Sterling Environmental Engineering, P.C.

ADDENDUM NO. 2

REMEDIAL ACTION WORK PLAN

FOR

53 PUTNAM STREET
SARATOGA SPRINGS, NEW YORK
BCP #C546057

Prepared for:

Putnam Resources, LLC
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Cambridge, New York 12816

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Latham, New York 12110

September 30, 2022

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ADDENDUM NO. 2
REMEDIAL ACTION WORK PLAN

53 PUTNAM STREET
SARATOGA SPRINGS, NEW YORK
BCP #C546057

TABLE OF CONTENTS

Attachments

1.0 INTRODUCTION

This Addendum No. 2 was prepared to provide an additional scope of work to the New York State Department of Environmental Conservation (NYSDEC)-approved Remedial Action Work Plan (RAWP) for the Brownfield Cleanup Program (BCP) Site #C546057 located at 53 Putnam Street, City of Saratoga Springs, Saratoga County, New York (hereinafter the "Site"). The scope of work includes the placement of protective cover to areas where remediation documentation samples detected total mercury levels above Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) in soil collected from depth of 1 to 2 feet below grade (i.e., within the top 2 ft. below grade) in sidewall excavation samples. The Addendum was deemed necessary to meet the Site's protective cover requirements in accordance with the Decision Document, dated April 2021.

Remedial activities were performed at the Site during the fall and winter of 2021 in accordance with the NYSDEC-approved RAWP and RAWP Addendum No. 1. The upper two (2) feet of soil was excavated from the Eastern and Western Remedial Excavation areas and the upper three (3) feet of soil was excavated from the North Remedial Excavation shown on the Remedial Design Document (Attachment 1). Laboratory analytical results indicated total mercury concentrations at concentrations greater than RRUSCO's in some excavation sidewall documentation samples at depths of one to two feet below grade. Excavated areas were backfilled with imported clean soil meeting the requirements of 6 NYCRR Part 375-6.7(d). The Remedial Design Document presented in Attachment 1 displays the locations of remedial excavations and documentation soil samples with total mercury concentrations exceeding RRUSCOs.

A detailed description of the approved protective cover system for the Site is available in Section 5.5 of the RAWP. The remedial excavations and placement of clean soil cover material proposed in the RAWP were based on soil samples collected during the Remedial Investigation (RI) exhibiting compounds with concentrations greater than RRUSCOs at depths of 0 to 2 feet below grade. The locations of the RI soil samples are shown on the Remedial Design Document presented in Attachment 1. The remedial excavation areas were defined by RI soil samples S-101, S-105, S-106, and S-108, which contained compounds greater than RRUSCO's. RI soil samples S-102, S-103, S-104, and S-107 did not contain compounds greater than RRUSCO's. Figures 14, 15, and 16 from the RI Report showing the concentrations of compounds in the upper 2 feet of soil are presented in Attachment 2.

Mercury was the only compound detected in remediation documentation soil samples at concentrations greater than the RRUSCOs. The location of remediation documentation soil samples containing mercury greater than RRUSCOs are shown on the Remedial Design Document presented in Attachment 1. Attachment 3 presents a figure showing the concentrations at each documentation sample location where the mercury exceeded the RRUSCO. A summary of the compounds detected in S-102, S-103, S-104, and S-107 greater than the NYSDEC Unrestricted Use Soil Cleanup Objectives (UUSCO's) but less than RRUSCO's, also are shown on the Remedial Design Document presented in Attachment 1.

The locations of these samples were used to define the areas for placement of soil cover. No soil cover is proposed above documentation sample location W-SW-7 (0.811 ppm), which exceeded the RRUSCO (0.81 ppm), because a concrete slab is present south of the west excavation. No soil cover is needed at this sample location due to the existing concrete cover.

2.0 SCOPE OF WORK

A minimum of two (2) feet of protective cover material will be placed over locations of documentation soil samples where concentrations of mercury are greater than RRUSCOs in the upper 2 feet of soil. The area for placement and the thickness of protective cover is shown in the Remedial Design Document (Attachment 1).

A Qualified Environmental Professional (QEP) will observe cover installation activities to ensure conformance with this RAWP Addendum, including implementing sediment and erosion controls. The selected contractor will furnish all labor, materials, equipment, tools, and appurtenances required to complete the cover placement. The contractor will be required to conduct operations to prevent damage to existing structures, safeguard people and property, minimize traffic inconvenience, provide safe working conditions, and comply with all applicable local rules and regulations. The remedial contractor will be required by contract to implement and comply with this RAWP Addendum and receive direction from the on-site QEP.

2.1 Demarcation Layer

A demarcation layer will be placed beneath the protective soil cover material where there is not already a demarcation layer in place. A demarcation layer consisting of orange filter fabric, plastic fencing, or similarly identifiable material will be placed on the ground surface prior to placing cover soil.

2.2 Cover Materials

As shown in the Remedial Design Document (Attachment 1), soil cover will consist of a minimum of 2 feet of imported clean soil that meets the requirements of 6 NYCRR Part 375-6.7(d). Soil cover will be graded to ensure 2 feet of cover materials over the identified documentation samples and will be graded to taper and blend into the surrounding ground surface as shown by the thickness contours on the Remedial Design Document.

2.3 Imported Soil

All materials proposed for import onto the Site will comply with DER-10 and 6 NYCRR Part 375-6.7(d). A NYSDEC "Request to Import/Reuse Fill or Soil" form was previously submitted to the NYSDEC for approval of imported sand backfill used during remediation. If possible, the same off-site source will be used to preclude the need to submit another form. If soil from another source is used, a "Request to Import/Reuse Fill or Soil" form will be prepared and submitted to the NYSDEC for approval of the source before material is imported to the Site. Any new source will be sampled in accordance with NYSDEC DER-10 Section 5.4(e) and Table 5.4(e)10 including PFAS as emerging contaminants unless the material is exempt from testing in accordance with the requirements of DER-10 Section 5.4(e)5. Soil imported to the Site for use as backfill or as a protective cover will comply with the entirety of the requirements of 6 NYCRR Part 375-6.7(d).

2.4 Erosion Controls Measures

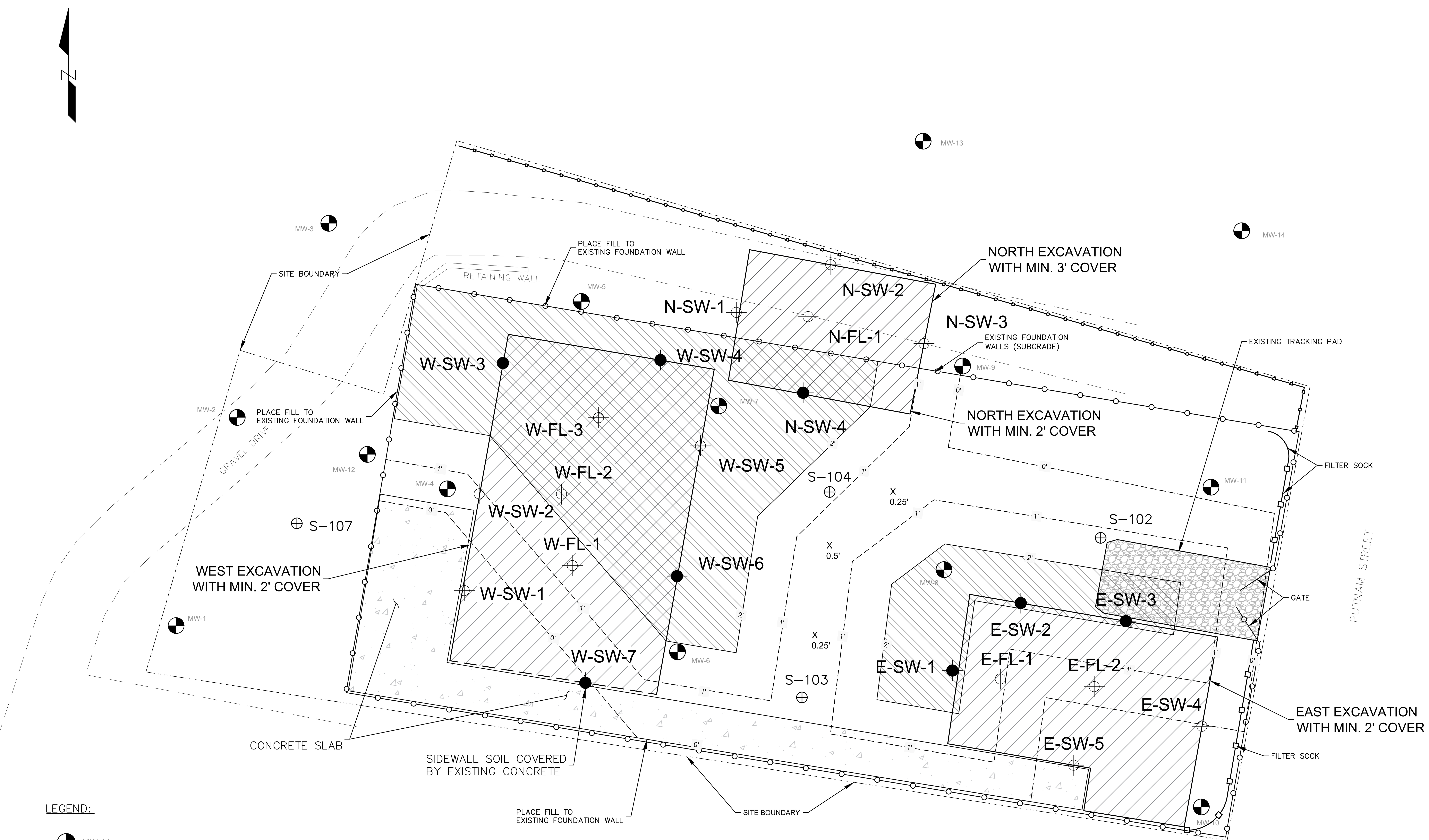
No excavation is proposed as part of this work. All cover system materials will be placed directly on the existing ground surface above a demarcation layer. The stabilized construction entrance remains in place from remedial construction and will be used to deliver materials to the site. As shown in Attachment 1, compost filter sock will be installed on the downgradient perimeter of the site to the north, east, and south of the stabilized construction entrance for erosion control. The placement of cover materials have been designed to smoothly transition to the surrounding existing ground surface to prevent ponding of stormwater or excessive flows that may contribute to erosion. The exposed surface of the cover system is proposed to be gravel, which has less erosion potential than sand backfill.

2.5 CAMP Monitoring

A community air monitoring program (CAMP) will not be implemented during the placement of the cover system. Particulate and volatile organic compound monitoring is not required because the scope of work does not include disturbance of potentially contaminated soil.

S:\Sterling\Projects\2015 Projects\Putnam Resources - 2015-30\Reports and Work Plans\Remedial Action Work Plan\Addendum 2\2022-09-30 RAWP Addendum 2- 53 Putnam.docx

ATTACHMENT 1:
Remedial Design Document



LEGEND:

- EXISTING MONITORING WELL
- REMEDIATION DOCUMENTATION SOIL SAMPLE
- REMEDIATION DOCUMENTATION SOIL SAMPLE FROM 1 – 2 FEET >RRSCOs
- RI BORING LOCATION SOIL SAMPLE FROM 0 – 2 FEET <RRSCOs
- EXTENT OF REMEDIAL EXCAVATION WITH 2 FEET CLEAN SOIL COVER
- PROPOSED AREA OF ADDITIONAL 2 FEET SOIL COVER
- PROPOSED COVER THICKNESS CONTOUR
- FILTER SOCK
- PROPERTY LINE
- SECURITY FENCE

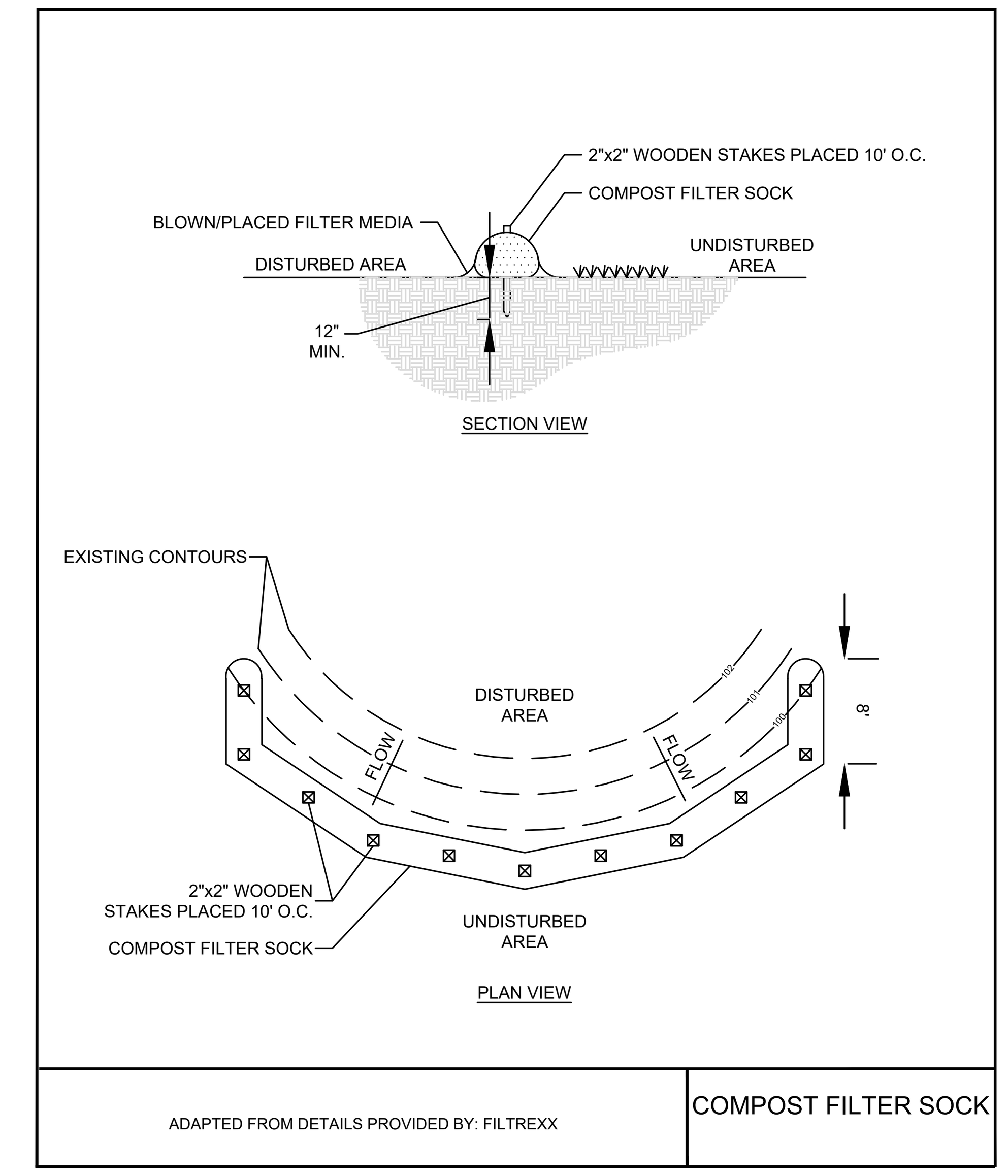
SUMMARY OF SOIL ANALYTICAL DATA: 2018 REMEDIAL INVESTIGATION

SAMPLE ID	T. MERCURY (mg/kg)	T. LEAD (mg/kg)	T. ZINC (mg/kg)	4,4'-DDT (mg/kg)
S-102 (0-6")	0.066 U	10.6 J-	32.3	0.003 J+
S-102 (6-12")	0.145	34.4 J-	38.7	0.00135 R
S-102 (12-24")	0.204	96.4 J-	41.8	0.00319 U
S-103 (0-6")	0.064 U	14.4 J-	28.7	0.0150
S-103 (6-12")	0.064 U	16.7 J-	49.1	0.00921
S-103 (12-24")	0.065 U	3.25 J-	19.6	0.00308 U
S-104 (0-6")	0.268	67.4 J-	63.6	0.0102
S-104 (6-12")	0.065 U	4.21 J-	17.9	0.00296 U
S-104 (12-24")	0.671	234 J-	113	0.00422 J+
S-107 (0-6")	0.067 U	1.04 J	14.5 J-	0.00308 U
S-107 (6-12")	0.067 U	1.53 J	14.2 J-	0.00311 U
S-107 (12-24")	0.216	23	29.2 J-	0.00363

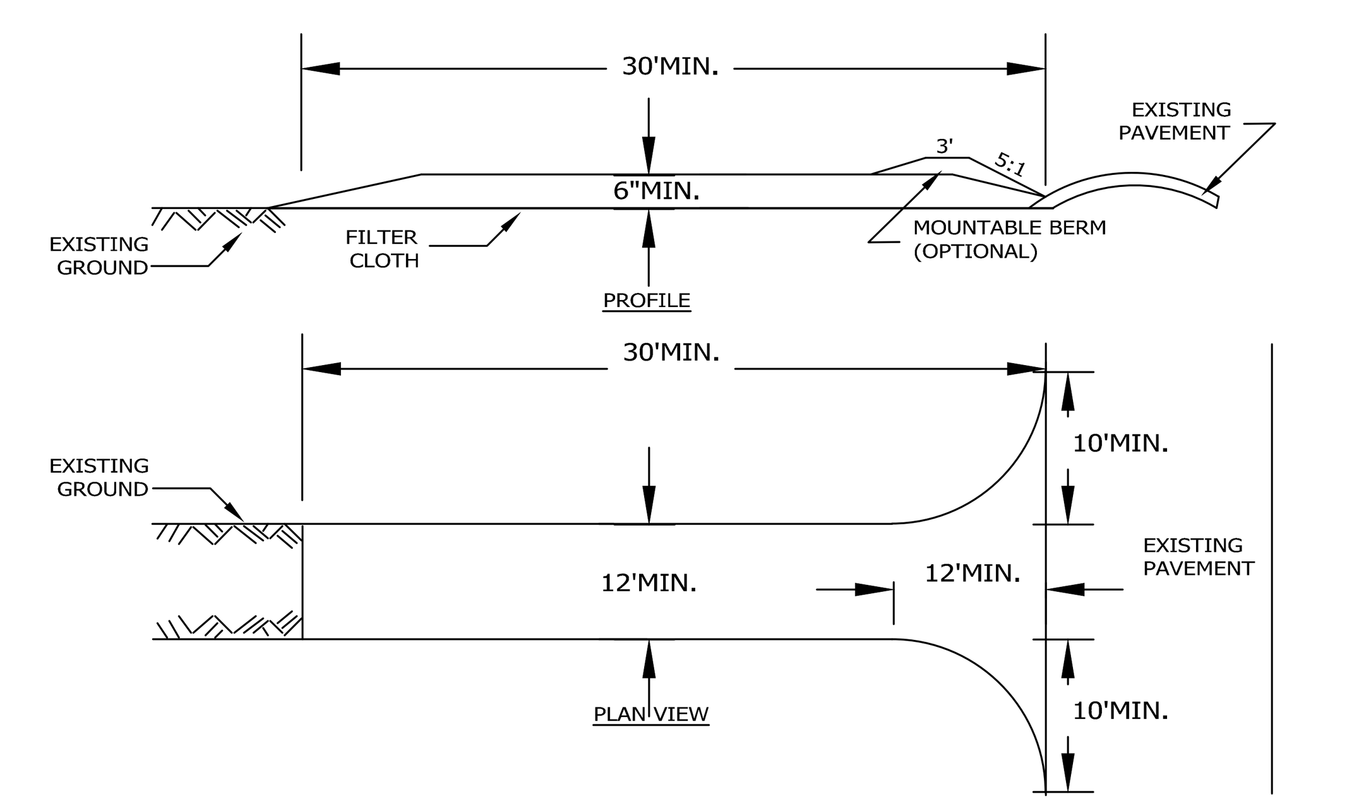
(yellow) EXCEEDS UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCOs) BUT IS LESS THAN RESTRICTED RESIDENTIAL USE SOIL CLEANUP OBJECTIVES (SCOs)

U — NOT DETECTED (ND). THE ANALYTE WAS ANALYZED FOR, BUT WAS NOT DETECTED ABOVE THE REPORTED SAMPLE QUANTITATION LIMIT

J+/- — RESULT WAS QUALIFIED AS ESTIMATED BIASED HIGH (J+) OR ESTIMATED BIASED LOW (J-)

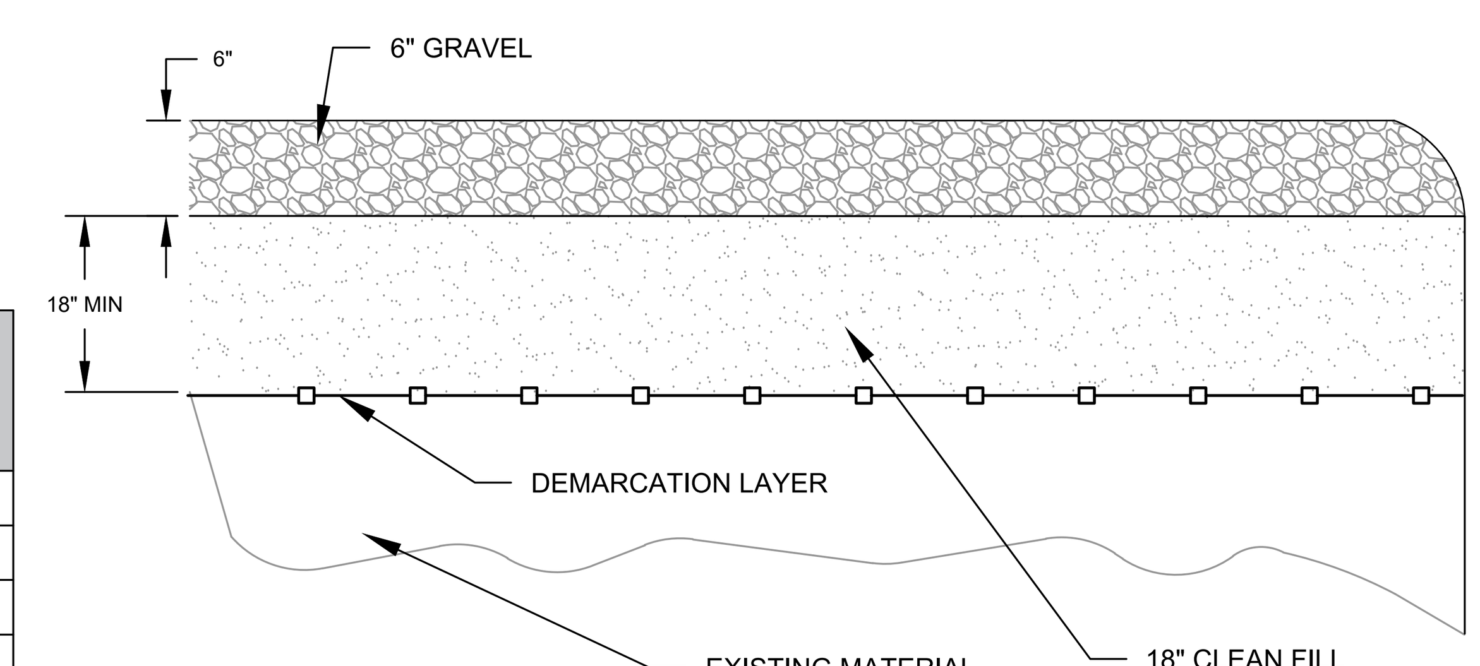


FILTER SOCK DETAIL
(NOT TO SCALE)



1. A STABILIZED CONSTRUCTION ENTRANCE IS TO BE INSTALLED IN ACCORDANCE WITH THE NEW YOUR STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
2. STONE SIZE – USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
3. LENGTH – NOT LESS THAN 30 FEET.
4. THICKNESS – NOT LESS THAN SIX (6) INCHES.
5. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
6. GEOTEXTILE – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
7. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
8. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
9. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
10. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ACCESS DETAIL
(NOT TO SCALE)



2 FOOT PROTECTIVE COVER SYSTEM DETAIL
(NOT TO SCALE)

Note: Clean Fill = Meeting the requirements of 6 NYCRR Part 375-6.7 (d)

FIGURE 2

STATE OF NEW YORK — ANDREW M. MILLSPAUGH — LICENSED PROFESSIONAL ENGINEER — 094708

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NO.	DATE	RECORD OF WORK	DRN	CKD	APPR
1	02/10/21	LABEL SITE BOUNDARY	TMJ	TMJ	AMM
2	09/16/22	REVISED COVER AREA PER RAWP ADDENDUM 2	PWS	TMJ	AMM

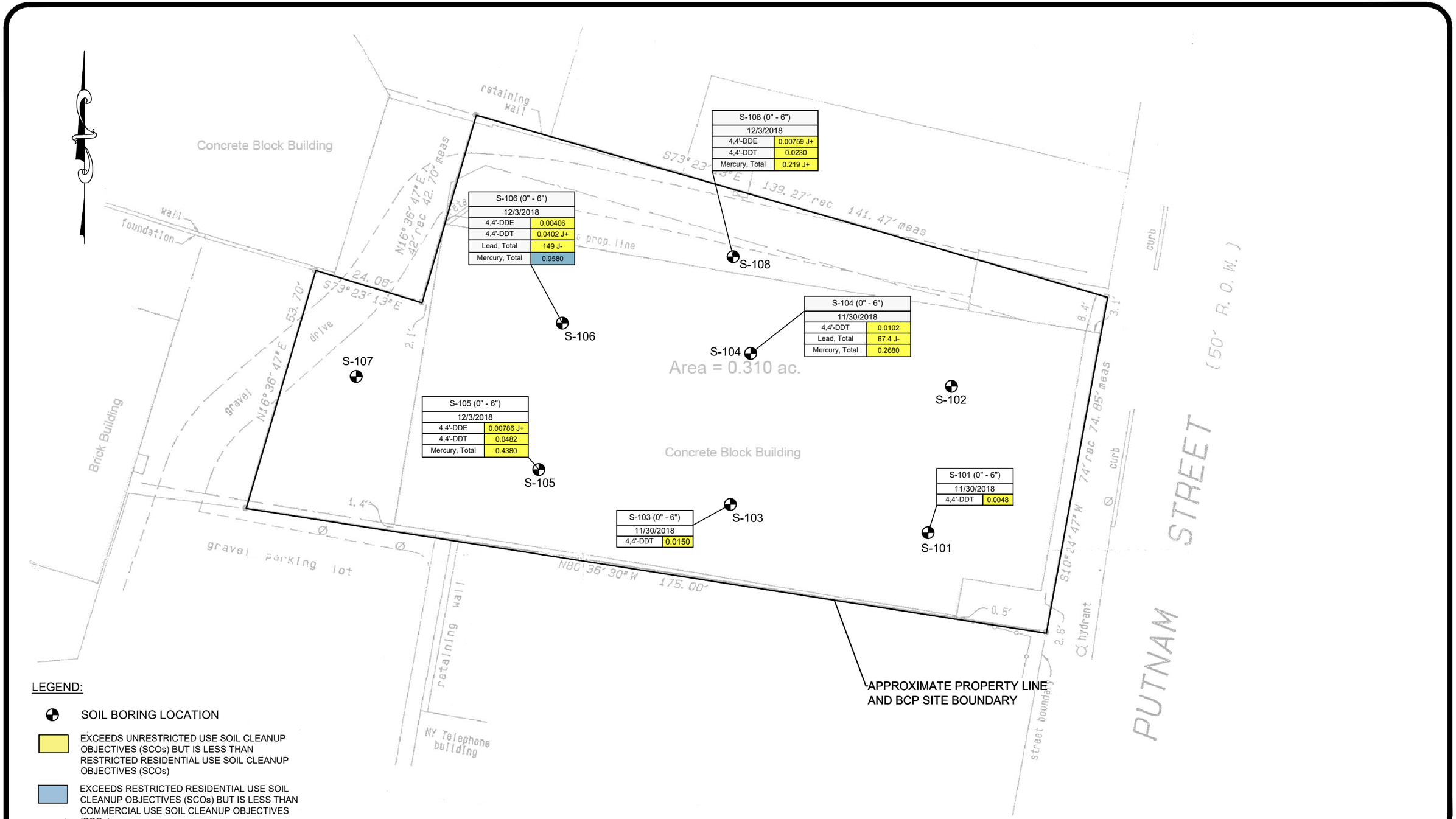
PROJECT
PROJ. ENGR.: AMM
PROJ. NO.: 2015-30
PREPARED BY: TAS
DRAFTED BY: TAS
CHECKED BY:
APPROVED BY:
DATUM: N/A
CONTOUR INTERVAL = N/A FEET
0 5' 10' 20'
1" = 10'

REMEDIAL DESIGN DOCUMENT
SOIL EXCAVATION AND REMOVAL REMEDY
53 PUTNAM STREET
PUTNAM RESOURCES, LLC
CITY OF SARATOGA SPRINGS — SARATOGA CO., NEW YORK

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

DATE: 10/05/2020 | SCALE: 1" = 10' | DWG. NO. 2015-30071 | SHEET 2 OF 2

ATTACHMENT 2:
RI Figures 14, 15, and 16



LEGEND:

- SOIL BORING LOCATION
- EXCEEDS UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCOs) BUT IS LESS THAN RESTRICTED RESIDENTIAL USE SOIL CLEANUP OBJECTIVES (SCOs)
- EXCEEDS RESTRICTED RESIDENTIAL USE SOIL CLEANUP OBJECTIVES (SCOs) BUT IS LESS THAN COMMERCIAL USE SOIL CLEANUP OBJECTIVES (SCOs)
- EXCEEDS COMMERCIAL USE SOIL CLEANUP OBJECTIVES (SCOs) BUT IS LESS THAN INDUSTRIAL USE SOIL CLEANUP OBJECTIVES (SCOs)
- EXCEEDS INDUSTRIAL USE SOIL CLEANUP OBJECTIVES (SCOs)

0.0012 J = CONCENTRATION (mg/kg)

0 20 40

SCALE: 1" = 20'

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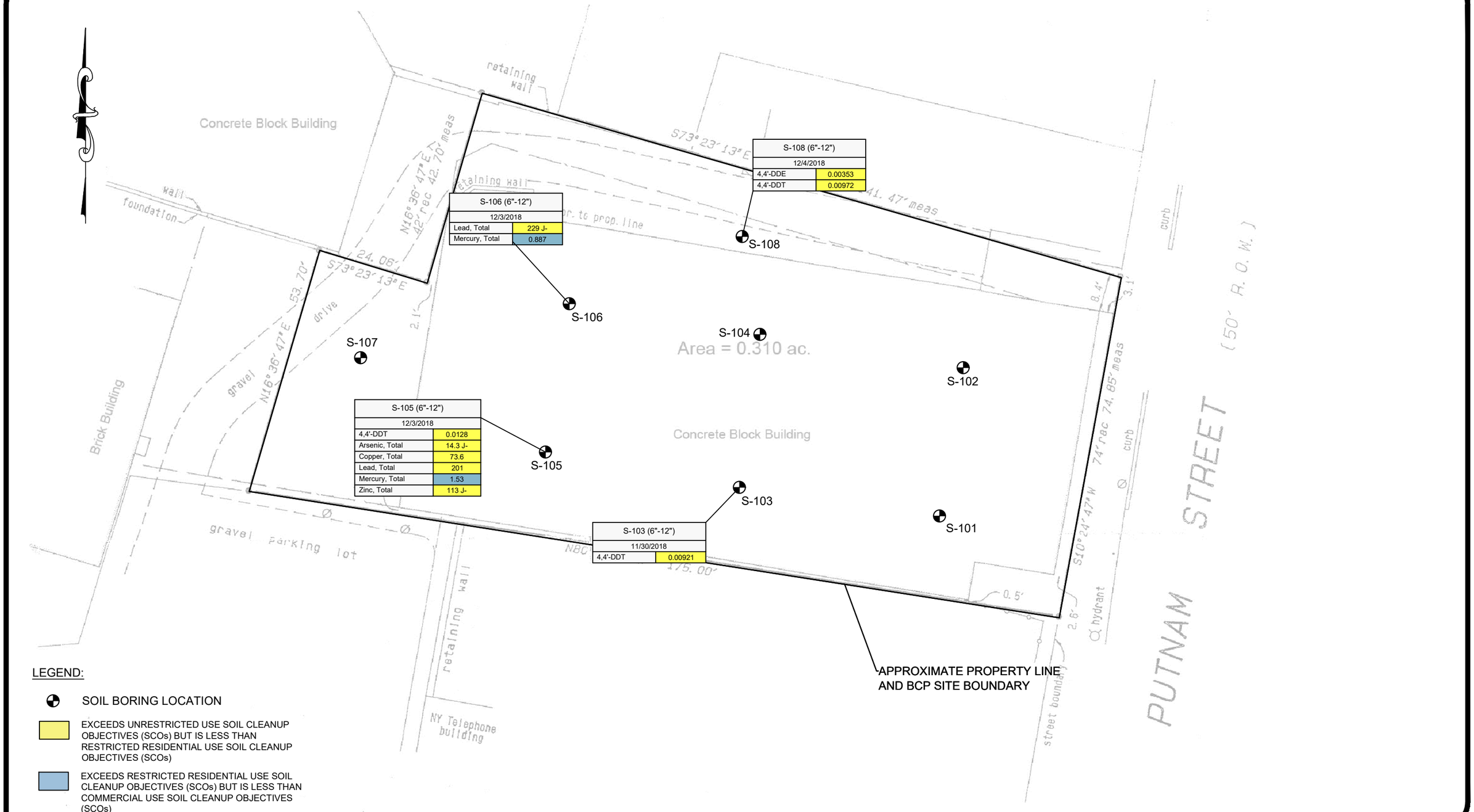
NYSDEC SCO SOIL EXCEEDANCES (0"–6")
2018 REMEDIAL INVESTIGATION
PUTNAM RESOURCES, LLC
53 PUTNAM STREET
CITY OF SARATOGA SPRINGS SARATOGA CO., N.Y.

PROJ. No.: 2015–30	DATE: 10/10/2019	SCALE: 1" = 20'	DWG. NO. 2015–30054	FIGURE 14

S:\Sterling\Projects\2015 Projects\Putnam Resources - 2015-30\ACAD\2015-30054_F-14 -SOIL_EXCEEDANCES (0-6)_2018 RI.dwg CAD 10/18/2019 10:15 AM



LEGEND:

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- EXCEEDS COMMERCIAL USE SOIL CLEANUP OBJECTIVES (SCOs) BUT IS LESS THAN INDUSTRIAL USE SOIL CLEANUP OBJECTIVES (SCOs)
- EXCEEDS INDUSTRIAL USE SOIL CLEANUP OBJECTIVES (SCOs)

0.0012 J = CONCENTRATION (mg/kg)

0 20 40

SCALE: 1" = 20'

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NYSDEC SCO SOIL EXCEEDANCES (6"–12")
2018 REMEDIAL INVESTIGATION
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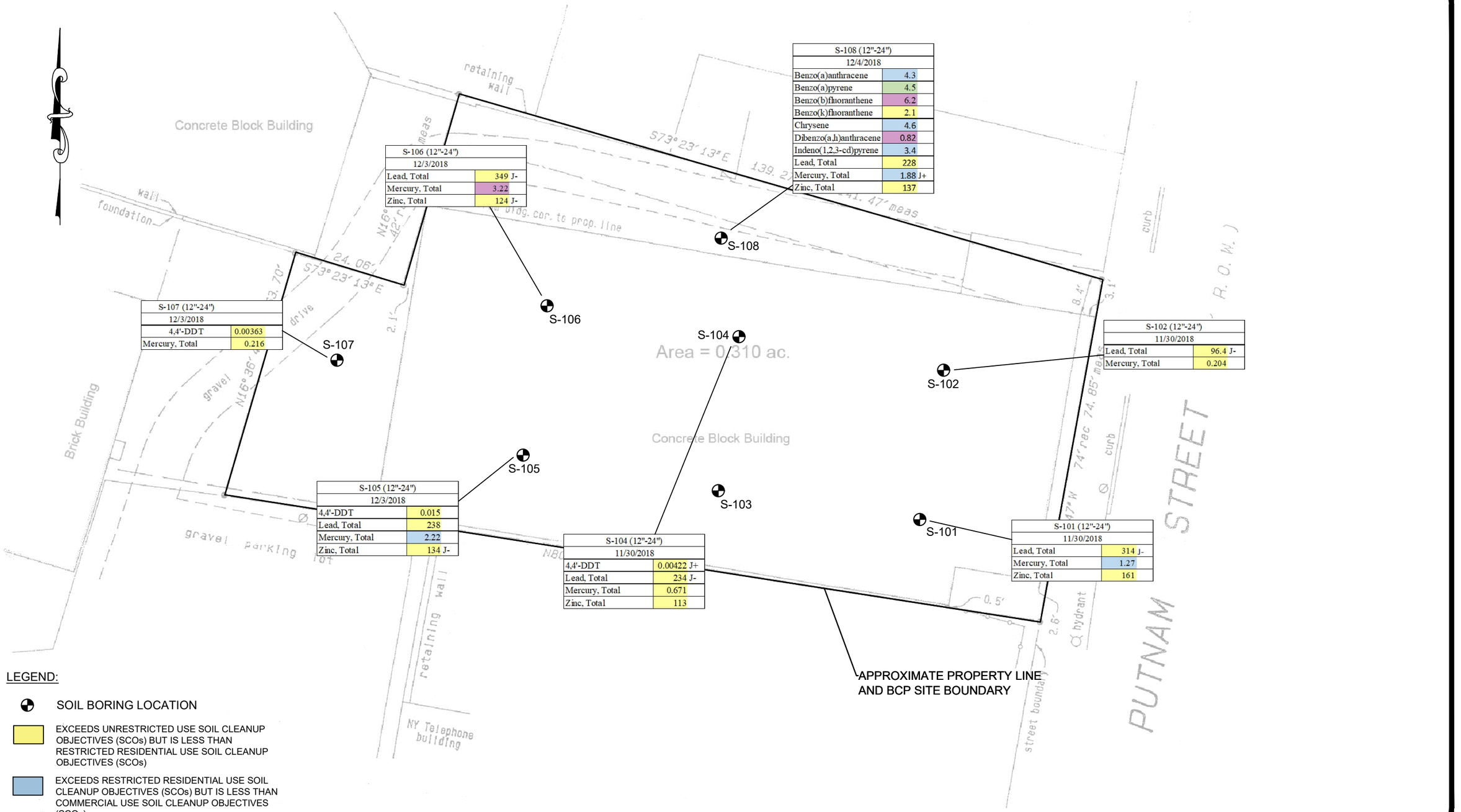
53 PUTNAM STREET
CITY OF SARATOGA SPRINGS SARATOGA CO., N.Y.

PROJ. No.: 2015–30	DATE: 10/10/2019	SCALE: 1" = 20'	DWG. NO. 2015–30055	FIGURE 15

S:\Sterling\Projects\2015 Projects\Putnam Resources - 2015-30\ACAD\2015-30055_F-15 - SOIL_EXCEEDANCES (6-12)_2018 RI-2.dwg SWEETT 11/22/2019 10:30 AM



LEGEND:

- SOIL BORING LOCATION
- EXCEEDS UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCOs) BUT IS LESS THAN RESTRICTED RESIDENTIAL USE SOIL CLEANUP OBJECTIVES (SCOs)
- EXCEEDS RESTRICTED RESIDENTIAL USE SOIL CLEANUP OBJECTIVES (SCOs) BUT IS LESS THAN COMMERCIAL USE SOIL CLEANUP OBJECTIVES (SCOs)
- EXCEEDS COMMERCIAL USE SOIL CLEANUP OBJECTIVES (SCOs) BUT IS LESS THAN INDUSTRIAL USE SOIL CLEANUP OBJECTIVES (SCOs)
- EXCEEDS INDUSTRIAL USE SOIL CLEANUP OBJECTIVES (SCOs)

0.0012 J = CONCENTRATION (mg/kg)

0 20 40

SCALE: 1" = 20'

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NYSDEC SCO SOIL EXCEEDANCES (12"–24")
2018 REMEDIAL INVESTIGATION
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CITY OF SARATOGA SPRINGS SARATOGA CO., N.Y.

PROJ. No.: 2015–30	DATE: 10/10/2019	SCALE: 1" = 20'	DWG. NO. 2015–30056	FIGURE 16

S:\Sterling\Projects\2015 Projects\Putnam Resources - 2015-30\ACAD\2015-30056_F-16 -SOIL_EXCEEDANCES(12-24)_2018 RI.dwg SWEETT 11/22/2019 10:33 AM

ATTACHMENT 3:
Documentation Soil Samples Map

W-SW-3 (1.0'-2.0')			
ANALYTE	12/28/2021	POG	RRUSCOs
MERCURY, TOTAL	2.13	0.73	0.81

W-SW-4 (1.0'-2.0')			
ANALYTE	12/28/2021	POG	RRUSCOs
MERCURY, TOTAL	2.71	0.73	0.81

N-SW-1 (2.0'-3.0')			
ANALYTE	12/29/2021	POG	RRUSCOs
IDENO(1,2,3-CD)PYRENE	0.59	8.2	0.5

N-SW-2 (2.0'-3.0')			
ANALYTE	12/29/2021	POG	RRUSCOs
MERCURY, TOTAL	1.79	0.73	0.81
BENZO(A)ANTHRACENE	1.4	1	1
BENZO(A)PYRENE	1.2	22	1
BENZO(B)FLUORANTHENE	1.5	1.7	1
CHRYSENE	1.4	1	3.9
IDENO(1,2,3-CD)PYRENE	0.88	8.2	0.5

N-SW-3 (2.0'-3.0')			
ANALYTE	12/29/2021	POG	RRUSCOs
MERCURY, TOTAL	1.23	0.73	0.81

W-FL-2 (2.0')			
ANALYTE	12/28/2021	POG	RRUSCOs
MERCURY, TOTAL	1.74	0.73	0.81

N-SW-4 (2.0'-3.0')			
ANALYTE	12/29/2021	POG	RRUSCOs
MERCURY, TOTAL	1.49	0.73	0.81

E-SW-2 (1.0'-2.0')			
ANALYTE	12/29/2021	POG	RRUSCOs
MERCURY, TOTAL	2.76	0.73	0.81

W-SW-6 (1.0'-2.0')			
ANALYTE	12/28/2021	POG	RRUSCOs
MERCURY, TOTAL	1.4	0.73	0.81

E-SW-3 (1.0'-2.0')			
ANALYTE	12/29/2021	POG	RRUSCOs
MERCURY, TOTAL	3.8	0.73	0.81

E-SW-1 (1.0'-2.0')			
ANALYTE	12/29/2021	POG	RRUSCOs
MERCURY, TOTAL	1.35	0.73	0.81

W-SW-7 (1.0'-2.0')			
ANALYTE	12/28/2021	POG	RRUSCOs
MERCURY, TOTAL	0.811	0.73	0.81

E-FL-1 (2.0')			
ANALYTE	12/29/2021	POG	RRUSCOs
MERCURY, TOTAL	1.21	0.73	0.81

E-FL-2 (2.0')			
ANALYTE	12/29/2021	POG	RRUSCOs
MERCURY, TOTAL	2.11	0.73	0.81

MW-1, MW-2, MW-3, MW-4, MW-5, MW-6A, MW-7, MW-8A, MW-9, MW-10, MW-11A, MW-12A, MW-13, MW-14, MW-17, MW-18, MW-19, MW-20

SITE BOUNDARY

RETAINING WALL

NORTH EXCAVATION
3' DEPTH (OUTSIDE BUILDING FOOTPRINT)

NORTH EXCAVATION
2' DEPTH(INSIDE BUILDING FOOTPRINT)

N-SW-1, N-SW-2, N-SW-3, N-SW-4, N-FL-1

W-SW-1, W-SW-2, W-SW-3, W-SW-4, W-SW-5, W-SW-6, W-SW-7, W-FL-1, W-FL-2, W-FL-3

E-SW-1, E-SW-2, E-SW-3, E-SW-4, E-SW-5, E-FL-1, E-FL-2

GRAVEL DRIVE

EXISTING CONCRETE

EXISTING FOUNDATION WALLS (SUBGRADE)

PUTNAM STREET

GATE

WEST EXCAVATION
2' DEPTH

EAST EXCAVATION
2' DEPTH

EXISTING CONCRETE

SITE BOUNDARY

N

LEGEND:

- MONITORING WELL LOCATION
- DOCUMENTATION SAMPLE LOCATION
- W-FL-1 (2.0') SAMPLE NUMBER AND DEPTH (BGS).
- EXCAVATION EXTENT
- EXCEEDS PROTECTION OF GROUNDWATER (PoG) CRITERIA
- EXCEEDS RESTRICTED-RESIDENTIAL (RRUSCOs) CRITERIA
- EXCEEDS BOTH PoG AND RRUSCOs CRITERIA

0 8 16

1" = 16'

NOTE: ALL SOIL CONCENTRATIONS ARE IN UNITS OF MILLIGRAMS PER KILOGRAM (mg/kg) OR PARTS PER MILLION (ppm).
SIDEWALL AND FLOOR DOCUMENTATION SAMPLES COLLECTED AT BASE OF EXCAVATION.

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DOCUMENTATION SAMPLES
ABOVE RRUSCO
53 PUTNAM STREET
PUTNAM RESOURCES, LLC
CITY OF SARATOGA SPRINGS SARATOGA CO., NEW YORK

PROJ. No.: 2015-30	DATE: 05/12/2022	SCALE: 1" - 16'	DWG. NO. 2015-30079	FIGURE 6