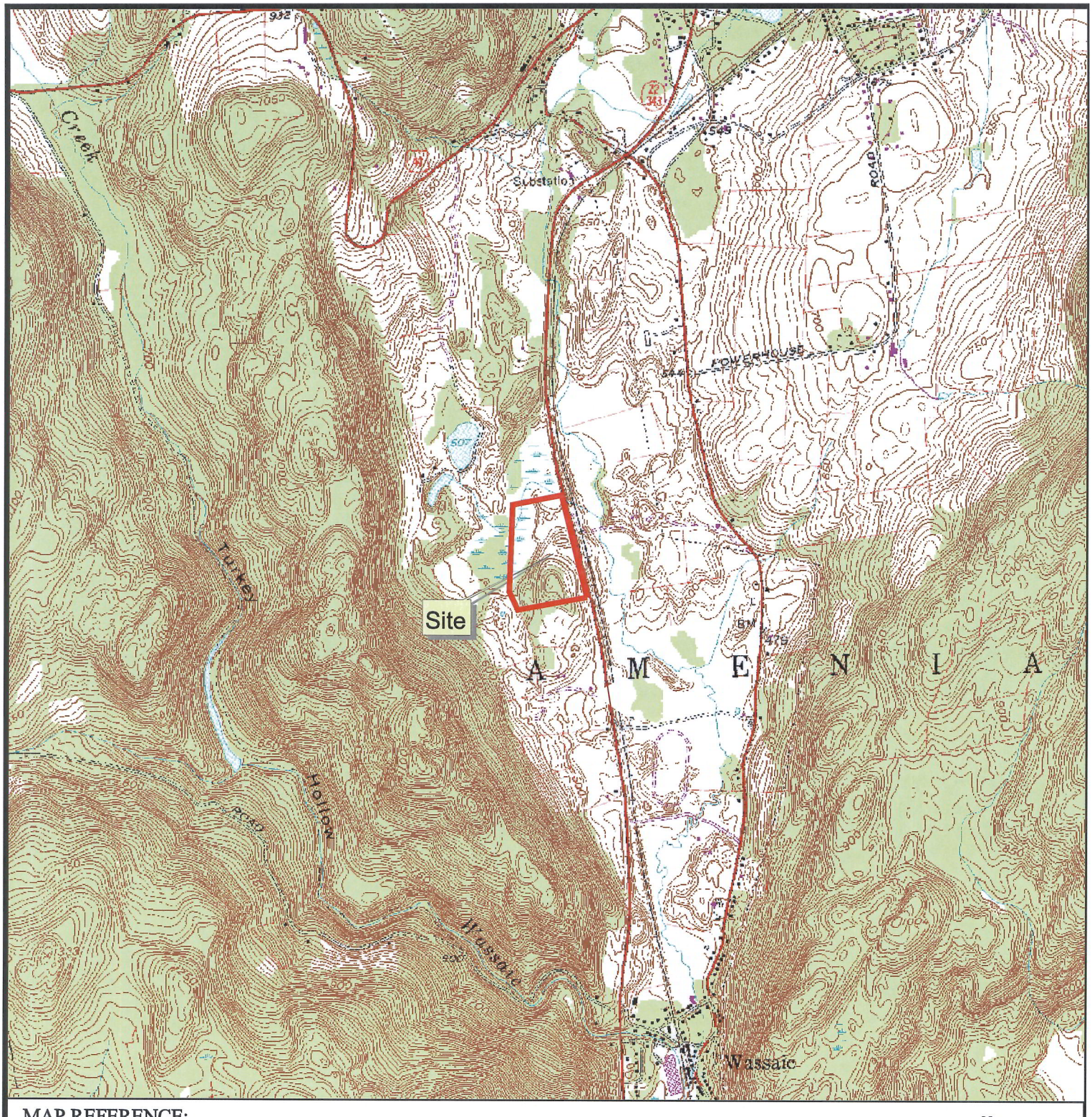

MAP REFERENCE:
USGS Topographic Map
Amenia, New York Quadrangle, Dated 2000
7.5 Minute Series, DRG, NAD 83
Downloaded from CUGIR on 1/26/2007

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SURVEY & LAND INFORMATION
SERVICES

C.T.MALE ASSOCIATES, P.C.

50 CENTURY HILL DRIVE, PO BOX 727, LATHAM, NY 12110
PHONE (518) 786-7400 FAX (518) 786-7299

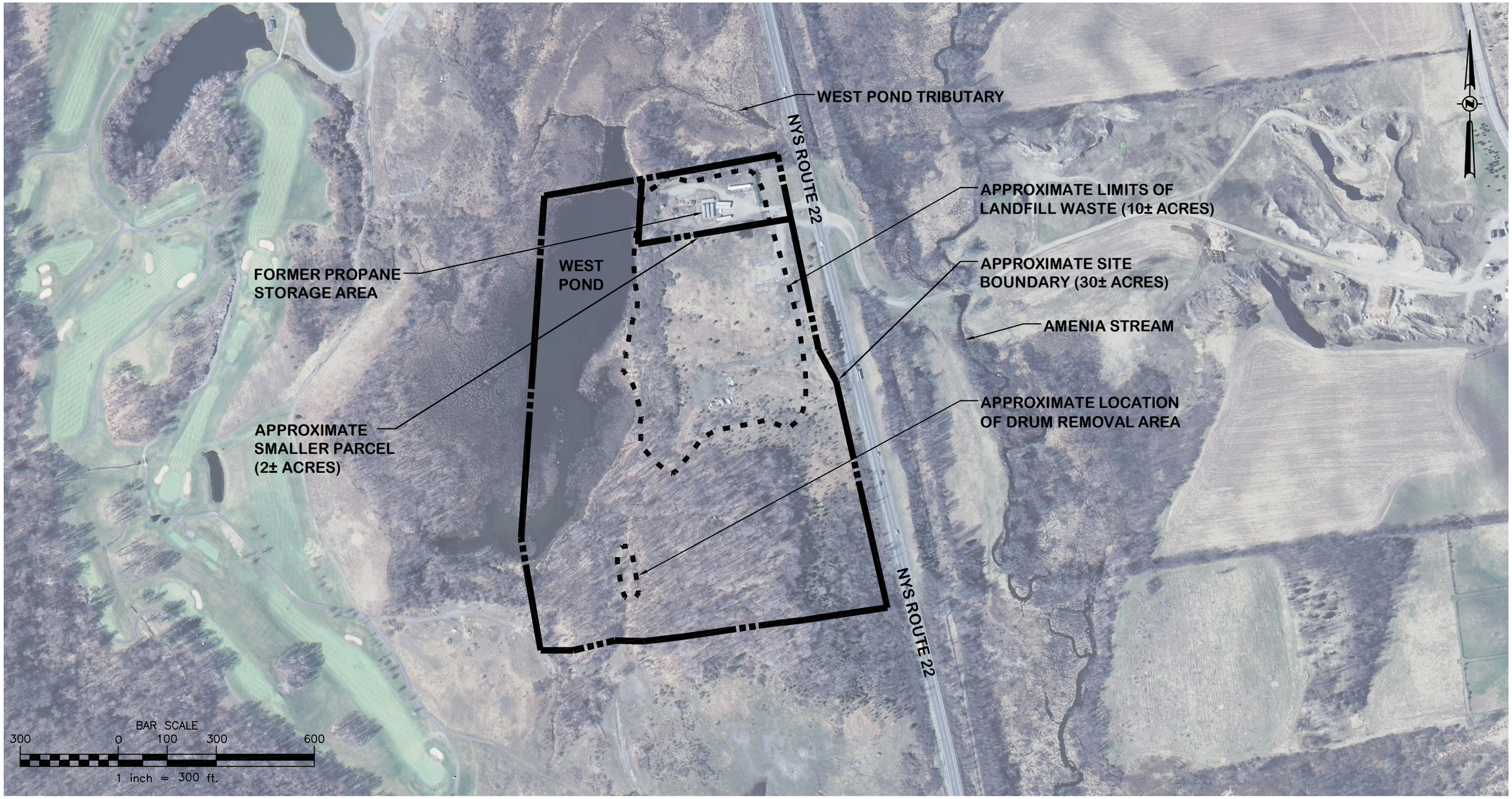
FIGURE 1 - SITE LOCATION MAP

Amenia Town Landfill

TOWN OF AMENIA	DUTCHESS COUNTY, NY
SCALE: 1"= 2,000'	
DRAFTER: JML	
PROJECT No: 07.7052	

XREFS: NONE

PROJECT NUMBER: 07.7052



NOTE:
1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCE:
1.) AERIAL PHOTOGRAPH COURTESY OF NYSGIS CLEARING HOUSE.

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11/30/07	1	IDENTIFIED ADDITIONAL FEATURES	J.MARX	ROVERS	
	2				
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	8				
	9				

DESIGNED :
DRAFTED : J.MARX
CHECKED : L.ROVERS
PROJ. NO: 07.7052
SCALE : 1"=300'±
DATE : AUG 22, 2007

FIGURE 2
SURROUNDING LAND USE MAP

AMENIA TOWN LANDFILL
PRE-DESIGN INVESTIGATION WORK PLAN

TOWN OF AMENIA — DUTCHESS COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
ARCHITECTURE & BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING
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SHEET 1 OF 2
DWG. NO: 07–0520

CAD DWG. FILE NAME:FIG 2 – SURROUNDING LAND USE_REV2.DWG

CAD DWG. FILE NAME:FIG 2 – SURROUNDING LAND USE_REV2.DWG