ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES INC
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September 9, 2011

Mr. Jamie Ascher
Engineering Geologist 2
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region One
Building 40 – SUNY
Stony Brook, New York 11790-2356

Re: Former Thypin Steel, Inc. Facility
Intertidal Sediment Sampling Summary Report
Manorhaven, New York

Dear Mr. Ascher:

Roux Associates, Inc. (Roux Associates), on behalf of MBA-Manorhaven, LLC, has prepared this letter to summarize the results of the recent intertidal sediment sampling conducted along the coast of Manhasset Bay at the former Thypin Steel Facility in Manorhaven, New York (Site). The Site location is shown on Figure 1. It is our understanding that the New York State Department of Health (NYSDOH) required this sampling to better understand the current shallow subsurface sediment conditions (i.e., 0-2 foot interval below land surface [ft-bls]) at the intertidal zone along the southwest portion of the Site as a consideration for possible beachgoers. As such, the analytical data was compared to the NYSDEC Part 375 unrestricted use standards.

The intertidal sediment sampling activities, approved by the New York State Department of Environmental Conservation (NYSDEC) in their email correspondence dated July 20, 2011, were performed in accordance with the Voluntary Cleanup Agreement (VCA) between the NYSDEC and MBA-Manorhaven, LLC dated January 2, 2001 (Index Agreement No. V00336-1), and in response to the May 19, 2011 meeting and NYSDEC's follow up letter dated June 16, 2011.

Intertidal Sediment Sampling Activities

Intertidal sediment samples were collected at two locations along the coast of Manhasset Bay. The sample locations are shown on Figure 2 and were situated in the southwestern portion of the Site to coincide with elevated concentrations of chlorinated volatile organic compounds (CVOCs) within groundwater in this portion of the Site. Prior to sediment

sampling activities, Roux Associates field personnel established the approximate location of the intertidal zone by visually observing the high and low tidal cycles of Manhasset Bay as well as referring to the National Oceanic and Atmospheric Administration's (NOAA) tidal chart for Manhasset Bay. As per the NOAA tidal chart for Manhasset Bay and visually confirmed by Roux Associates field personnel, low tide and high tide on July 27, 2011 occurred at approximately 9:30 am and 3:00 pm, respectively. Marker flags (flags) were placed at the edge of the water during the height of both the high tide and low tide cycles on July, 27, 2011. Shallow composite sediment samples (i.e., 0-2 foot interval) were collected halfway between the high tide and low tide flags at both sample locations on July 28, 2011, using properly cleaned hand sampling tools. As requested by the NYSDEC, photographs of the sample locations are provided in Attachment 1. During sediment sampling activities, lithologic and sediment screening data were recorded at each sample location. All samples were examined for evidence of impacts (i.e., staining, odor) and screened for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID). As per the quality assurance and quality control plan defined in the Intertidal Sediment Sampling Work Plan, one field blank sample was collected with the sediment samples.

All sediment samples, field blank sample, and a laboratory supplied trip blank were sent to TestAmerica Laboratories of Shelton, Connecticut and analyzed for full list VOCs United States Department of Environmental Protection Agency (USEPA) Method 8260, semivolatile organic compounds (SVOCs) USEPA Method 8270C and Metals USEPA Methods 6020/7471A. As requested in NYSDEC's letter correspondence dated June 16, 2011, all laboratory analytical data were submitted to the NYSDEC in electronic data deliverable (EDD) format on August 25, 2011. The VOC, SVOC, and Metals analytical data are included in Table 1, Table 2, and Table 3, respectively.

Field Observations and Field Screening Results

Intertidal sediment samples IS-1 and IS-2 consisted of a mixture of fine to coarse grained sand, gravel and shell debris. Both sediment samples were saturated (i.e., wet). There was no evidence of impacts (i.e., staining and odor) as well as no VOC detections by the PID in both sediment samples.

Intertidal Sediment Sample Results

VOC and SVOC Results

Individual VOC and SVOC compounds were either not detected or detected at levels that did not exceed the NYSDEC Part 375 unrestricted use standards in both intertidal sediment samples (i.e., IS-1 and IS-2). A summary of VOC and SVOC results are presented in Table 1 and Table 2, respectively.

Metals Results

Metals were detected in both of the intertidal sediment samples however, there were no exceedances of the NYSDEC Part 375 unrestricted use standards. A summary of Metal results is presented in Table 3.

Summary

The field observations, field parameter measurements, and analytical data collected from both intertidal sediment samples indicate that there are no exceedances of the most conservative Part 375 standards and therefore no further intertidal sediment samples are warranted.

Sincerely,

ROUX ASSOCIATES, INC.

Jeffrey Wills
Project Hydrogeologist/
Project Manager

Joseph D. Duminuco
Principal Hydrogeologist/
Vice President

Attachments

cc: Richard Thypin, MBA-Manorhaven LLC
Andrew A. Giaccia, Chadbourne & Parke
Charles J. McGuckin, P.E., Remedial Engineering, P.C.

Table 1. Summary of Volatile Organic Compounds in Soil, MBA-Manorhaven, Manorhaven, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	IS-1 7/27/2011 0-2	IS-2 7/27/2011 0-2	FB-072711 7/27/2011 -	TRIP BLANK 7/27/2011 -
1,1,1-Trichloroethane	680		6.6 U	6.2 U	5 U	5 U
1,1,2,2-Tetrachloroethane	--		6.6 U	6.2 U	5 U	5 U
1,1,2-Trichloroethane	--		6.6 U	6.2 U	5 U	5 U
1,1-Dichloroethane	270		6.6 U	6.2 U	5 U	5 U
1,1-Dichloroethene	330		6.6 U	6.2 U	5 U	5 U
1,2,4-Trichlorobenzene	--		6.6 U	6.2 U	5 U	5 U
1,2-Dibromoethane	--		6.6 U	6.2 U	5 U	5 U
1,2-Dichlorobenzene	1100		6.6 U	6.2 U	5 U	5 U
1,2-Dichloroethane	20		6.6 U	6.2 U	5 U	5 U
1,2-Dichloropropane	--		6.6 U	6.2 U	5 U	5 U
1,3-Dichlorobenzene	2400		6.6 U	6.2 U	5 U	5 U
1,4-Dichlorobenzene	1800		6.6 U	6.2 U	5 U	5 U
2-Butanone (MEK)	120		13 U	12 U	10 U	10 U
2-Hexanone	--		13 U	12 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	--		6.6 U	6.2 U	10 U	10 U
Acetone	50		26 U	3.5 J B	10 U	10 U
Benzene	60		6.6 U	6.2 U	5 U	5 U
Bromodichloromethane	--		6.6 U	6.2 U	5 U	5 U
Bromoform	--		6.6 U	6.2 U	5 U	5 U
Bromomethane	--		6.6 U	6.2 U	5 U *	5 U *
Carbon disulfide	--		6.6 U	6.2 U	5 U	5 U
Carbon tetrachloride	760		6.6 U	6.2 U	5 U	5 U
Chlorobenzene	1100		6.6 U	6.2 U	5 U	5 U
Chloroethane	--		6.6 U	6.2 U	5 U	5 U
Chloroform	370		6.6 U	6.2 U	5 U	5 U
Chloromethane	--		6.6 U	6.2 U	5 U	5 U
cis-1,2-Dichloroethene	250		6.6 U	6.2 U	5 U	5 U
cis-1,3-Dichloropropene	--		6.6 U	6.2 U	5 U	5 U
Cyclohexane	--		6.6 U *	6.2 U *	5 U	5 U
Dibromochloromethane	--		6.6 U	6.2 U	5 U	5 U
Dibromochloropropane	--		13 U	12 U	5 U	5 U

Table 1. Summary of Volatile Organic Compounds in Soil, MBA-Manorhaven, Manorhaven, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	**Sample Designation:** / **Sample Date:** / **Sample Depth (ft bls):**	IS-1 7/27/2011 0-2	IS-2 7/27/2011 0-2	FB-072711 7/27/2011 -	TRIP BLANK 7/27/2011 -
Dichlorodifluoromethane	--		6.6 U *	6.2 U *	5 U	5 U
Ethylbenzene	1000		6.6 U	6.2 U	5 U	5 U
Freon 113	--		6.6 U	6.2 U	5 U	5 U
Isopropylbenzene	--		6.6 U	6.2 U	5 U	5 U
Methyl acetate	--		6.6 U *	6.2 U *	5 U	5 U
Methylcyclohexane	--		6.6 U	6.2 U	5 U	5 U
Methylene chloride	50		7.4 J B	6.9 J B	1.6 J B	3.8 J B
MTBE	930		6.6 U	6.2 U	5 U	5 U
Styrene	--		6.6 U	6.2 U	5 U	5 U
Tetrachloroethene	1300		6.6 U	6.2 U	5 U	5 U
Toluene	700		6.6 U	6.2 U	5 U	5 U
trans-1,2-Dichloroethene	190		6.6 U	6.2 U	5 U	5 U
trans-1,3-Dichloropropene	--		6.6 U	6.2 U	5 U	5 U
Trichloroethene	470		6.6 U	6.2 U	5 U	5 U
Trichlorofluoromethane	--		6.6 U	6.2 U	5 U	5 U
Vinyl chloride	20		6.6 U	6.2 U	5 U	5 U
Xylenes (total)	260		6.6 U	6.2 U	5 U	5 U

Notes:

J - Estimated value

B - The analyte was found in an associated laboratory trip blank, as well as in the sample.

* - Laboratory Control Sample or Laboratory Control Sample Dupilcate (LCS or LCSD) exceeds the control limits

U - Indicates that the compound was analyzed for but not detected at concentration shown

µg/kg - Micrograms per kilogram

ft bls - Feet below land surface

NYSDEC - New York State Department of Environmental Conservation

-- No NYSDEC Part 375 Standards available

Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards

Table 2. Summary of Semivolatile Organic Compounds in Soil, MBA-Manorhaven, Manorhaven, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	IS-1 7/27/2011 0-2	IS-2 7/27/2011 0-2	FB-072711 7/27/2011 -
1,1'-Biphenyl	--		360 U	340 U	4.2 U
2,2'-oxybis (1-chloropropane)	--		360 U	340 U	4.2 U
2,4,5-Trichlorophenol	--		2200 U	2100 U	11 U
2,4,6-Trichlorophenol	--		360 U	340 U	4.2 U
2,4-Dichlorophenol	--		360 U	340 U	4.2 U
2,4-Dimethylphenol	--		360 U	340 U	4.2 U
2,4-Dinitrophenol	--		2200 U	2100 U	26 U
2,4-Dinitrotoluene	--		360 U	340 U	4.2 U
2,6-Dinitrotoluene	--		360 U	340 U	4.2 U
2-Chloronaphthalene	--		360 U	340 U	4.2 U
2-Chlorophenol	--		360 U	340 U	4.2 U
2-Methylnaphthalene	--		360 U	340 U	4.2 U
2-Methylphenol	330		360 U	340 U	4.2 U
2-Nitroaniline	--		880 U	830 U	4.2 U
2-Nitrophenol	--		360 U	340 U	4.2 U
3,3'-Dichlorobenzidine	--		430 U	410 U	4.2 U
3-Nitroaniline	--		880 U	830 U	4.2 U
4,6-Dinitro-2-methylphenol	--		2200 U	2100 U	26 U
4-Bromophenyl phenyl ether	--		360 U	340 U	4.2 U
4-Chloro-3-methylphenol	--		360 U	340 U	5.3 U
4-Chloroaniline	--		360 U	340 U	4.2 U
4-Chlorophenyl phenyl ether	--		360 U	340 U	4.2 U
4-Methylphenol	330		360 U	340 U	4.2 U
4-Nitroaniline	--		360 U	340 U	4.2 U
4-Nitrophenol	--		2200 U	2100 U	11 U
Acenaphthene	20000		360 U	340 U	4.2 U
Acenaphthylene	100000		360 U	340 U	4.2 U
Acetophenone	--		360 U	340 U	4.2 U
Anthracene	100000		360 U	340 U	4.2 U
Atrazine	--		430 U	410 U	4.2 U
Benzaldehyde	--		360 U	340 U	11 U
Benzo[a]anthracene	1000		360 U	340 U	4.2 U
Benzo[a]pyrene	1000		360 U	340 U	4.2 U
Benzo[b]fluoranthene	1000		360 U	340 U	4.2 U
Benzo[g,h,i]perylene	100000		360 U	340 U	4.2 U
Benzo[k]fluoranthene	800		360 U	340 U	4.2 U
Bis(2-chloroethoxy)methane	--		360 U	340 U	4.2 U
Bis(2-chloroethyl) ether	--		360 U	340 U	4.2 U
Bis(2-ethylhexyl) phthalate	--		38 J	61 J	4.2 U
Butylbenzyl phthalate	--		360 U	340 U	4.2 U
Caprolactam	--		360 U	340 U	1.1 J
Carbazole	--		360 U	340 U	4.2 U
Chrysene	1000		360 U	340 U	4.2 U
Dibenzo[a,h]anthracene	330		360 U	340 U	4.2 U
Dibenzofuran	7000		360 U	340 U	4.2 U
Diethyl phthalate	--		360 U	340 U	4.2 U

Table 2. Summary of Semivolatile Organic Compounds in Soil, MBA-Manorhaven, Manorhaven, New York

Parameter (Concentrations in µg/kg)	NYSDEC Part 375 Unrestricted Use	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	IS-1 7/27/2011 0-2	IS-2 7/27/2011 0-2	FB-072711 7/27/2011 -
Dimethyl phthalate	--		360 U	340 U	4.2 U
Di-n-butyl phthalate	--		360 U	340 U	3.7 J B
Di-n-octyl phthalate	--		360 U	340 U	4.2 U
Fluoranthene	100000		360 U	340 U	4.2 U
Fluorene	30000		360 U	340 U	4.2 U
Hexachlorobenzene	330		360 U	340 U	4.2 U
Hexachlorobutadiene	--		360 U	340 U	4.2 U
Hexachlorocyclopentadiene	--		880 U	830 U	4.2 U
Hexachloroethane	--		360 U	340 U	4.2 U
Indeno[1,2,3-cd]pyrene	500		360 U	340 U	4.2 U
Isophorone	--		360 U	340 U	4.2 U
Naphthalene	12000		360 U	340 U	4.2 U
Nitrobenzene	--		360 U	340 U	4.2 U
n-Nitrosodi-n-propylamine	--		360 U	340 U	4.2 U
n-Nitrosodiphenylamine	--		360 U	340 U	4.2 U
Pentachlorophenol	800		880 U	830 U	26 U
Phenanthrene	100000		360 U	340 U	4.2 U
Phenol	330		360 U	340 U	4.2 U
Pyrene	100000		360 U	340 U	4.2 U

Notes:
J - Estimated value
U - Indicates that the compound was analyzed for but not detected at concentration shown
µg/kg - Micrograms per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No NYSDEC Part 375 Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards

Table 3. Summary of Metals in Soil, MBA-Manorhaven, Manorhaven, New York

Parameter (Concentrations in mg/kg)	NYSDEC Part 375 Unrestricted Use	**Sample Designation:** **Sample Date:** **Sample Depth (ft bls):**	IS-1 7/27/2011 0-2	IS-2 7/27/2011 0-2	FB-072711 7/27/2011 -
Aluminum	--		1490 B	1470 B	125 U ^
Antimony	--		0.87 U	0.73 U	4 U
Arsenic	13		2.1	2	2.5 U
Barium	350		8.6	7.7	2.5 U
Beryllium	7.2		0.55 U	0.45 U	2.5 U
Cadmium	2.5		0.55 U	0.45 U	2.5 U
Calcium	--		391 B	462 B	57.8 J
Chromium	30		8	8.7	2 J B
Cobalt	--		2.2	0.88	2.5 U
Copper	50		6.6	5.2	5 U
Iron	--		6810	5920	125 U
Lead	63		3.8	2.8	2.5 U
Magnesium	--		1070	1100	250 U
Manganese	1600		86	46.5	6 U
Mercury	0.18		0.061 U	0.057 U	0.2 U
Nickel	30		25.6	4.2	2.5 U
Potassium	--		681	744	27.1 J B
Selenium	3.9		0.34 J	0.29 J	5 U
Silver	2		0.55 U	0.45 U	2.5 U
Sodium	--		3290	2710	250 U
Thallium	--		0.76 U	0.63 U	3.5 U
Vanadium	--		7.5	7.1	0.75 J
Zinc	109		24	19.8	25 U

Notes:
J - Estimated value
B - Compound was found in the blank and sample
U - Indicates that the compound was analyzed for but not detected at concentration shown
mg/kg - Milligrams per kilogram
ft bls - Feet below land surface
NYSDEC - New York State Department of Environmental Conservation
-- No NYSDEC Part 375 Standards available
Bold data indicates that parameter was detected above the NYSDEC Part 375 Unrestricted Use Standards
^ -Continuing calibration varification (CCV)
standard: Instrument related QC exceeds the control limits

QUADRANGLE LOCATION

N

0 2000'

SOURCE:
USGS; 1979. Hicksville, New York
7.5 Minute Topographic Quadrangle

Title:

SITE LOCATION MAP

FORMER THYPIN STEEL FACILITY
MANORHAVEN, NEW YORK

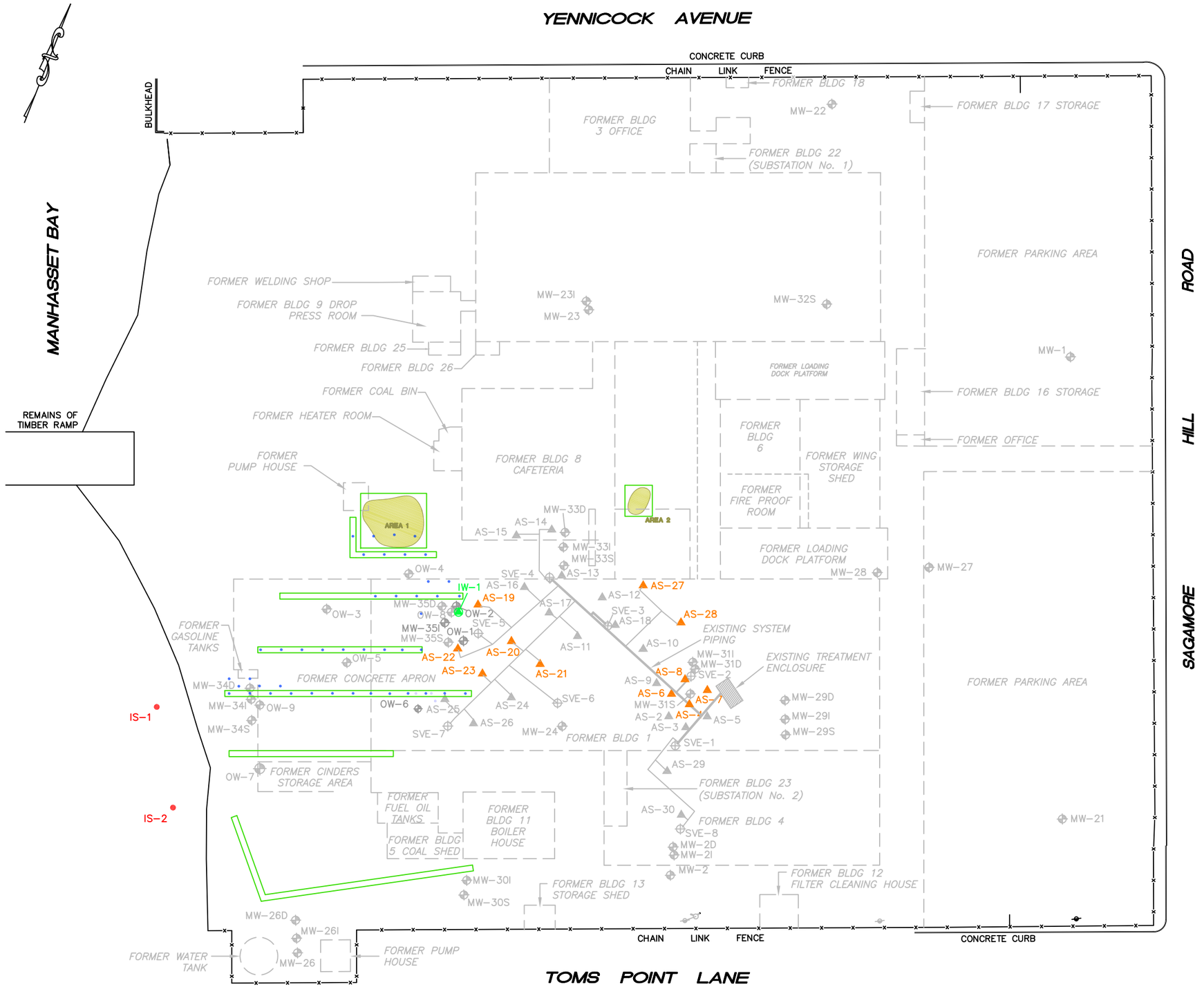
Prepared for:

MBA-MANORHAVEN, LLC
PRINCETON, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: J.W.	Date: 17AUG11	FIGURE
Prepared by: C.P.	Scale: 1:25000	1
Project Mgr.: C.P.	Office: NY	
File No.: MBA0129404.CDR	Project No.: 77101Y	

N:\PROJECTS\MBA771Y\MBA01Y\294\MBA0129404.CDR



LEGEND

- MW-35I — LOCATION AND DESIGNATION OF EXISTING WELL SAMPLED
  - WELL DEPTH DESIGNATIONS:
    - D – DEEP
    - I – INTERMEDIATE
    - S – SHALLOW
- MW-23 — LOCATION AND DESIGNATION OF EXISTING MONITORING WELL
- AS-12 — LOCATION AND DESIGNATION OF AIR SPARGE WELL
- AS-21 — LOCATION AND DESIGNATION OF AIR SPARGE WELL USED FOR FIRST ROUND OF INJECTIONS
- SVE-1 — LOCATION AND DESIGNATION OF SOIL VAPOR EXTRACTION WELL
- IW-1 — LOCATION AND DESIGNATION OF EXISTING INJECTION WELL
- LOCATION OF INJECTION POINTS FIRST ROUND OF INJECTIONS
- LOCATION OF INJECTION POINT SECOND ROUND OF INJECTIONS
- LOCATION OF INJECTION POINT ISCO PILOT STUDY
- AREAS OF IMPACT BASED ON MIP RESULTS
- LOCATION OF INTERTIDAL SEDIMENT SAMPLE

SOURCE

BUILDING FOOTPRINT OBTAINED FROM LOCKWOOD GREENE ENGINEERS, INC. PLANCOR 999 PLOT PLAN AND THYPIN STEEL CO., INC. ADVERTISING BROCHURE.

80' 0 80'

Title:

INTERTIDAL SEDIMENT SAMPLE LOCATIONS

FORMER THYPIN STEEL FACILITY
MANORHAVEN, NEW YORK

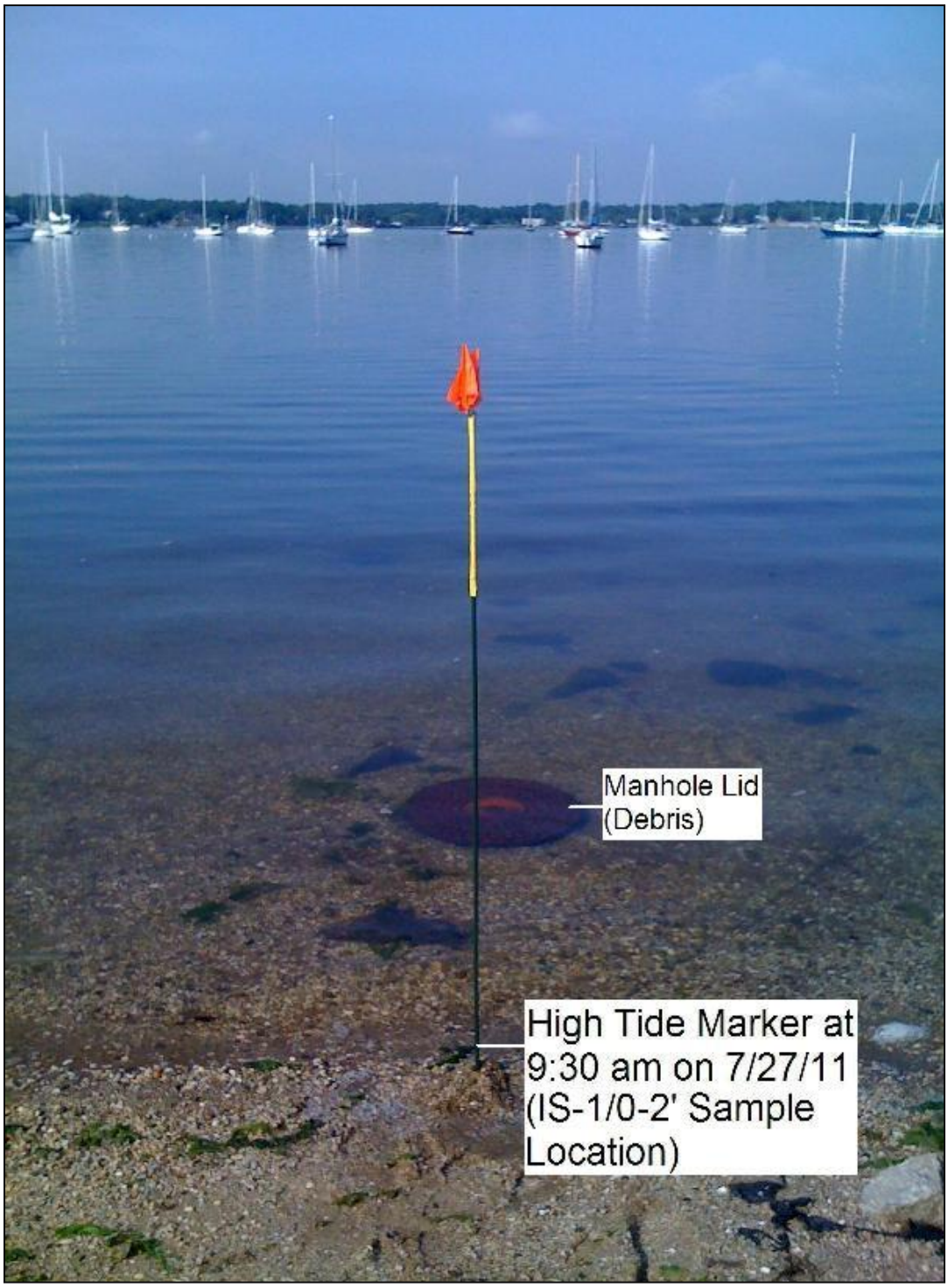
Prepared For:
MBA–MANORHAVEN, LLC
PRINCETON, NEW JERSEY

ROUX ASSOCIATES, INC.
Environmental Consulting and Management

Compiled by: J.W.	Date: 07SEP11	FIGURE 2
Prepared by: J.A.D.	Scale: AS SHOWN	
Project Mgr: C.P.	Project: 0771.0001Y000	
File: 0771.0001Y320.01.DWG		

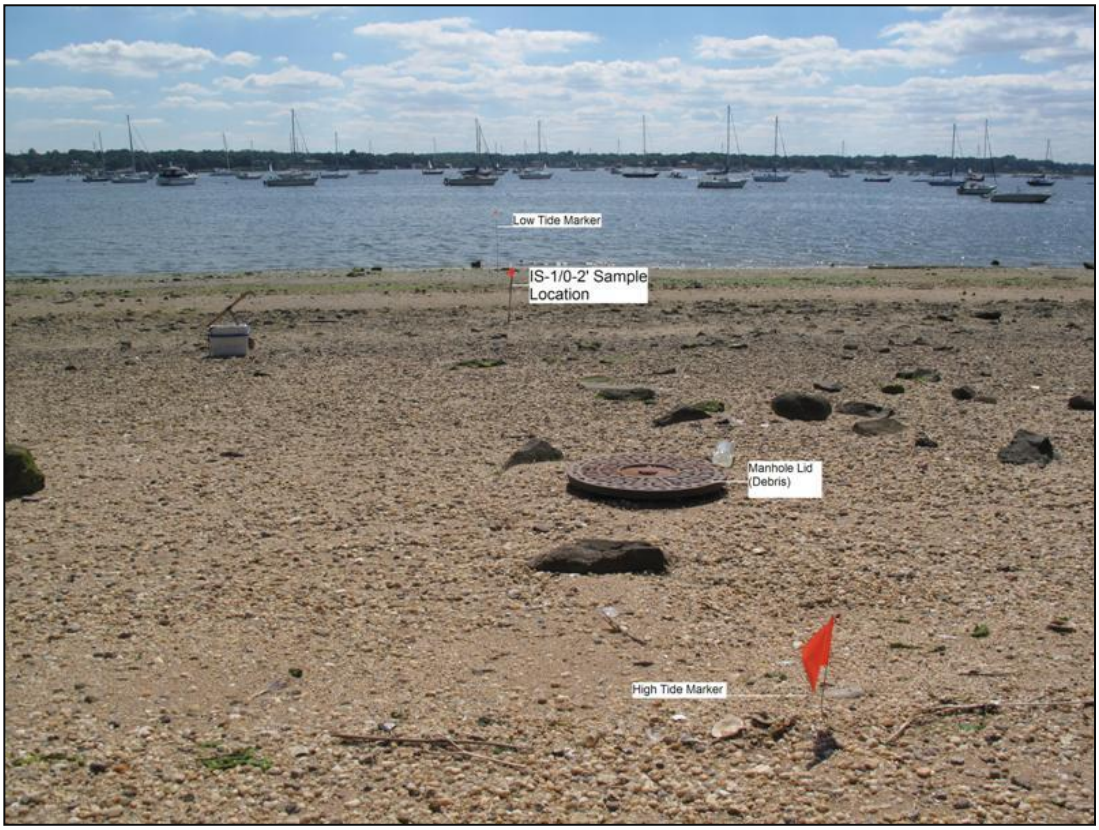
V:\CAD\PROJECTS\0771Y\0001Y\320\0771.0001Y320.01.DWG

Sample Location Photographs



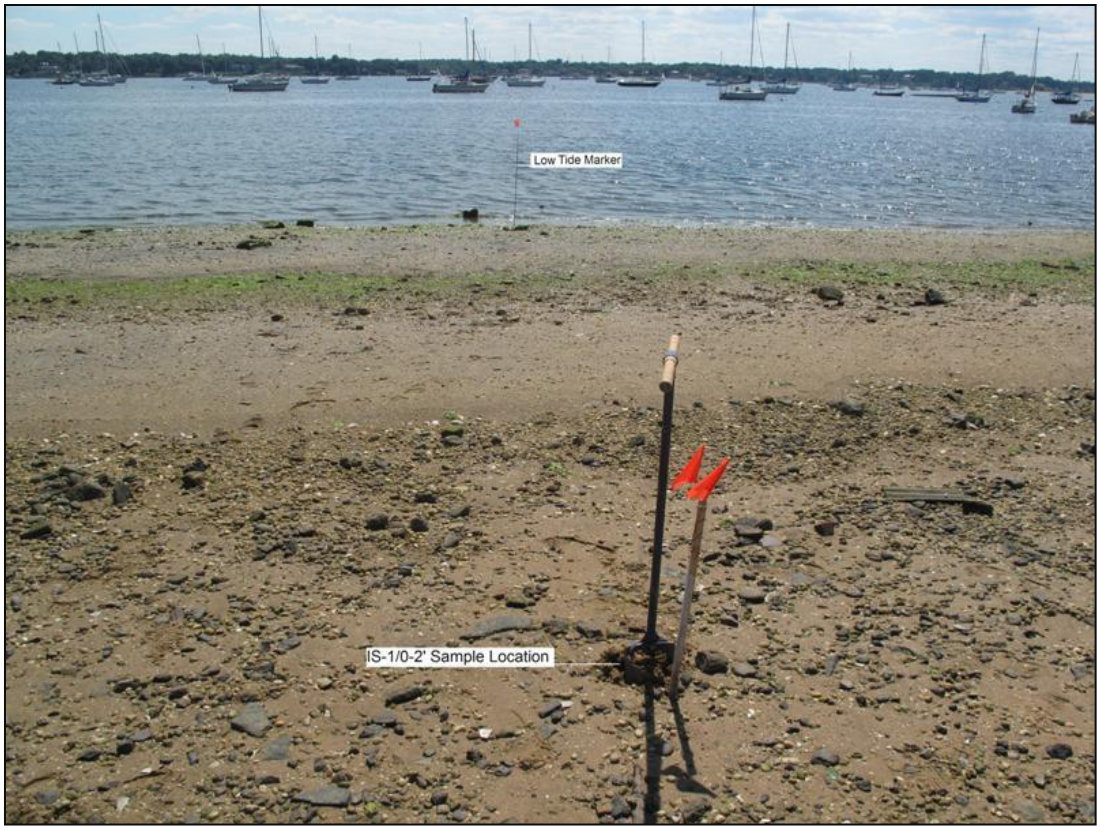
Photograph 1: High tide marker flag location for intertidal sediment sample IS-1 location

Photograph 2: Low tide marker flag location for intertidal sediment sample IS-1 location



Photograph 3: Intertidal sediment sample IS-1, high tide and low tide marker flag locations

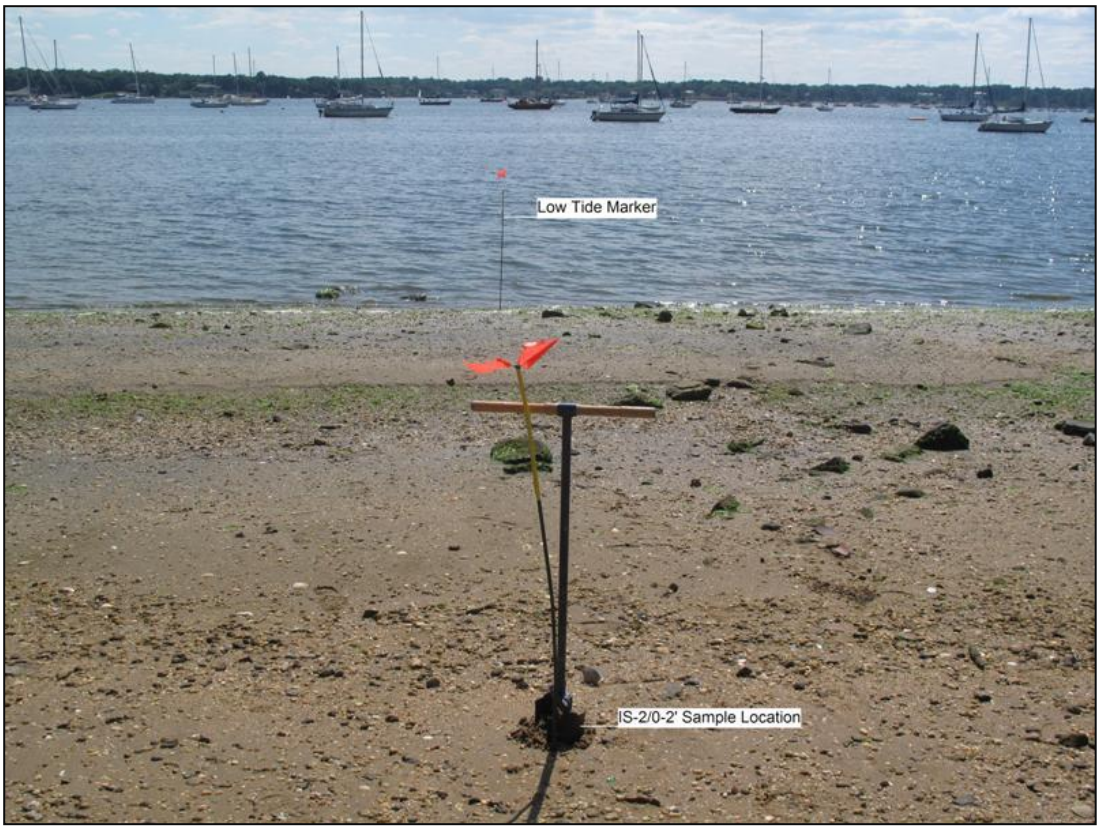
Photograph 4: Intertidal sediment sample IS-1 location and hand sampler



Photograph 5: Intertidal sediment sample IS-1 location, hand sampler and low tide marker flag

Photograph 6: Intertidal sediment sample IS-2, high tide and low tide marker flag locations

Photograph 7: Intertidal sediment sample IS-2 location and high tide marker flag



Photograph 8: Intertidal sediment sample location IS-2 and low tide marker flag