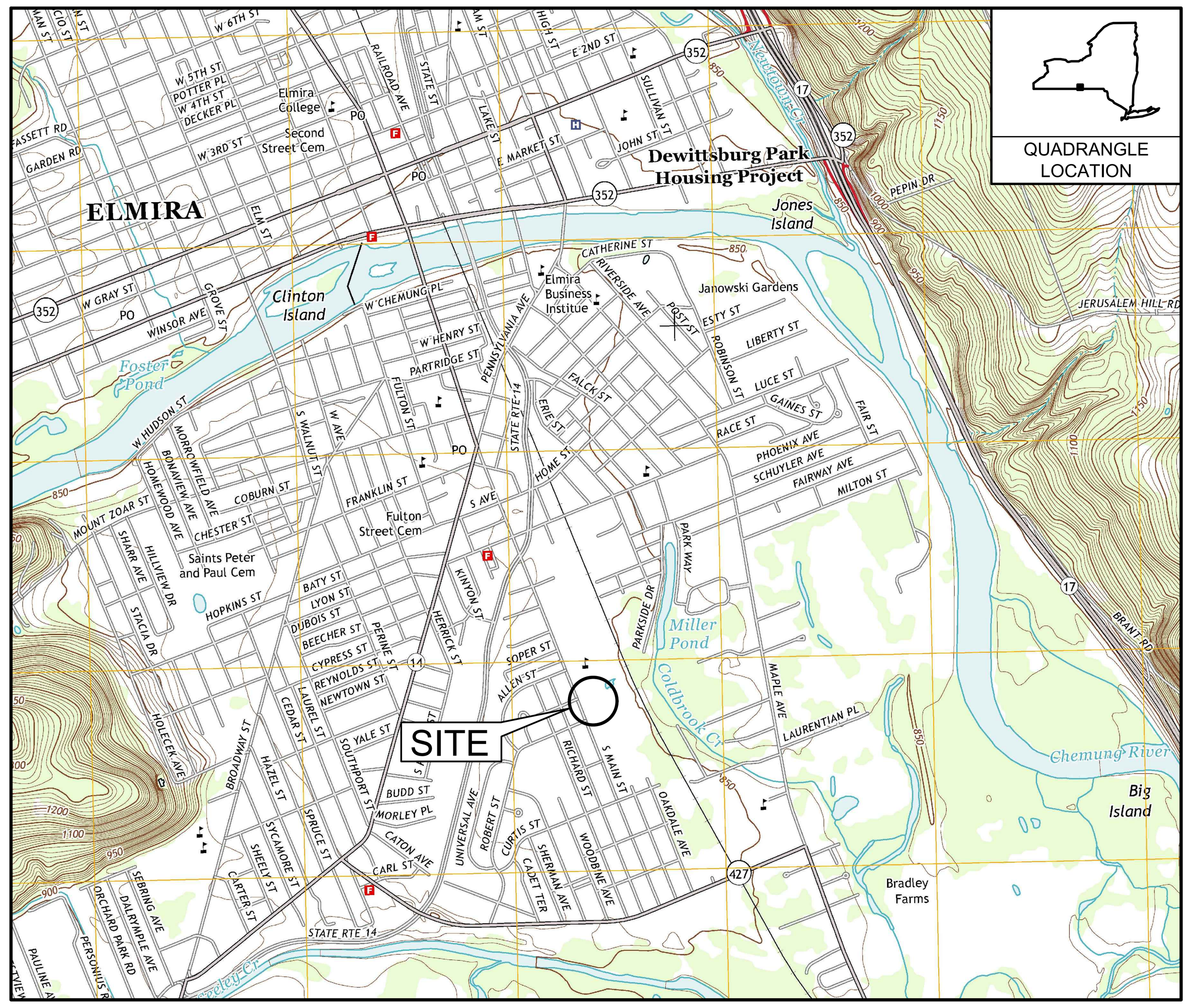
INTERIM REMEDIATION MEASURE #2

AS-BUILT DRAWINGS

FORMER SPERRY-REMINGTON SITE - NORTH PORTION

ELMIRA, NEW YORK

FEBRUARY 2019



SOURCE: "ELMIRA, NEW YORK" USGS 7.5' QUADRANGLE, 2013 SCALE: 1" = 2000'

LOCATION MAP

PREPARED FOR: UNISYS CORPORATION

CORPORATE ENVIRONMENTAL AFFAIRS
3199 PILOT KNOB ROAD MS F1B05
EAGAN, MN 55121

PREPARED BY: Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

10211 WINCOPIN CIRCLE, FLOOR 4
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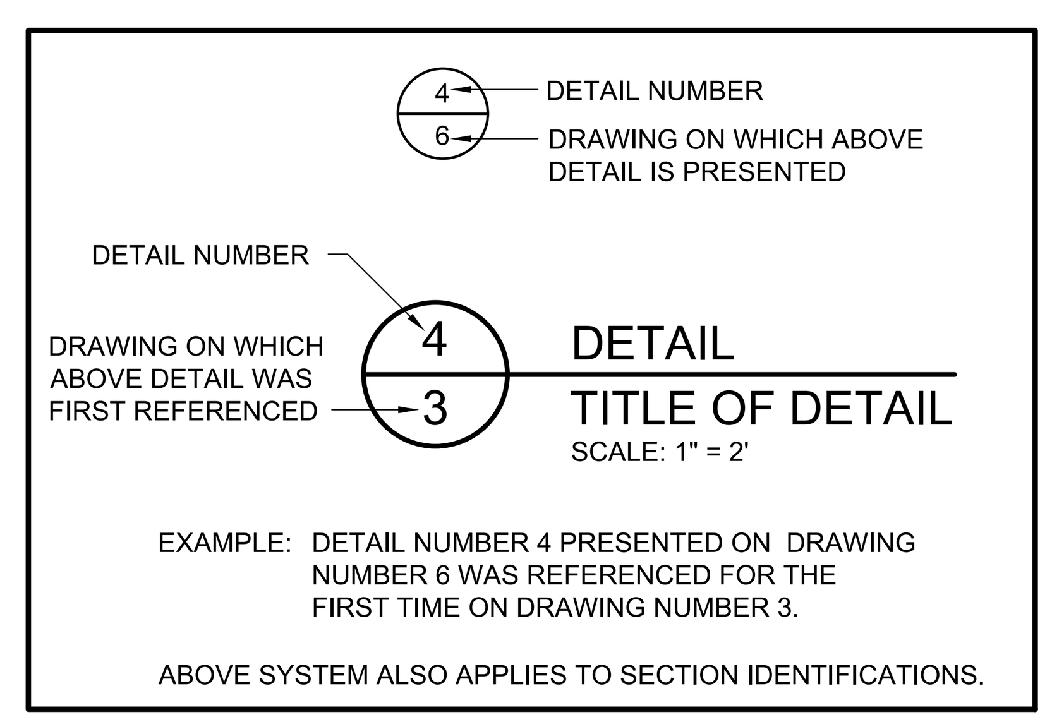


DETAIL IDENTIFICATION LEGEND

AS-BUILT DRAWING

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

UNISYS

TITLE: TITLE SHEET

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

SIGNATURE
2/3/2021
DATE

STATE OF NEW YORK ARON A. KRASNOPOLER 089954-1 LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D101
REVIEWED BY:	PLB	FIGURE NO.:	1 OF 13
APPROVED BY:	AK		

1 PLAN
- AS-BUILT SUB-GRADE

LEGEND

- SITE BUILDING
- BASIN CULVERT
- 12"CMP PIPE
- CHAIN LINK FENCE
- WOODEN FENCE
- PROPERTY LINE
- EDGE OF WATER
- BURIED ELECTRIC CABLE
- SANITARY SEWER
- STORM SEWER
- NATURAL GAS LINE
- WATER LINE
- 850 SUBGRADE CONTOUR (FT, MSL)
- ENCOUNTERED CONCRETE SLAB
- ENCOUNTERED CONCRETE WALL
- A CONCRETE ARTIFACT
- 849.13 ELEVATION OF CONCRETE (FT, MSL)

Concrete Artifact	Area (ft^2)	Height (ft)	Volume (ft^3)	Volume (yds^3)
A	52.23	7.0	365.61	13.54
B	48.22	7.0	337.54	12.50
C	43.82	7.0	306.74	11.36
D	97.68	4.0	390.72	14.47
E	88.11	7.0	616.77	22.84
F	112.75	7.0	789.25	29.23
G	75.78	6.0	454.68	16.84
H	72.04	4.0	288.16	10.67

Concrete Artifact	Area (ft^2)	Height (ft)	Volume (ft^3)	Volume (yds^3)
I	217.67	7.0	1523.69	56.43
J	186.56	7.0	1305.92	48.37
K	53.14	7.0	371.98	13.78
L	4.52	7.0	31.64	1.17
M	4.45	7.0	31.15	1.15
N	4.51	7.0	31.57	1.17

NOTES:

1. EXISTING TOPOGRAPHY IS FROM:
   a. A TOPOGRAPHIC SURVEY OF ELMIRA HIGH SCHOOL BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS IN SEPTEMBER 2016. VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88/GEOID 12A), HORIZONTAL CONTROL IS REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83/NA 2011).
   b. A TOPOGRAPHIC SURVEY OF FORMER REMINGTON RAND SITE BY WEILER ASSOCIATES, DATED 27 APRIL 2011.
2. AS-BUILT SUBGRADE ELEVATIONS BASED ON SURVEY OF SUB GRADE REMEDIATION AREA BY BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS DATED 6 OCTOBER 2018 AND REVISED 6 NOVEMBER 2018.

0 20' 40'
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

UNISYS

TITLE: AS-BUILT EXCAVATION PLAN

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

SIGNATURE
2/3/2021
DATE

STATE OF NEW YORK · JOHN T. KRASNOPOLER · 089954-1 · LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D102
REVIEWED BY:	PLB	FIGURE NO.:	
APPROVED BY:	AK	2 OF 13	

AS-BUILT DRAWING

2 / - PLAN
0-2 FT EXCAVATION

LEGEND

- PRE-DELINEATION CONFIRMATION SAMPLE
- MANHOLE CATCH
- BASIN CULVERT
- PIPE
- CHAIN LINK FENCE
- GUARD RAIL
- PROPERTY LINE
- EXISTING CONTOUR LINE
- EDGE OF WATER
- EDGE OF WOODS OR BRUSH
- BURIED ELECTRIC CABLE
- SANITARY SEWER
- STORM SEWER
- NATURAL GAS LINE
- WATER LINE
- EXCAVATION LIMITS
- MAJOR ISOPACH CONTOUR
- MINOR ISOPACH CONTOUR
- AS-BUILT LIMIT OF 0-2 FT EXCAVATION
- CONCRETE STONE SLAB

COPCs REMAINING IN PLACE

- B931 TOTAL PCBS > 1 AND <10
- B931 NO COPC EXCEEDANCE
- B868 BOTTOM SAMPLE
- BOTTOM OF EXCAVATION/DEMARCATION LAYER 0-2 FEET EXCAVATION

COPCs REMAINING (0-2 FT BGS)

Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-B1261	0-2	2.961
SSHS-B133	0-2	0.722
SSHS-E-2-2	1.4-1.4	0.5453
SSHS-B524	0-2	0.4393
SSHS-B381	0-2	0.428
SSHS-B531	0-2	0.2543
SSHS-B521	0-2	0.2316
SSHS-E-3-1	0.1-0.1	0.2219
SSHS-SW-001	0-2	0.2138
SSHS-B1260	0-2	0.1382
SSHS-B382	0-2	0.0204
SSHS-B1063	0-2	0.0197
SSHS-SW-017	0-2	<0.0882
SSHS-B829	0-2	<0.0865
SSHS-SW-014	0-2	*<0.0865*

NOTES:

PCBS REMAINING IN PLACE SHOWN IN ITALICS (> RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVE OF 1 MG/KG (6 NYCRR PART 375))

RESIDUAL PCBS SHOWN IN BOLD (>= NYS HAZARDOUS WASTE (50MG/KG))

		Metals				
		Lead	Arsenic	Barium	Copper	Nickel
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Restricted Residential Criteria		400	16	400	270	310
Metals 20x TCLP Screening (Lead = 1000 ppm)		1000	100	2000		
Boring ID	Depth Interval (ft bgs)					
SSHS-B1261	0-2	16J	6.4J	40	31	16
SSHS-B524	0-2	13	13	100	22	22
SSHS-E-5-1	1.4-1.4	240J	12	190	*340*	120
SSHS-E-7-1	1.5-1.5	340	16	180	*1900*	290
SSHS-B1029	0-2	120	18	150	260	290
SSHS-B1030	0-2	78	16	130	260	74
SSHS-B1260	0-2	20	5.3	68	21	18
SSHS-E-6-1	1-1	500	9.5	190	*510=*	140J

NOTES:

METALS REMAINING IN PLACE SHOWN IN ITALICS (> RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVE (6 NYCRR PART 375))

RESIDUAL METALS SHOWN IN BOLD (>200X TCLP LEAD OR (> 20X TCLP FOR OTHER METALS)

TCLP – TOXICITY CHARACTERISTIC LEACHING PROCEDURE

BOTTOM

Boring ID	Depth Interval (mg/kg)	PCB Concentration (mg/kg)
SSHS-UTP-01	2-4	94.61
SSHS-UTP-01	2-4	94.61
SSHS-E-4-2	2-4	46.24
SSHS-UTP-02	2-4	34.63
SSHS-UTP-02	2-4	34.63
SSHS-B1320	2-4	21.32
SSHS-SW-013	2-4	4.408
SSHS-B868	2-4	2.813
SSHS-B950	2-4	2.351
SSHS-B873	2-4	1.731
SSHS-B865	2-4	0.9921
SSHS-B555	2-4	0.866
SSHS-B530	2-4	0.6958
SSHS-UTP-03	2-4	0.6213
SSHS-UTP-03	2-4	0.6213
SSHS-B1033	2-4	0.4701
SSHS-B554	2-4	0.4427
SSHS-B374	2-4	0.374
SSHS-B896	2-4	0.3338
SSHS-B1395	2-4	0.2947
SSHS-B1193	2-4	0.2194
SSHS-B867	2-4	0.1959
SSHS-B949	2-4	0.1953
SSHS-B1394	2-4	0.191
SSHS-B1034	2-4	0.1658
SSHS-B866	2-4	0.1624
SSHS-B871	2-4	0.1285
SSHS-B1226	2-4	0.0982
SSHS-B951	2-4	0.0955
SSHS-B1072	2-4	0.093
SSHS-B903	2-4	0.0915
SSHS-B872	2-4	0.07725
SSHS-B520	2-4	0.0714
SSHS-B1227	2-4	0.0648
SSHS-B383	2-4	0.039
SSHS-B140	2-4	0

TABLE NOTES:

1. THE IRM SOIL CLEANUP GOAL FOR 0 -2 FT BGS WAS 1 MG/KG.
2. METALS RESULTS ARE SHOWN ONLY FOR METAL CONSTITUENTS WITH AT LEAST ONE EXCEEDANCE OF RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVES (6 NYCRR PART 375-6).

0 20' 40'
SCALE IN FEET

NOTES:

1. SEE SHEET 2 FOR GENERAL NOTES.
2. EXCAVATION ISOPACH DEVELOPED FROM AS-BUILT SUBGRADE ELEVATIONS BASED ON SURVEY OF SUB GRADE REMEDIATION AREA DATED 6 OCTOBER 2018 AND REVISED 6 NOVEMBER 2018 AND SURVEY OF REMEDIATION AREA EXISTING GRADE DATED 19 JUNE 2018 BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS.
3. EXCAVATION AREAS BASED ON CONSTRUCTION DRAWINGS INCLUDED IN REVISED FINAL IRM #2 WORK PLAN DATED 13 JULY 2018 AND APPROVED BY NYSDEC ON 25 JULY 2018.
4. BENCHING AND SLOPING OF EXCAVATION WAS USED TO SUPPORT EXCAVATION AND UTILITIES IN ACCORDANCE WITH AMENDMENT #2 TO REVISED FINAL IRM #2 WORK PLAN DATED 16 JULY 2018 AND ACCEPTED BY NYSDEC ON 31 JULY 2018.
5. AS-BUILT EXCAVATION DID NOT ACHIEVE DESIGN DEPTHS IN AREAS NOTED DUE TO SUBSURFACE CONCRETE STRUCTURES ENCOUNTERED AND REQUIREMENTS FOR EXCAVATION AND UTILITY SUPPORT IN ACCORDANCE WITH AMENDMENT #2.

AS-BUILT DRAWING

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

UNISYS

TITLE: 0-2 FEET EXCAVATION

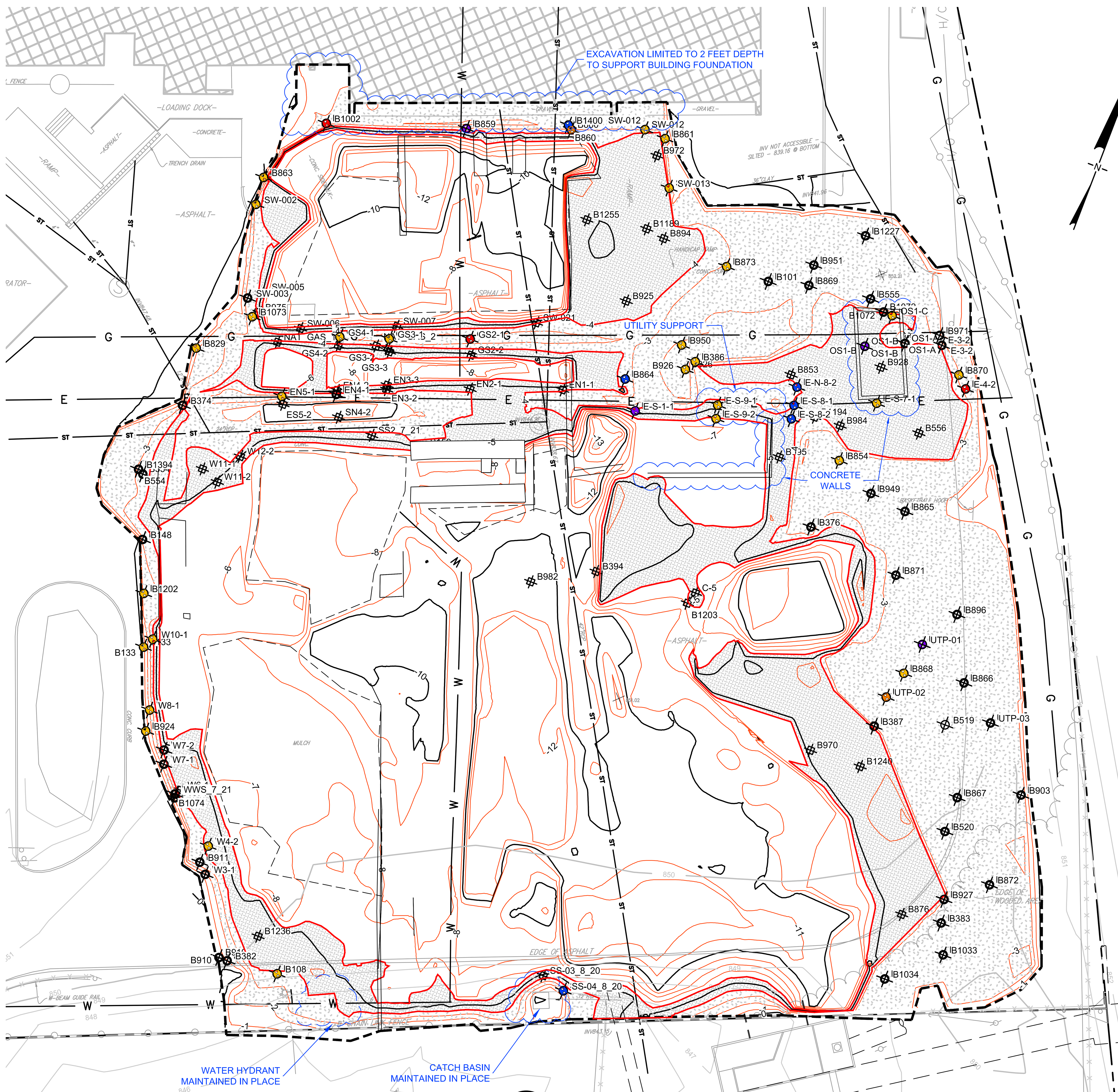
PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

SIGNATURE
2/3/2021
DATE

STATE OF NEW YORK · ARON A. KRASNOPOLER · 089954-1 · LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D102-10
REVIEWED BY:	PLB	FIGURE NO.:	3 OF 13
APPROVED BY:	AK		



3 - PLAN
2-4 FT EXCAVATION

LEGEND

Symbol	Description
	PRE-DELINEATION CONFIRMATION SAMPLE
	MANHOLE CATCH
	BASIN CULVERT
	PIPE
	CHAIN LINK FENCE
	GUARD RAIL
	PROPERTY LINE
	EXISTING CONTOUR LINE
	EDGE OF WATER
	EDGE OF WOODS OR BRUSH
E	BURIED ELECTRIC CABLE
SAN	SANITARY SEWER
ST	STORM SEWER
G	NATURAL GAS LINE
W	WATER LINE
-4	AS-BUILT LIMIT OF 2-4 FT EXCAVATION
	EXCAVATION LIMITS
-10	MAJOR ISOPACH CONTOUR
-2	MINOR ISOPACH CONTOUR
	CONCRETE STONE SLAB
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 0-2 FEET EXCAVATION
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 2-4 FEET EXCAVATION

RESIDUAL COPCs IN PLACE

B931	TOTAL PCBS > 50 MG/KG

COPCs REMAINING IN PLACE

B931	TOTAL PCBS >40 AND <50
B931	TOTAL PCBS >30 AND <40
B931	TOTAL PCBS > 20 AND <30
B931	TOTAL PCBS > 10 AND <20
B931	TOTAL PCBS > 1 AND <10
B931	NO COPC EXCEEDANCE
B868	BOTTOM SAMPLE

NOTES:

1. SEE SHEET 2 FOR GENERAL NOTES.
2. EXCAVATION ISOPACH DEVELOPED FROM AS-BUILT SUBGRADE ELEVATIONS BASED ON SURVEY OF SUB GRADE REMEDIATION AREA DATED 6 OCTOBER 2018 AND REVISED 6 NOVEMBER 2018 AND SURVEY OF REMEDIATION AREA EXISTING GRADE DATED 19 JUNE 2018 BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS.
3. EXCAVATION AREAS BASED ON CONSTRUCTION DRAWINGS INCLUDED IN REVISED FINAL IRM #2 WORK PLAN DATED 13 JULY 2018 AND APPROVED BY NYSDEC ON 25 JULY 2018.
4. BENCHING AND SLOPING OF EXCAVATION WAS USED TO SUPPORT EXCAVATION AND UTILITIES IN ACCORDANCE WITH AMENDMENT #2 TO REVISED FINAL IRM #2 WORK PLAN DATED 16 JULY 2018 AND ACCEPTED BY NYSDEC ON 31 JULY 2018.
5. AS-BUILT EXCAVATION DID NOT ACHIEVE DESIGN DEPTHS IN AREAS NOTED DUE TO SUBSURFACE CONCRETE STRUCTURES ENCOUNTERED AND REQUIREMENTS FOR EXCAVATION AND UTILITY SUPPORT IN ACCORDANCE WITH AMENDMENT #2.

Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-E-S-1-1	3.4-3.4	***259.8***
SSHS-OS1-B	2-4	***184.7***
SSHS-B859	2-4	***97.81***
SSHS-UTP-01	2.4-2.4	***94.61***
SSHS-GS2-1	2.8-2.8	*48.33*
SSHS-E-4-2	2.5-2.5	*46.24*
SSHS-B1002	2-4	*41.38*
SSHS-UTP-02	2.5-2.5	*34.63*
SSHS-B860	2-4	*31*
SSHS-E-N-8-2	3.7-3.7	*19.57*
SSHS-E-S-8-1	2.3-2.3	*17.72*
SSHS-B1400	2-4	*16.59*
SSHS-B864	2-4	*14.3*
SSHS-E-S-8-2	3.8-3.8	*13.46*
SSHS-SS-04_8_20	2-4	*12.45*
SSHS-B854	2-4	8.151
SSHS-GS3-1	2.5-2.5	7.636
SSHS-E-S-9-1	2.3-2.3	7.171
SSHS-GS4-1	3.2-3.2	5.271
SSHS-B108	2-4	4.9
SSHS-B863	2-4	4.761
SSHS-SW-013	2-4	4.408
SSHS-B870	2-4	4.351
SSHS-E-S-7-1	2.9-2.9	4.262
SSHS-E-S-9-2	3.4-3.4	4.231
SSHS-W8-1	2.4-2.4	3.743
SSHS-SW-002	2-4	3.243
SSHS-EN5-1	3.2-3.2	3.213
SSHS-B133	2-4	2.82
SSHS-B868	2-4	2.813
SSHS-B924	2-4	2.481
SSHS-B386	2-4	2.39
SSHS-B926	2-4	2.371
SSHS-B950	2-4	2.351
SSHS-B1202	2-4	2.124
SSHS-B861	2-4	2.021
SSHS-SW-012	2-4	1.974
SSHS-B829	2-4	1.811
SSHS-B873	2-4	1.731
SSHS-W10-1	3.6-3.6	1.731
SSHS-W4-2	3.9-3.9	1.711
SSHS-OS1-C	2-4	1.053
SSHS-B1073	2-4	1.034
SSHS-B865	2-4	0.9921
SSHS-EN4-1	3.6-3.6	0.8809
SSHS-B555	2-4	0.866
SSHS-SW-003	2-4	0.786
SSHS-B148	2-4	0.772
SSHS-W7-2	3.9-3.9	0.6431
SSHS-B971	2-4	0.6275
SSHS-UTP-03	2.5-2.5	0.6213
SSHS-WWS_7_21	2.7-2.7	0.5598
SSHS-B911	2-4	0.5336
SSHS-B1033	2-4	0.4701
SSHS-B554	2-4	0.4427
SSHS-B869	2-4	0.3758
SSHS-B374	2-4	0.374
SSHS-B896	2-4	0.3338
SSHS-E-3-2	2.3-2.3	0.328
SSHS-B376	2-4	0.265
SSHS-B1074	2-4	0.2486
SSHS-W3-1	2.5-2.5	0.2372
SSHS-W7-1	2.5-2.5	0.2109
SSHS-B867	2-4	0.1959
SSHS-B949	2-4	0.1953
SSHS-B1394	2-4	0.191
SSHS-B1034	2-4	0.1658
SSHS-B866	2-4	0.1624
SSHS-B910	2-4	0.1311
SSHS-B871	2-4	0.1285
SSHS-B927	2-4	0.1138
SSHS-OS1-A	2-4	0.1028
SSHS-B872	2-4	0.07725
SSHS-B520	2-4	0.0714
SSHS-B1227	2-4	0.0648
SSHS-B383	2-4	0.039
SSHS-B387	2-4	0.021
SSHS-B951	2-4	<0.0955
SSHS-B1072	2-4	<0.093
SSHS-B903	2-4	<0.0915
SSHS-B101	3-6	<0
SSHS-B382	2-4	<0

NOTES:

PCBS REMAINING IN PLACE SHOWN IN ITALICS (>SUBSURFACE CLEANUP GOAL OF 10MG/KG)

RESIDUAL PCBS SHOWN IN BOLD (>= NYS HAZARDOUS WASTE (50MG/KG))

COPCs REMAINING (2-4 FT BGS)

		Metals				
		Lead	Arsenic	Barium	Copper	Nickel
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		0.39	0.39	7.9	0.99	1.6
Metals 20x TCLP Screening (Lead = 1000 ppm		1000	100	2000		
Boring ID	**Depth Interval (ft bgs)**					
SSHS-B519	2-4	290	11	280	550	170
SSHS-B520	2-4	240	21	1500	230	470
SSHS-B524	2-4	61	11	89	74	58
SSHS-B555	2-4	**3300J**	9.7J	240J	48J-	63J
SSHS-OS1-A	2-4	610	25	370	98	45
SSHS-OS1-B	2-4	340	14	240	240	340
SSHS-OS1-C	2-4	17	7	94	23	22
SSHS-W3-1	2.5-2.5	8.6	5	58	23	14
SSHS-W10-1	3.6-3.6	90	6.9	71	74	86
SSHS-B101	3-6	120	17	140	70	16

NOTES:

RESIDUAL METALS SHOWN IN BOLD (>200X TCLP LEAD OR (> 20X TCLP FOR OTHER METALS)

TCLP – TOXICITY CHARACTERISTIC LEACHING PROCEDURE

BOTTOM

Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-B159	4-6	61.4
SSHS-SW-006	4-6	28.21
SSHS-SW-021	4-6	12.47
SSHS-B1255	4-6	7.591
SSHS-B894	4-6	6.861
SSHS-SW-007	4-6	6.401
SSHS-ES5-2	4-6	5.864
SSHS-SS2_7_21	4-6	4.441
SSHS-B394	4-6	4.26
SSHS-EN3-2	4-6	4.104
SSHS-GS2-2	4-6	3.481
SSHS-SS-03_8_20	4-6	3.203
SSHS-EN2-1	4-6	2.851
SSHS-B1236	4-6	2.631
SSHS-GS4-2	4-6	2.582
SSHS-C-5	4-6	2.5
SSHS-GS3-3	4-6	2.344
SSHS-B1189	4-6	2.05
SSHS-EN3-3	4-6	1.934
SSHS-B925	4-6	1.711
SSHS-W11-1	4-6	1.624
SSHS-B928	4-6	1.561
SSHS-B982	4-6	1.556
SSHS-B972	4-6	1.343
SSHS-W11-2	4-6	1.291
SSHS-nat_gas_2	4-6	1.211
SSHS-B975	4-6	1.124
SSHS-GS3-2	4-6	1.077
SSHS-SN4-2	4-6	0.9335
SSHS-EN1-1	4-6	0.9123
SSHS-W12-2	4-6	0.8738
SSHS-SW-005	4-6	0.8536
SSHS-B387	4-6	0.774
SSHS-B970	4-6	0.7553
SSHS-EN4-2	4-6	0.6294
SSHS-nat_gas_1	4-6	0.4818
SSHS-B895	4-6	0.3481
SSHS-W6-1	4-6	0.2702
SSHS-B984	4-6	0.2625
SSHS-B1194	4-6	0.161
SSHS-B876	4-6	0.1101
SSHS-B1203	4-6	0.1099
SSHS-B1240	4-6	0.0981
SSHS-B853	4-6	0.0687
SSHS-B556	4-6	0.0455

NOTES:

1. THE IRM SOIL CLEANUP GOAL BELOW 2 FT BGS WAS 10 MG/KG.
2. METALS RESULTS ARE SHOWN ONLY FOR METAL CONSTITUENTS WITH AT LEAST ONE EXCEEDANCE OF RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVES (6 NYCRR PART 375-6).

0 20' 40'
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

UNISYS

TITLE: 2-4 FEET EXCAVATION

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

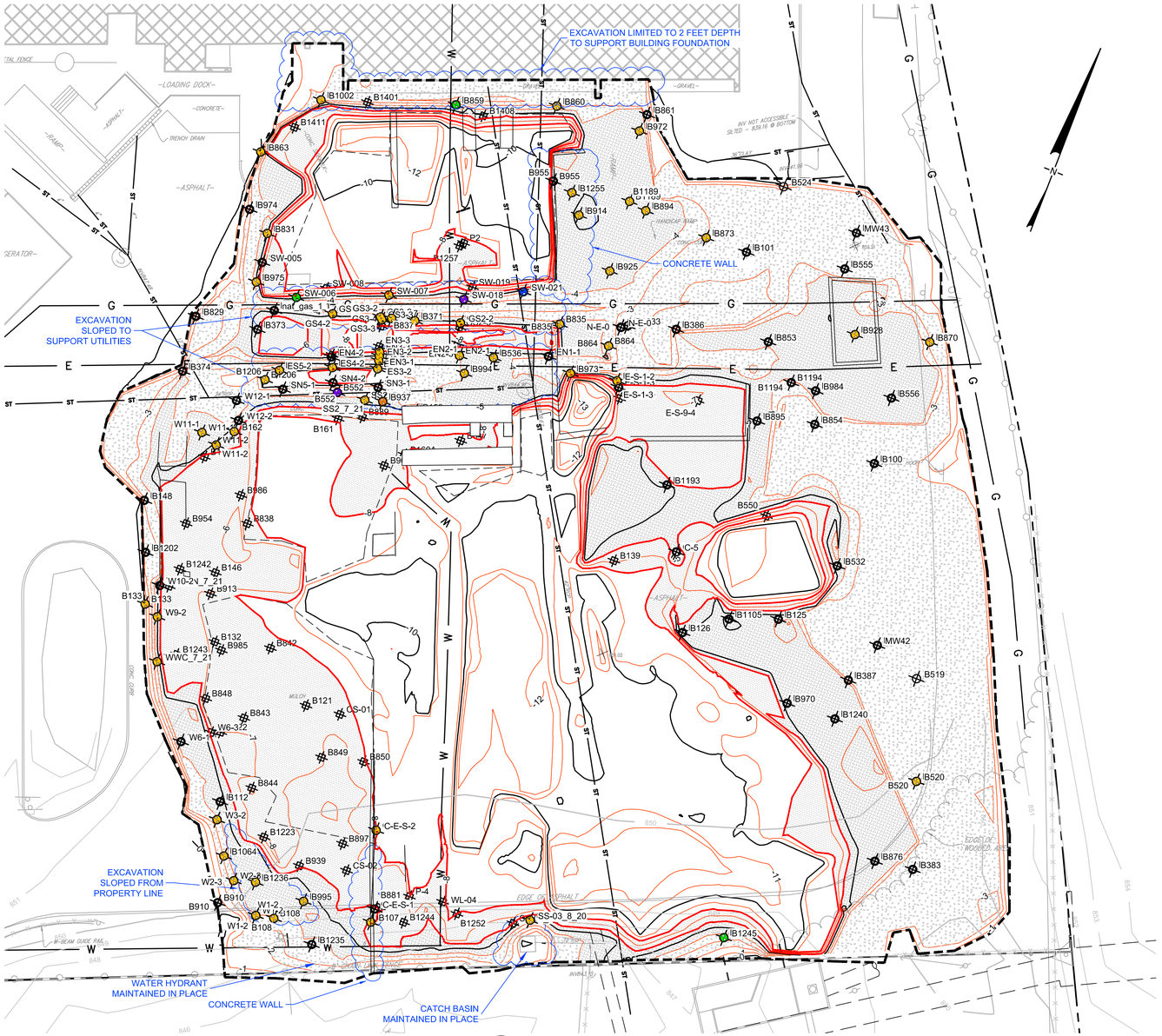
SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

SIGNATURE
2/3/2021
DATE

STATE OF NEW YORK ARON A. KRASNOPOLER 089954-1 LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D102-10
REVIEWED BY:	PLB	FIGURE NO.:	4 OF 13
APPROVED BY:	AK		

AS-BUILT DRAWING



4 / - PLAN
4-6 FT EXCAVATION

LEGEND

- PRE-DELINEATION CONFIRMATION SAMPLE
- MANHOLE CATCH
- BASIN CULVERT
- PIPE
- CHAIN LINK FENCE
- GUARD RAIL
- PROPERTY LINE
- EXISTING CONTOUR LINE
- EDGE OF WATER
- EDGE OF WOODS OR BRUSH
- BURIED ELECTRIC CABLE
- SANITARY SEWER
- STORM SEWER
- NATURAL GAS LINE
- WATER LINE
- AS-BUILT LIMIT OF 4-6 FT EXCAVATION
- EXCAVATION LIMITS
- MAJOR ISOPACH CONTOUR
- MINOR ISOPACH CONTOUR
- CONCRETE STONE SLAB

RESIDUAL COPCs IN PLACE
- TOTAL PCBS > 50 MG/KG

COPCs REMAINING IN PLACE
- TOTAL PCBS >40 AND <50
- TOTAL PCBS >30 AND <40
- TOTAL PCBS > 20 AND <30
- TOTAL PCBS > 10 AND <20
- TOTAL PCBS > 1 AND <10
- NO COPC EXCEEDANCE
- BOTTOM SAMPLE

- BOTTOM OF EXCAVATION/DEMARCATION LAYER 0-2 FEET EXCAVATION
- BOTTOM OF EXCAVATION/DEMARCATION LAYER 2-4 FEET EXCAVATION
- BOTTOM OF EXCAVATION/DEMARCATION LAYER 4-6 FEET EXCAVATION

NOTES:

1. SEE SHEET 2 FOR GENERAL NOTES.
2. EXCAVATION ISOPACH DEVELOPED FROM AS-BUILT SUBGRADE ELEVATIONS BASED ON SURVEY OF SUB GRADE REMEDIATION AREA DATED 6 OCTOBER 2018 AND REVISED 6 NOVEMBER 2018 AND SURVEY OF REMEDIATION AREA EXISTING GRADE DATED 19 JUNE 2018 BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS.
3. EXCAVATION AREAS BASED ON CONSTRUCTION DRAWINGS INCLUDED IN REVISED FINAL IRM #2 WORK PLAN DATED 13 JULY 2018 AND APPROVED BY NYSDEC ON 25 JULY 2018.
4. BENCHING AND SLOPING OF EXCAVATION WAS USED TO SUPPORT EXCAVATION AND UTILITIES IN ACCORDANCE WITH AMENDMENT #2 TO REVISED FINAL IRM #2 WORK PLAN DATED 16 JULY 2018 AND ACCEPTED BY NYSDEC ON 31 JULY 2018.
5. AS-BUILT EXCAVATION DID NOT ACHIEVE DESIGN DEPTHS IN AREAS NOTED DUE TO SUBSURFACE CONCRETE STRUCTURES ENCOUNTERED AND REQUIREMENTS FOR EXCAVATION AND UTILITY SUPPORT IN ACCORDANCE WITH AMENDMENT #2.

COPCs REMAINING (4-6 FT BGS)		
Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-B552	4-6	***69.24***
SSHS-B159	4-6	***61.4***
SSHS-SW-018	4-6	***55.1***
SSHS-B937	4-6	*33.26*
SSHS-SW-006	4-6	*28.21*
SSHS-B859	4-6	*24.11*
SSHS-B1245	4-6	*21.21*
SSHS-SW-021	4-6	*12.47*
SSHS-B1255	4-6	7.591
SSHS-B860	4-6	7.299
SSHS-B894	4-6	6.861
SSHS-SW-007	4-6	6.401
SSHS-ES-2	5.3-5.3	5.864
SSHS-B371	4-6	5.22
SSHS-B107	4-6	5.2
SS2_7_21	4.5-4.5	4.441
SSHS-B873	4-6	4.261
SSHS-B835	4-6	4.251
SSHS-B162	4-6	4.12
SSHS-EN3-2	5.1-5.1	4.104
SSHS-B994	4-6	3.851
SSHS-B1064	4-6	3.611
SSHS-GS2-2	5.2-5.2	3.481
SSHS-B133	4-6	3.34
SSHS-B1002	4-6	3.261
SSHS-SS-03_8_20	4-6	3.203
SSHS-B837	4-6	2.982
SSHS-EN3-1	4.5-4.5	2.916
SSHS-EN2-1	4.6-4.6	2.851
SSHS-B1236	4-6	2.631
SSHS-GS4-2	4.7-4.7	2.582
SSHS-B995	4-6	2.445
SSHS-C-E-S-2	5.5-5.5	2.424
SSHS-GS3-3	5.6-5.6	2.344
SSHS-ES4-2	5.6-5.6	2.343
SSHS-B108	4-6	2.194
SSHS-B1189	4-6	2.05
W9-2	4.6-4.6	1.984
SSHS-B536	4-6	1.941
SSHS-EN3-3	5.9-5.9	1.934
WWC_7_21	4.5-4.5	1.789
W11-2	4.8-4.8	1.714
SSHS-B925	4-6	1.711
SSHS-B831	4-6	1.661
W11-1	4.2-4.2	1.624
SSHS-B870	4-6	1.561
SSHS-B928	4-6	1.561
SSHS-B914	4-6	1.521
SSHS-ES3-2	5.4-5.4	1.413
SSHS-B972	4-6	1.343
W3-2	4.3-4.3	1.314
SSHS-B864	4-6	1.311
SSHS-W11-2	5.1-5.1	1.291
SSHS-B1206	4-6	1.157
SSHS-E-S-1-2	5.1-5.1	1.151
SSHS-W2-3	5.5-5.5	1.126
SSHS-B975	4-6	1.124
SSHS-B973	4-6	1.1
SSHS-GS3-2	4.5-4.5	1.077
SSHS-B863	4-6	1.051
SSHS-B520	4-6	1.029
SSHS-B861	4-6	0.965
SSHS-B125	4-6	0.939
SSHS-SN4-2	5.7-5.7	0.9335
SSHS-EN1-1	4.3-4.3	0.9123
SSHS-W12-2	5.8-5.8	0.8738
SSHS-SW-005	4-6	0.8536
SSHS-W12-1	4-4	0.8469
SSHS-B386	4-6	0.81
SSHS-B387	4-6	0.774
SSHS-B854	4-6	0.772
SSHS-B970	4-6	0.7553
SSHS-SN3-1	4.2-4.2	0.6423
SSHS-EN4-2	4.5-4.5	0.6294
SSHS-B910	4-6	0.6076
SSHS-B112	4-6	0.596
SSHS-B126	4-6	0.566
SSHS-B955	4-6	0.5552
SSHS-B532	4-6	0.5519
SSHS-B974	4-6	0.5392
SSHS-nat_gas_1	5-5	0.4818
SSHS-B1233	4-6	0.4259
SSHS-E-S-1-3	5.5-5.5	0.418
SSHS-B373	4-6	0.369
SSHS-B1202	4-6	0.3606
SSHS-B895	4-6	0.3481
C-5	0.5-6.5	0.3356
SSHS-N-E-0	4.6-4.6	0.3356
W10-2	4.2-4.2	0.3231
W6-1	4.2-4.2	0.2702
SSHS-B984	4-6	0.2625
SSHS-SN5-1	4.8-4.8	0.225
SSHS-B148	4-6	0.197
SSHS-B1235	4-6	0.163
SSHS-B1194	4-6	0.161
SSHS-B1193	4-6	0.1393
SSHS-B829	4-6	0.1363
SSHS-B555	4-6	0.1342
SSHS-C-E-S-1	5.9-5.9	0.1253
SSHS-B853	4-6	0.0687
SSHS-B556	4-6	0.0455
SSHS-B100	4-6	0.025
SSHS-B374	4-6	0.008
SSHS-B876	4-6	<0.1101
SSHS-B1105	4-6	<0.11
SSHS-B1240	4-6	<0.0981
SSHS-B101	3-6	<0
SSHS-B383	4-6	<0
SSHS-MW42	5-6	<0
SSHS-MW43	5-6	<0

		Metals			
		Arsenic	Barium	Cadmium	Copper
		mg/kg	mg/kg	mg/kg	mg/kg
Metals 20x TCLP Screening (Lead = 1000 ppm		100	2000	20	
Boring ID	Depth Interval (ft bgs)				
SSHS-B101	3-6	17	140	<0.069J	70
SSHS-B100	4-6	7.8	58	<0.067J	45
SSHS-B519	4-6	5.4	120	18J	610F2
SSHS-B520	4-6	4.8	160	48	27
SSHS-B524	4-6	6.4	34	<0.1U	29
SSHS-B555	4-6	4.9	77	<0.13U	18
SSHS-W3-2	4.3-4.3	5	56	<0.045U	39
SSHS-N-E-0	4.7-4.7	6.9	780	<0.042U	340
SSHS-W1-2	4.8-4.8	9.8	120	<0.044U	60

BOTTOM		
Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-P2	6-8	107.5
SSHS-B1257	6-8	63.92
SSHS-B850	6-8	49.64
SSHS-SW-019	6-8	48.7
SSHS-B1252	6-8	43.52
SSHS-B906	6-8	39.11
SSHS-B897	6-8	34.58
SSHS-B842	6-8	33.51
SSHS-B1408	6-8	29.82
SSHS-B859	6-8	29.01
SSHS-B843	6-8	27.22
SSHS-B847	6-8	25.86
SSHS-B159	6-8	21.92
SSHS-B844	6-8	18.04
SSHS-CS-02	6-8	13.87
SSHS-B160A	6-8	13.07
SSHS-E-S-9-4	6-8	13.05
SSHS-B889	6-8	12.05
SSHS-SS-02_8_20	6-8	8.594
SSHS-B849	6-8	7.356
SSHS-B1401	6-8	7.191
SSHS-B985	6-8	6.996
SSHS-SW-008	6-8	6.321
SSHS-B146	6-8	6.27
SSHS-B913	6-8	5.856
SSHS-B838	6-8	5.501
SSHS-B132	6-8	5.48
SSHS-CS-01	6-8	5.351
SSHS-EN2-3	6-8	4.926
SSHS-B122	6-8	3.93
SSHS-B1411	6-8	3.711
SSHS-B848	6-8	3.329
SSHS-B550	6-8	3.058
SSHS-B939	6-8	3.013
SSHS-B881	6-8	2.684
SSHS-GS2-3	6-8	2.05
SSHS-B1242	6-8	1.974
SSHS-B149	6-8	1.53
SSHS-B161	6-8	1.27
SSHS-B552	6-8	1.252
SSHS-WWN_7_21	6-8	1.251
SSHS-B121	6-8	1.035
SSHS-B1223	6-8	0.9947
SSHS-B1243	6-8	0.9511
SSHS-B954	6-8	0.9413
SSHS-EN3-4	6-8	0.8463
SSHS-W6-3	6-8	0.6294
SSHS-B986	6-8	0.4889
SSHS-E-S-1-4	6-8	0.4175
SSHS-EN4-3	6-8	0.4108
SSHS-GS3-4	6-8	0.4055
SSHS-WL-04	6-8	0.2377
SSHS-P-4	6-8	0.1655
SSHS-B1244	6-8	0.1295
SSHS-B550	6-8	0.0593
SSHS-B107	6-8	0.015
SSHS-B139	6-8	0

NOTES:

RESIDUAL METALS SHOWN IN BOLD (>200X TCLP LEAD OR > 20X TCLP FOR OTHER METALS)

TCLP – TOXICITY CHARACTERISTIC LEACHING PROCEDURE

NOTES:

PCBS REMAINING IN PLACE SHOWN IN ITALICS (>SUBSURFACE CLEANUP GOAL OF 10MG/KG)

RESIDUAL PCBS SHOWN IN BOLD (>= NYS HAZARDOUS WASTE (50MG/KG))

NOTES:

1. THE IRM SOIL CLEANUP GOAL BELOW 2 FT BGS WAS 10 MG/KG.
2. METALS RESULTS ARE SHOWN ONLY FOR METAL CONSTITUENTS WITH AT LEAST ONE EXCEEDANCE OF RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVES (6 NYCRR PART 375-6).

0 20' 40'
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

UNISYS

TITLE: 4-6 FEET EXCAVATION

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

SIGNATURE
2/3/2021
DATE

JOHN K. KRASNOWIECKI — 099954-1 — LICENSED PROFESSIONAL ENGINEER — STATE OF NEW YORK

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D102-10
REVIEWED BY:	PLB	FIGURE NO.:	
APPROVED BY:	AK		5 OF 13

AS-BUILT DRAWING

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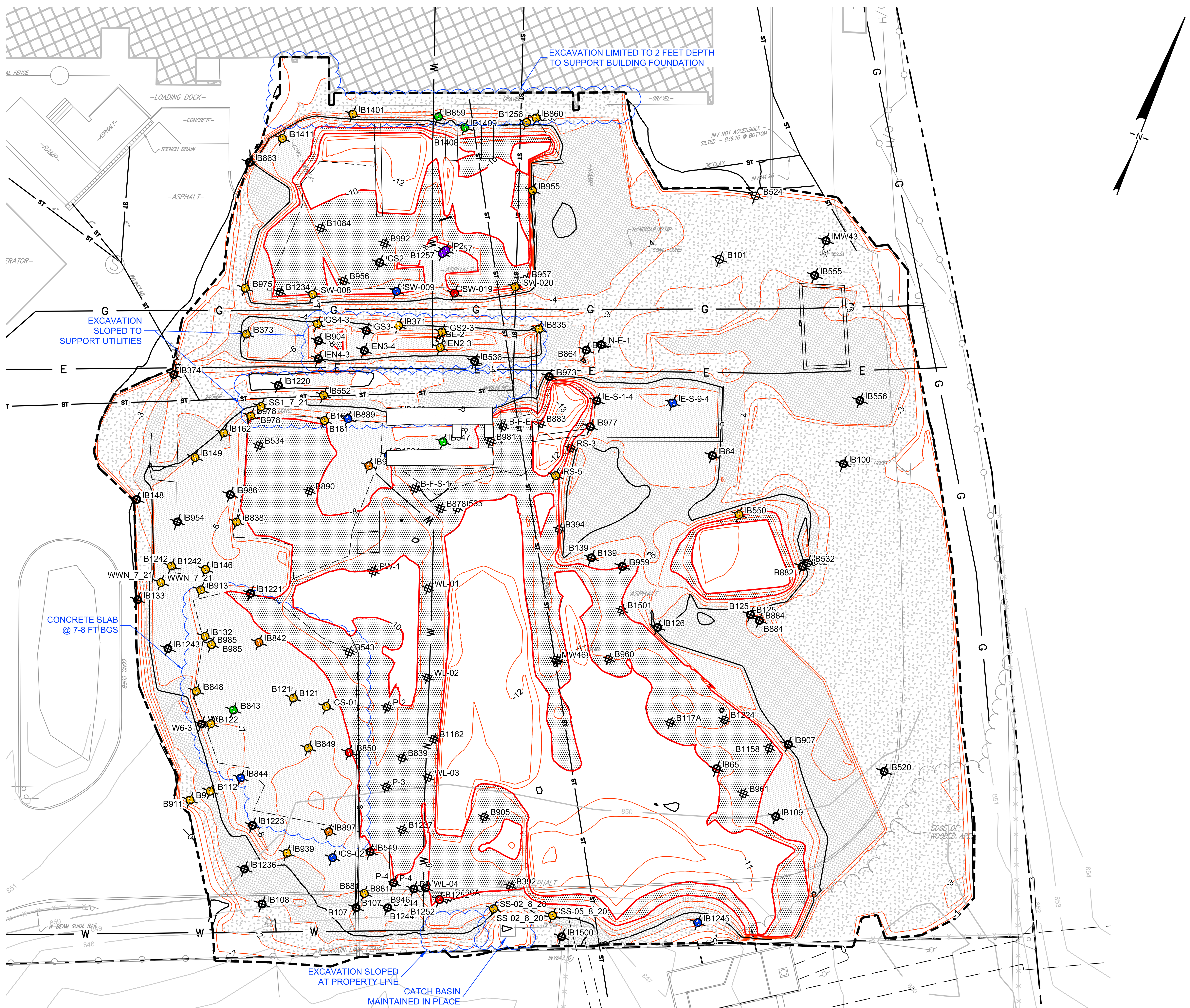

5 - PLAN
6-8 FT EXCAVATION

LEGEND

Symbol	Description
PRE-DELINEATION CONFIRMATION SAMPLE	
MANHOLE CATCH	
CB	BASIN CULVERT
12"CMP	PIPE
	CHAIN LINK FENCE
	GUARD RAIL
	PROPERTY LINE
90	EXISTING CONTOUR LINE
	EDGE OF WATER
	EDGE OF WOODS OR BRUSH
E	BURIED ELECTRIC CABLE
SAN	SANITARY SEWER
ST	STORM SEWER
G	NATURAL GAS LINE
W	WATER LINE
-8	AS-BUILT LIMIT OF 6-8 FT EXCAVATION
	EXCAVATION LIMITS
-10	MAJOR ISOPACH CONTOUR
-2	MINOR ISOPACH CONTOUR
	CONCRETE STONE SLAB

RESIDUAL COPCs IN PLACE

Symbol	Description
B931	TOTAL PCBS > 50 MG/KG

COPCs REMAINING IN PLACE

Symbol	Description
B931	TOTAL PCBS >40 AND <50
B931	TOTAL PCBS >30 AND <40
B931	TOTAL PCBS > 20 AND <30
B931	TOTAL PCBS > 10 AND <20
B931	TOTAL PCBS > 1 AND <10
B931	NO COPC EXCEEDANCE
B868	BOTTOM SAMPLE

BOTTOM OF EXCAVATION/DEMARCATION LAYER 0-2 FEET EXCAVATION

BOTTOM OF EXCAVATION/DEMARCATION LAYER 2-4 FEET EXCAVATION

BOTTOM OF EXCAVATION/DEMARCATION LAYER 4-6 FEET EXCAVATION

BOTTOM OF EXCAVATION/DEMARCATION LAYER 6-8 FEET EXCAVATION

NOTES:

1. SEE SHEET 2 FOR GENERAL NOTES.
2. EXCAVATION ISOPACH DEVELOPED FROM AS-BUILT SUBGRADE ELEVATIONS BASED ON SURVEY OF SUB GRADE REMEDIATION AREA DATED 6 OCTOBER 2018 AND REVISED 6 NOVEMBER 2018 AND SURVEY OF REMEDIATION AREA EXISTING GRADE DATED 19 JUNE 2018 BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS.
3. EXCAVATION AREAS BASED ON CONSTRUCTION DRAWINGS INCLUDED IN REVISED FINAL IRM #2 WORK PLAN DATED 13 JULY 2018 AND APPROVED BY NYSDEC ON 25 JULY 2018.
4. BENCHING AND SLOPING OF EXCAVATION WAS USED TO SUPPORT EXCAVATION AND UTILITIES IN ACCORDANCE WITH AMENDMENT #2 TO REVISED FINAL IRM #2 WORK PLAN DATED 16 JULY 2018 AND ACCEPTED BY NYSDEC ON 31 JULY 2018.
5. AS-BUILT EXCAVATION DID NOT ACHIEVE DESIGN DEPTHS IN AREAS NOTED DUE TO SUBSURFACE CONCRETE STRUCTURES ENCOUNTERED AND REQUIREMENTS FOR EXCAVATION AND UTILITY SUPPORT IN ACCORDANCE WITH AMENDMENT #2.

COPCs REMAINING (6-8 FT BGS)

Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-P2	7.7-7.7	***107.5***
SSHS-B1257	6-8	***63.92***
SSHS-B850	6-8	*49.64*
SSHS-SW-019	6-8	*48.7*
SSHS-B1252	6-8	*43.52*
SSHS-B906	6-8	*39.11*
SSHS-B897	6-8	*34.58*
SSHS-B842	6-8	*33.51*
SSHS-B1408	6-8	*29.82*
SSHS-B859	6-8	*29.01*
SSHS-B843	6-8	*27.22*
SSHS-B847	6-8	*25.86*
SSHS-B159	6-8	*21.92*
SSHS-B1245	6-8	*19.64*
SSHS-B844	6-8	*18.04*
SSHS-SW-009	6-8	*17.13*
SSHS-CS-02	6.4-6.4	*13.87*
SSHS-B160A	6-8	*13.07*
SSHS-E-S-9-4	6.5-6.5	*13.05*
SSHS-B889	6-8	*12.05*
SSHS-B112	6-7	8.64
SSHS-SS-02_8_20	6-8	8.594
SSHS-SW-020	6-8	8.481
SSHS-B371	6-8	8.1
SSHS-B849	6-8	7.356
SSHS-B1401	6-8	7.191
SSHS-B985	6-8	6.996
SSHS-SW-008	6-8	6.321
SSHS-B146	6-8	6.27
SSHS-B835	6-8	6.091
SSHS-B913	6-8	5.856
SSHS-B838	6-8	5.501
SSHS-B132	6-7	5.48
SSHS-CS-01	7.3-7.3	5.351
SSHS-EN2-3	7.6-7.6	4.926
SSHS-B162	6-8	4.15
SSHS-B122	6-7	3.93
SSHS-B860	6-8	3.859
SSHS-B1411	6-8	3.711
SSHS-B848	6-8	3.329
SSHS-B978	6-8	3.231
SSHS-B550	6-8	3.058
SSHS-B939	6-8	3.013
SSHS-B911	6-8	2.731
SSHS-B881	6-8	2.684
SSHS-SS1_7_21	6-6	2.581
SSHS-B955	6-8	2.561
SSHS-B373	6-8	2.54
SSHS-SS-05_8_20	6-8	2.317
SSHS-GS4-3	6-6	2.315
SSHS-GS2-3	6.6-6.6	2.05
SSHS-B1242	6-8	1.974
SSHS-B149	6-8	1.53
SSHS-B975	6-8	1.522
SSHS-RS-5	6.6-6.6	1.41
SSHS-B1409	6-8	1.389
SSHS-B161	6-8	1.27
SSHS-B552	6-8	1.252
SSHS-WWN_7_21	6.5-6.5	1.251
SSHS-B1256	6-6	1.122
SSHS-B121	6-7	1.035
SSHS-B1223	6-8	0.9947
SSHS-B1243	6-8	0.9511
SSHS-B954	6-8	0.9413
SSHS-B863	6-8	0.881
SSHS-B973	6-8	0.863
SSHS-EN3-4	6.9-6.9	0.8463
SSHS-B977	6-8	0.8425
SSHS-B1236	6-8	0.7859
SSHS-B1220	6-8	0.6512
SSHS-W6-3	6.2-6.2	0.6294
SSHS-N-E-1	6.7-6.7	0.5992
SSHS-B1221	6-8	0.5357
SSHS-B556	6-8	0.512
SSHS-B986	6-8	0.4889
SSHS-B549	6-8	0.4749
SSHS-B904	6-8	0.4637
SSHS-B108	6-8	0.44
SSHS-E-S-1-4	6.2-6.2	0.4175
SSHS-EN4-3	6.1-6.1	0.4108
SSHS-GS3-4	6.5-6.5	0.4055
SSHS-B864	6-8	0.3833
SSHS-B882	6-8	0.3524
SSHS-B536	6-8	0.3182
SSHS-B946	6-8	0.266
SSHS-WL-04	7.8-7.8	0.2377
SSHS-B374	6-8	0.234
SSHS-B884	6-8	0.2051
SSHS-B1500	6-8	0.1699
SSHS-P-4	7.7-7.7	0.1655
SSHS-B959	6-8	0.152
SSHS-B64	6-9	0.13
SSHS-B1244	6-8	0.1295
SSHS-B555	6-8	0.04
SSHS-B107	6-8	0.015
SSHS-MW43	6-7	0.011
SSHS-B126	6-8	0.007
SSHS-B907	6-8	<0.0954
SSHS-B532	6-8	<0.0636
SSHS-B520	6-8	<0.0612
SSHS-B550	6-8	<0.0593
SSHS-B100	6-10	<0
SSHS-B109	6-8	<0
SSHS-B125	6-8	<0
SSHS-B133	6-8	<0
SSHS-B139	6-8	<0
SSHS-B148	6-8	<0

		Metals	
		Arsenic	Copper
		mg/kg	mg/kg
Metals 20x TCLP Screening (Lead = 1000 ppm)		100	
Boring ID	Depth Interval (ft bgs)		
SSHS-SS-02_8_20	6-8	**120**	44
SSHS-SS-05_8_20	6-8	79	69
SSHS-B1408	6-8	9.5	110
SSHS-B1409	6-8	9.1	76
SSHS-B1500	6-8	33	20
SSHS-B524	6-8	3.9	13
SSHS-B555	6-8	5.8	21
SSHS-W6-3	6.2-6.2	7.5	85
SSHS-N-E-1	6.7-6.7	6.9	280
SSHS-P2	7.7-7.7	5.9	42
SSHS-B64	6-9	8.7	36
SSHS-B100	6-10	7.8	22
SSHS-EN3-4	5.9-5.9	9.8	37
SSHS-GS3-4	6.5-6.5	9.2	38

NOTES:

RESIDUAL METALS SHOWN IN BOLD
(>200X TCLP LEAD OR > 20X TCLP FOR OTHER METALS)

TCLP – TOXICITY CHARACTERISTIC LEACHING PROCEDURE

NOTES:

PCBS REMAINING IN PLACE SHOWN IN ITALICS
(>SUBSURFACE CLEANUP GOAL OF 10MG/KG)

RESIDUAL PCBS SHOWN IN BOLD
(>= NYS HAZARDOUS WASTE (50MG/KG))

BOTTOM

Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-B883	8-10	95.39
SSHS-B992	8-10	59.72
SSHS-B117A	8-10	22.14
SSHS-B1253	8-10	15.11
SSHS-B1224	8-10	14.73
SSHS-B543	8-10	11.04
SSHS-B957	8-10	10.02
SSHS-B-F-E-3	8-10	7.661
SSHS-BE-2	8-10	7.541
SSHS-B534	8-10	5.99
SSHS-B961	8-10	5.704
SSHS-B905	8-10	5.561
SSHS-B960	8-10	5.014
SSHS-B106A	8-10	4.494
SSHS-B956	8-10	4.429
SSHS-B1234	8-10	3.939
SSHS-B1237	8-10	3.551
SSHS-B394	8-10	3.125
SSHS-B890	8-10	3.081
SSHS-CS2	8-10	2.859
SSHS-B65	8-10	2.17
SSHS-WL-01	8-10	1.571
SSHS-B981	8-10	1.462
SSHS-B392	8-10	1.395
SSHS-B1084	8-10	1.187
SSHS-RS-3	8-10	1.16
SSHS-WL-03	8-10	0.9446
SSHS-PW-1	8-10	0.8967
SSHS-B-F-S-1	8-10	0.6749
SSHS-B535	8-10	0.4948
SSHS-P-3	8-10	0.4735
SSHS-B1162	8-10	0.3838
SSHS-B878	8-10	0.3644
SSHS-P-2	8-10	0.2326
SSHS-WL-02	8-10	0.2247
SSHS-B839	8-10	0.117
SSHS-B1158	8-10	0.1002
SSHS-B1501	8-10	0.06945
SSHS-MW46	8-10	0.0671

NOTES:

1. THE IRM SOIL CLEANUP GOAL BELOW 2 FT BGS WAS 10 MG/KG.
2. METALS RESULTS ARE SHOWN ONLY FOR METAL CONSTITUENTS WITH AT LEAST ONE EXCEEDANCE OF RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVES (6 NYCRR PART 375-6).

0 20' 40'
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

UNISYS

TITLE: 6-8 FEET EXCAVATION

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

AS-BUILT DRAWING

SIGNATURE

2/32/3/2021
DATE

STATE OF NEW YORK · ARON A. KRASNOPOLER · 089954-1 · LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D102-10
REVIEWED BY:	PLB	FIGURE NO.:	6 OF 13
APPROVED BY:	AK		

\\columbia-01\data\cadd\PROJECTS\E\unisys - elmira ny (mn0832d)\mn0832d 1-19\DRAWINGS\MN0832D102-10.dwg
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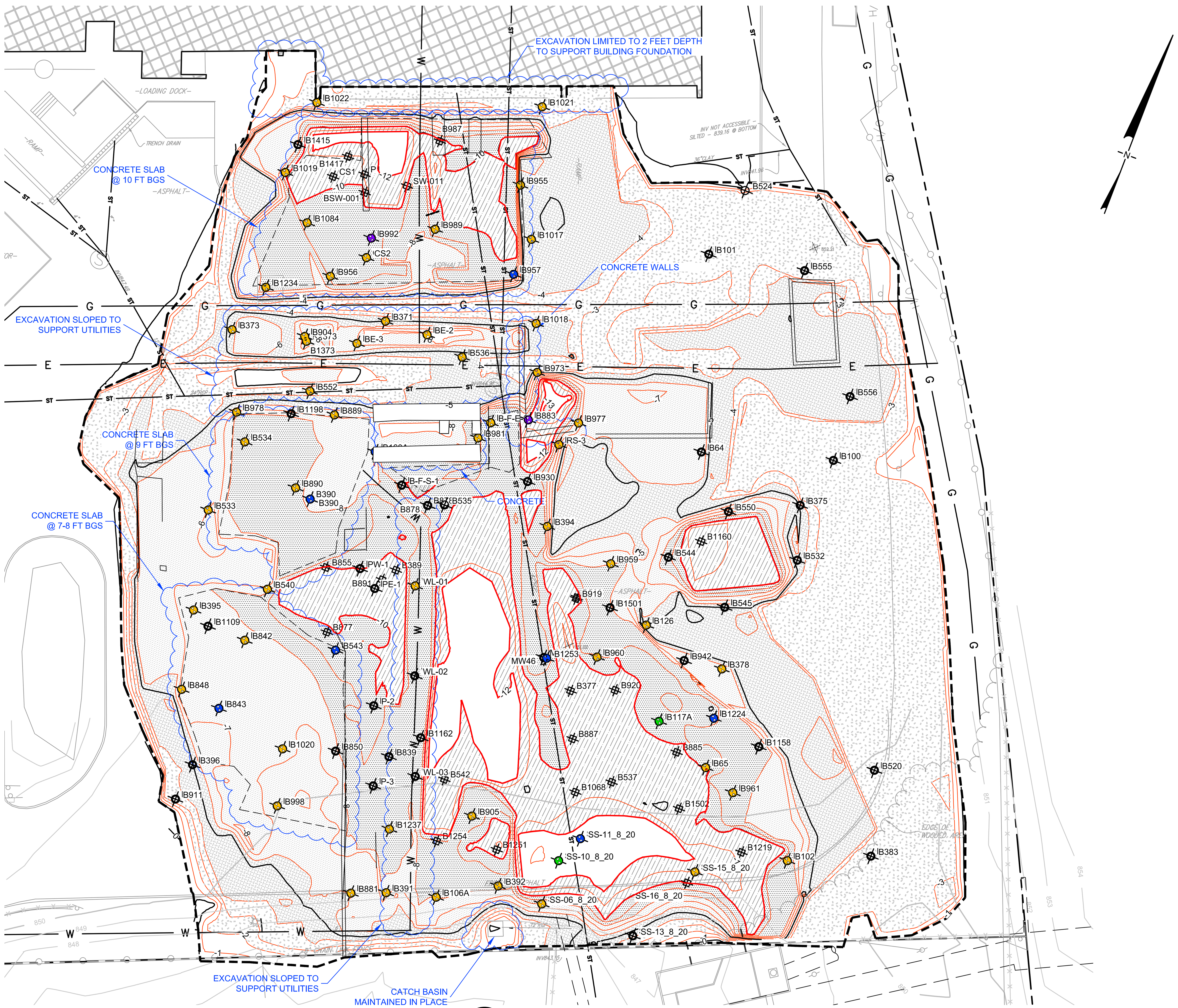


6 / - **PLAN**
8-10 FT EXCAVATION

LEGEND

Symbol	Description
⌖	PRE-DELINEATION CONFIRMATION SAMPLE
○	MANHOLE CATCH
CB ☒	BASIN CULVERT
12"CMP	PIPE
	CHAIN LINK FENCE
	GUARD RAIL
℄	PROPERTY LINE
90	EXISTING CONTOUR LINE
	EDGE OF WATER
	EDGE OF WOODS OR BRUSH
E	BURIED ELECTRIC CABLE
SAN	SANITARY SEWER
ST	STORM SEWER
G	NATURAL GAS LINE
W	WATER LINE
-10	AS-BUILT LIMIT OF 8-10 FT EXCAVATION
	EXCAVATION LIMITS
-10	MAJOR ISOPACH CONTOUR
-2	MINOR ISOPACH CONTOUR
	CONCRETE STONE SLAB

RESIDUAL COPCs IN PLACE

Symbol	Description
B931	TOTAL PCBS > 50 MG/KG

COPCs REMAINING IN PLACE

Symbol	Description
B931	TOTAL PCBS >40 AND <50
B931	TOTAL PCBS >30 AND <40
B931	TOTAL PCBS > 20 AND <30
B931	TOTAL PCBS > 10 AND <20
B931	TOTAL PCBS > 1 AND <10
B931	NO COPC EXCEEDANCE
B868	BOTTOM SAMPLE

Pattern	Description
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 0-2 FEET EXCAVATION
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 2-4 FEET EXCAVATION
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 4-6 FEET EXCAVATION
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 6-8 FEET EXCAVATION
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 8-10 FEET EXCAVATION

NOTES:

1. SEE SHEET 2 FOR GENERAL NOTES.
2. EXCAVATION ISOPACH DEVELOPED FROM AS-BUILT SUBGRADE ELEVATIONS BASED ON SURVEY OF SUB GRADE REMEDIATION AREA DATED 6 OCTOBER 2018 AND REVISED 6 NOVEMBER 2018 AND SURVEY OF REMEDIATION AREA EXISTING GRADE DATED 19 JUNE 2018 BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS.
3. EXCAVATION AREAS BASED ON CONSTRUCTION DRAWINGS INCLUDED IN REVISED FINAL IRM #2 WORK PLAN DATED 13 JULY 2018 AND APPROVED BY NYSDEC ON 25 JULY 2018.
4. BENCHING AND SLOPING OF EXCAVATION WAS USED TO SUPPORT EXCAVATION AND UTILITIES IN ACCORDANCE WITH AMENDMENT #2 TO REVISED FINAL IRM #2 WORK PLAN DATED 16 JULY 2018 AND ACCEPTED BY NYSDEC ON 31 JULY 2018.
5. AS-BUILT EXCAVATION DID NOT ACHIEVE DESIGN DEPTHS IN AREAS NOTED DUE TO SUBSURFACE CONCRETE STRUCTURES ENCOUNTERED AND REQUIREMENTS FOR EXCAVATION AND UTILITY SUPPORT IN ACCORDANCE WITH AMENDMENT #2.

COPCs REMAINING (8-10 FT BGS)

Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-B883	8-10	***95.39***
SSHS-B992	8-10	***59.72***
SSHS-SS-10_8_2	8-10	*22.64*
SSHS-B117A	8-10	*22.14*
SSHS-B1253	8-10	*15.11*
SSHS-B1224	8-10	*14.73*
SSHS-B390	8-10	*13.07*
SSHS-B160A	8-10	*12.13*
SSHS-SS-11_8_2	8-10	*12.01*
SSHS-B843	8-10	*11.68*
SSHS-B543	8-10	*11.04*
SSHS-B957	8-10	*10.02*
SSHS-B904	8-10	9.081
SSHS-B371	8-10	8.25
SSHS-B-F-E-3	8.8-8.8	7.661
SSHS-BE-2	8.2-8.2	7.541
SSHS-B881	8-10	6.451
SSHS-B102	8-10	6.28
SSHS-B378	8-10	6.15
SSHS-B989	8-10	6.134
SSHS-B534	8-10	5.99
SSHS-B842	8-10	5.942
SSHS-B961	8-10	5.704
SSHS-B905	8-10	5.561
SSHS-B126	8-10	5.02
SSHS-B960	8-10	5.014
SSHS-B1022	8-10	4.811
SSHS-B106A	8-10	4.494
SSHS-B956	8-10	4.429
SSHS-B1234	8-10	3.939
SSHS-B1019	8-10	3.801
SSHS-B1237	8-10	3.551
SSHS-B978	8-10	3.191
SSHS-B533	8-10	3.161
SSHS-B394	8-10	3.125
SSHS-B889	8-10	3.11
SSHS-B890	8-10	3.081
SSHS-CS2	9.1-9.1	2.859
SSHS-B395	8-10	2.83
SSHS-B973	8-10	2.76
SSHS-B1373	8-10	2.545
SSHS-B1021	8-10	2.238
SSHS-B65	8-10	2.17
SSHS-B373	8-10	2.08
SSHS-B848	8-10	1.958
SSHS-B955	8-10	1.931
SSHS-B536	8-10	1.913
SSHS-B540	8-10	1.885
SSHS-B1020	8-10	1.755
SSHS-B391	8-10	1.642
SSHS-WL-01	8.4-8.4	1.571
SSHS-B959	8-10	1.556
SSHS-B552	8-10	1.518
SSHS-BE-3	8.3-8.3	1.516
SSHS-B977	8-10	1.47
SSHS-B981	8-10	1.462
SSHS-SS-06_8_2	8-10	1.433
SSHS-B392	8-10	1.395
SSHS-B998	8-10	1.355
SSHS-B1017	8-10	1.351
SSHS-B1018	8-10	1.32
SSHS-B1084	8-10	1.187
SSHS-RS-3	8.6-8.6	1.16
SSHS-SS-15_8_2	8-10	1.102
SSHS-WL-03	8.3-8.3	0.9446
SSHS-PW-1	9.2-9.2	0.8967
SSHS-B550	8-10	0.8458
SSHS-B1415	8-10	0.8388
SSHS-B520	8-10	0.6801
SSHS-B-F-S-1	9.7-9.7	0.6749
SSHS-B1198	8-10	0.6037
SSHS-B556	8-10	0.5785
SSHS-B101	8-10	0.543
SSHS-B535	8-10	0.4948
SSHS-P-3	8.5-8.5	0.4735
SSHS-B1162	8-10	0.3838
SSHS-B878	8-10	0.3644
SSHS-B396	8-10	0.362
SSHS-B850	8-10	0.3426
SSHS-B532	8-10	0.2865
SSHS-PE-1	9.3-9.3	0.2604
SSHS-P-2	8.8-8.8	0.2326
SSHS-WL-02	8.6-8.6	0.2247
SSHS-B1109	8-10	0.1709
SSHS-B544	8-10	0.1452
SSHS-B545	8-10	0.1395
SSHS-B375	8-10	0.139
SSHS-B64	6-9	0.13
SSHS-B839	8-10	0.117
SSHS-B942	8-10	0.08225
SSHS-B1501	8-10	0.06945
SSHS-B930	8-10	0.05645
SSHS-B555	8-10	0.0519
SSHS-SS-13_8_2	8-10	<0.1016
SSHS-B911	8-10	<0.1005
SSHS-B1158	8-10	<0.1002
SSHS-MW46	8-10	<0.0671
SSHS-B100	6-10	<0
SSHS-B383	8-10	<0

		Metal
		Arsenic
		mg/kg
Metals 20x TCLP Screening (Lead = 1000 ppm)		100
Boring ID	**Depth Interval (ft bgs)**	
SSHS-B64	6-9	8.7
SSHS-B100	6-10	7.8
SSHS-B101	8-10	26
SSHS-B520	8-10	9.5J
SSHS-B524	8-10	4.8
SSHS-B555	8-10	3.8
SSHS-B65	8-10	63
SSHS-CS2	9.1-9.1	14

BOTTOM

Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-P1	10-12	168.7
SSHS-B1417	10-12	40.82
SSHS-SW-011	10-12	40.67
SSHS-CS1	10-12	24.18
SSHS-BSW-001	10-12	18.04
SSHS-B920	10-12	7.293
SSHS-B885	10-12	5.601
SSHS-B987	10-12	4.261
SSHS-B887	10-12	2.961
SSHS-B1068	10-12	2.687
SSHS-B919	10-12	2.281
SSHS-B877	10-12	2.101
SSHS-B855	10-12	1.529
SSHS-B377	10-12	0.744
SSHS-B1254	10-12	0.5337
SSHS-B891	10-12	0.3043
SSHS-B878	10-12	0.1635
SSHS-SS-16_8_20	10-12	0.1078
SSHS-B1219	10-12	0.0958
SSHS-B537	10-12	0.0765
SSHS-B1502	10-12	0.06925
SSHS-B538	10-12	0.0641
SSHS-B1160	10-12	0.06035
SSHS-B542	10-12	0.0593
SSHS-B389	10-12	0.0084
SSHS-B1251	10-12	<0.1029

NOTES:

RESIDUAL METALS SHOWN IN BOLD
(>200X TCLP LEAD OR > 20X TCLP FOR OTHER METALS)

TCLP – TOXICITY CHARACTERISTIC LEACHING PROCEDURE

NOTES:

PCBS REMAINING IN PLACE SHOWN IN ITALICS
(>SUBSURFACE CLEANUP GOAL OF 10MG/KG)

RESIDUAL PCBS SHOWN IN BOLD
(>= NYS HAZARDOUS WASTE (50MG/KG))

NOTES:

1. THE IRM SOIL CLEANUP GOAL BELOW 2 FT BGS WAS 10 MG/KG.
2. METALS RESULTS ARE SHOWN ONLY FOR METAL CONSTITUENTS WITH AT LEAST ONE EXCEEDANCE OF RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVES (6 NYCRR PART 375-6).

0 20' 40'
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

UNISYS

TITLE: 8-10 FEET EXCAVATION

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

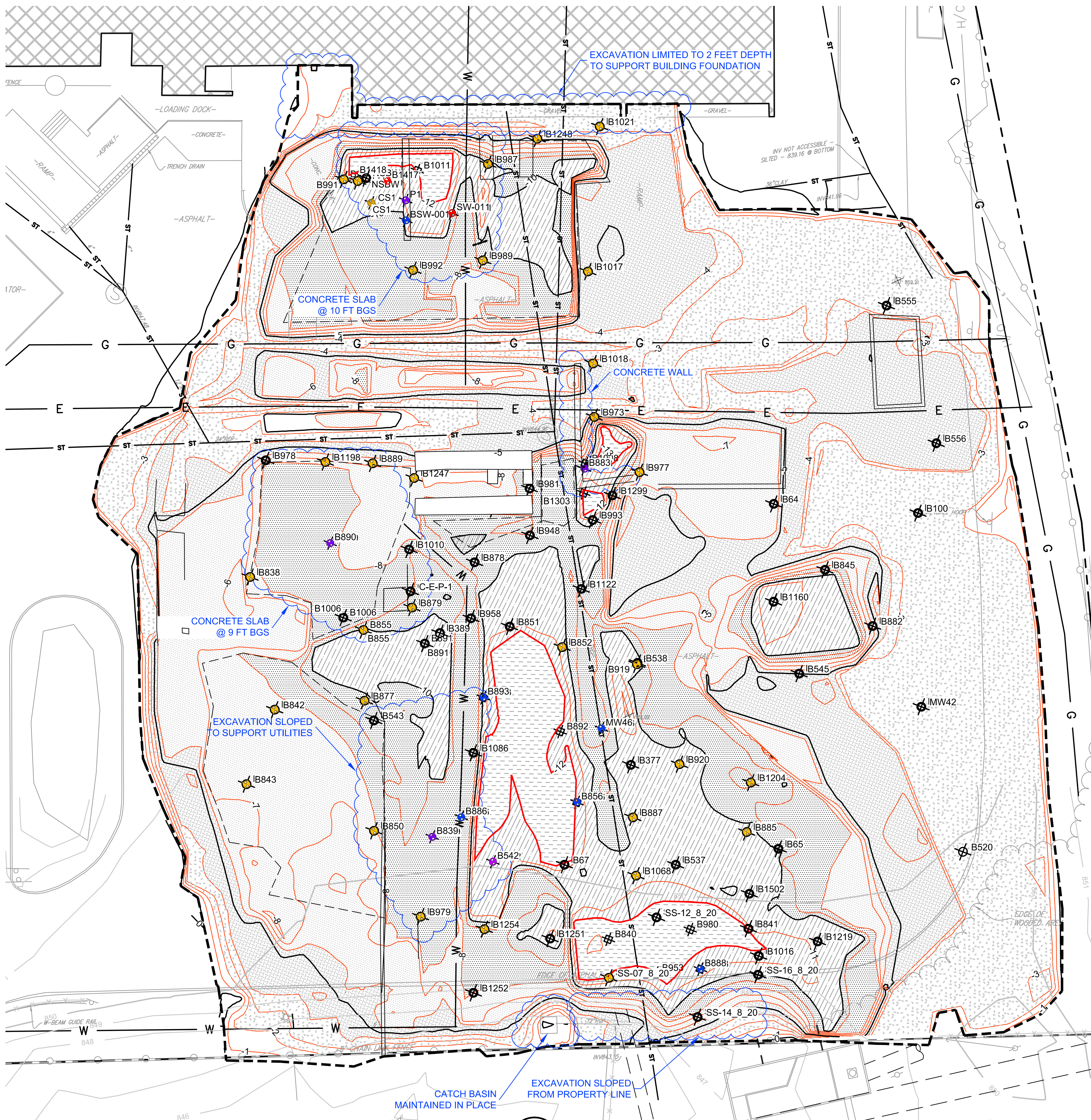
SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

SIGNATURE
2/3/2021
DATE

STATE OF NEW YORK · ARON A. KRASNOPOLER · 089954-1 · LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D102-10
REVIEWED BY:	PLB	FIGURE NO.:	7 OF 13
APPROVED BY:	AK		

AS-BUILT DRAWING



7 - PLAN

10-12 FT EXCAVATION

LEGEND

Symbol	Description
⌖	PRE-DELINEATION CONFIRMATION SAMPLE
○	MANHOLE CATCH
CB	BASIN CULVERT
12"CMP	PIPE
	CHAIN LINK FENCE
	GUARD RAIL
℞	PROPERTY LINE
90	EXISTING CONTOUR LINE
	EDGE OF WATER
	EDGE OF WOODS OR BRUSH
E	BURIED ELECTRIC CABLE
SAN	SANITARY SEWER
ST	STORM SEWER
G	NATURAL GAS LINE
W	WATER LINE
-12	AS-BUILT LIMIT OF 10-12 FT EXCAVATION
	EXCAVATION LIMITS
-10	MAJOR ISOPACH CONTOUR
-2	MINOR ISOPACH CONTOUR
	CONCRETE STONE SLAB
	RESIDUAL COPCs IN PLACE
B931	TOTAL PCBS > 50 MG/KG
	COPCs REMAINING IN PLACE
B931	TOTAL PCBS >40 AND <50
B931	TOTAL PCBS >30 AND <40
B931	TOTAL PCBS > 20 AND <30
B931	TOTAL PCBS > 10 AND <20
B931	TOTAL PCBS > 1 AND <10
B931	NO COPC EXCEEDANCE
B868	BOTTOM SAMPLE
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 0-2 FEET EXCAVATION
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 2-4 FEET EXCAVATION
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 4-6 FEET EXCAVATION
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 6-8 FEET EXCAVATION
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 8-10 FEET EXCAVATION
	BOTTOM OF EXCAVATION/DEMARCATION LAYER 10-12 FEET EXCAVATION

NOTES:

1. SEE SHEET 2 FOR GENERAL NOTES.
2. EXCAVATION ISOPACH DEVELOPED FROM AS-BUILT SUBGRADE ELEVATIONS BASED ON SURVEY OF SUB GRADE REMEDIATION AREA DATED 6 OCTOBER 2018 AND REVISED 6 NOVEMBER 2018 AND SURVEY OF REMEDIATION AREA EXISTING GRADE DATED 19 JUNE 2018 BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS.
3. EXCAVATION AREAS BASED ON CONSTRUCTION DRAWINGS INCLUDED IN REVISED FINAL IRM #2 WORK PLAN DATED 13 JULY 2018 AND APPROVED BY NYSDEC ON 25 JULY 2018.
4. BENCHING AND SLOPING OF EXCAVATION WAS USED TO SUPPORT EXCAVATION AND UTILITIES IN ACCORDANCE WITH AMENDMENT #2 TO REVISED FINAL IRM #2 WORK PLAN DATED 16 JULY 2018 AND ACCEPTED BY NYSDEC ON 31 JULY 2018.
5. AS-BUILT EXCAVATION DID NOT ACHIEVE DESIGN DEPTHS IN AREAS NOTED DUE TO SUBSURFACE CONCRETE STRUCTURES ENCOUNTERED AND REQUIREMENTS FOR EXCAVATION AND UTILITY SUPPORT IN ACCORDANCE WITH AMENDMENT #2.

COPCs REMAINING (10-12 FT BGS)

Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-P1	10-12	***168.7***
SSHS-B890	10-12	***118***
SSHS-B883	10-12	***62.84***
SSHS-B839	10-12	***52.62***
SSHS-B1417	10-12	*40.82*
SSHS-SW-011	10-12	*40.67*
SSHS-CS1	10.3-10.3	*24.18*
SSHS-BSW-001	10-12	*18.04*
SSHS-B856	10-12	*16.48*
SSHS-B888	10-12	*15.91*
SSHS-B893	10-12	*15.36*
SSHS-MW46	10-12	*12.81*
SSHS-B886	10-12	*11.82*
SSHS-B842	10-12	9.529
SSHS-B843	10-12	8.284
SSHS-B850	10-12	7.943
SSHS-B979	10-12	7.377
SSHS-B920	10-12	7.293
SSHS-B991	10-12	6.336
SSHS-B838	10-12	6.191
SSHS-B977	10-12	5.763
SSHS-B885	10-12	5.601
SSHS-B1248	10-12	5.371
SSHS-B989	10-12	4.941
SSHS-B987	10-12	4.261
SSHS-B889	10-12	4.181
SSHS-B1247	10-12	4.042
SSHS-B1198	10-12	3.15
SSHS-B1021	10-12	3.109
SSHS-B1018	10-12	2.99
SSHS-B887	10-12	2.961
SSHS-B1017	10-12	2.851
SSHS-B1068	10-12	2.687
SSHS-B992	10-12	2.623
SSHS-B1204	10-12	2.281
SSHS-B919	10-12	2.281
SSHS-B1018	10-12	2.143
SSHS-B852	10-12	2.106
SSHS-B877	10-12	2.101
SSHS-B879	10-12	1.945
SSHS-B855	10-12	1.529
SSHS-B973	10-12	1.466
SSHS-SS-07_8_20	10-12	1.384
SSHS-B1418	10-12	1.317
SSHS-B1254	10-12	1.2
SSHS-B1086	10-12	0.9543
SSHS-SS-12_8_20	10-12	0.8495
SSHS-B377	10-12	0.744
SSHS-B981	10-12	0.7215
SSHS-B851	10-12	0.6693
SSHS-NSBW	10-12	0.5887
SSHS-B978	10-12	0.5837
SSHS-B958	10-12	0.5551
SSHS-B993	10-12	0.544
SSHS-B1254	10-12	0.5337
SSHS-B556	10-12	0.306
SSHS-B891	10-12	0.3043
SSHS-B1299	10-12	0.2789
SSHS-B1006	10-12	0.1989
SSHS-B878	10-12	0.1635
SSHS-C-E-P-1	10.1-10.1	0.1624
SSHS-B1010	10-12	0.1258
SSHS-B882	10-12	0.1136
SSHS-B948	10-12	0.1052
SSHS-B841	10-12	0.1029
SSHS-SS-14_8_20	10-12	0.0786
SSHS-B1016	10-12	0.07705
SSHS-B1502	10-12	0.06925
SSHS-B67	10-12	0.065
SSHS-MW42	10-11	0.0636
SSHS-B1160	10-12	0.06035
SSHS-B1252	10-12	0.059
SSHS-B1252	10-12	0.05345
SSHS-B555	10-12	0.03825
SSHS-B389	10-12	0.0084
SSHS-SS-16_8_20	10-12	<0.1078
SSHS-B1251	10-12	<0.1029
SSHS-B845	10-12	<0.1029
SSHS-B1219	10-12	<0.0958
SSHS-B1122	10-12	<0.0955
SSHS-B1249	10-12	<0.0929
SSHS-B537	10-12	<0.0765
SSHS-B543	10-12	<0.0675
SSHS-B538	10-12	<0.0641
SSHS-B545	10-12	<0.0602
SSHS-B542	10-12	<0.0593
SSHS-B100	10-13.5	<0
SSHS-B64	10-12	<0
SSHS-B65	10-12	<0

NOTES:

PCBS REMAINING IN PLACE SHOWN IN ITALICS (>SUBSURFACE CLEANUP GOAL OF 10MG/KG)

RESIDUAL PCBS SHOWN IN BOLD (>= NYS HAZARDOUS WASTE (50MG/KG))

		Metals						
		Lead	Arsenic	Barium	Chromium (III+VI)	Copper	Mercury	Nickel
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals 20x TCLP Screening (Lead = 1000 pp		1000	100	2000	100		4	
Borning ID	Depth Interval (ft bgs)							
SSHS-CS1	10.3-10.3	170	10	150	20	150	0.53	200
SSHS-B100	10-13.5	13	8.2	81	15	15	<0.028J	19B
SSHS-BSW-001	10-12	650	28	580	**170**	330	1.4	2000
SSHS-NSBW	10-12	14	5.3	56	8.4	28	0.1	37
SSHS-P1	10-12	210	10	400	17	780	**8.8**	34
SSHS-B1251	10-12	15	30	110	18	68	0.038U	12
SSHS-B1252	10-12	11	17	98	16	36	0.04U	15
SSHS-B1254	10-12	23	16	59	16	80	0.094=	23
SSHS-B1299	10-12	290	21	180	100	180	0.069	2000
SSHS-B520	10-12	10	10	70	13	32	0.031J	27
SSHS-B537	10-12	7.7	53	71	9.2	25	<0.008U	10
SSHS-B542	10-12	**2100**	61	76	13	95	0.046	24
SSHS-B64	10-12	12	9	72	14	15	<0.017J	19
SSHS-B65	10-12	15	51	93	11B	22	<0.026J	8.8
SSHS-B67	10-12	7.2	49	82	11B	41	<0.012U	8.7

NOTES:

RESIDUAL METALS SHOWN IN BOLD (>200X TCLP LEAD OR > 20X TCLP FOR OTHER METALS)

TCLP – TOXICITY CHARACTERISTIC LEACHING PROCEDURE

BOTTOM

Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-B1008	12-14	36.37
SSHS-B856	12-14	7.023
SSHS-B893	12-14	5.085
SSHS-B1011	12-14	3.571
SSHS-B888	12-14	3.184
SSHS-B840	12-14	2.557
SSHS-B1303	12-14	2.313
SSHS-B841	12-14	1.761
SSHS-B892	12-14	1.586
SSHS-B980	12-14	1.431
SSHS-B973	12-14	0.7655
SSHS-B953	12-14	0.6239

NOTES:

1. THE IRM SOIL CLEANUP GOAL BELOW 2 FT BGS WAS 10 MG/KG.
2. METALS RESULTS ARE SHOWN ONLY FOR METAL CONSTITUENTS WITH AT LEAST ONE EXCEEDANCE OF RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVES (6 NYCRR PART 375-6).

0 20' 40'
SCALE IN FEET

AS-BUILT DRAWING

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

Beech and Bonaparte engineering p.c.
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UNISYS

TITLE: 10-12 FEET EXCAVATION

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

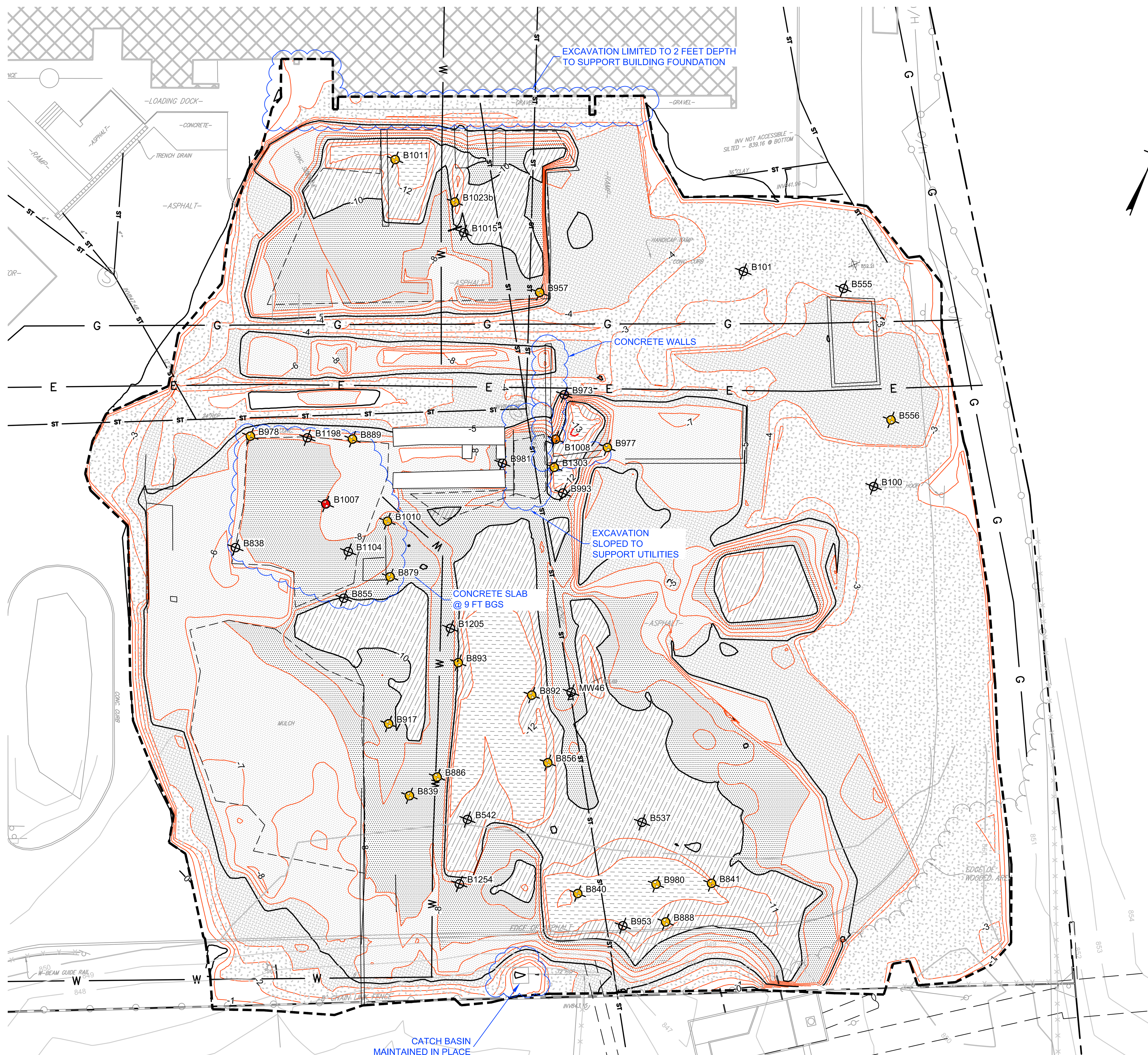
SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

SIGNATURE

2/3/2021
DATE

STATE OF NEW YORK · ARON A. KRASNOPOLER · 089954-1 · LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D102-10
REVIEWED BY:	PLB	FIGURE NO.:	8 OF 13
APPROVED BY:	AK		



8 — PLAN
12-14 FT EXCAVATION

COPCs REMAINING (12-14 FT BGS)

Boring ID	Depth Interval (ft bgs)	PCB Concentration (mg/kg)
SSHS-B1007	12-14	*40.82*
SSHS-B1008	12-14	*36.37*
SSHS-B957	12-14	8.015
SSHS-B856	12-14	7.023
SSHS-B977	12-14	6.633
SSHS-B886	12-14	5.812
SSHS-B1010	12-14	5.653
SSHS-B893	12-14	5.085
SSHS-B1023b	12-14	5.034
SSHS-B889	12-14	4.451
SSHS-B917	12-14	4.178
SSHS-B978	12-14	3.841
SSHS-B1011	12-14	3.571
SSHS-B888	12-14	3.184
SSHS-B839	12-14	2.953
SSHS-B840	12-14	2.557
SSHS-B879	12-14	2.513
SSHS-B1303	12-14	2.313
SSHS-B556	12-14	1.86
SSHS-B841	12-14	1.761
SSHS-B892	12-14	1.586
SSHS-B980	12-14	1.431
SSHS-B1015	12-14	0.8129
SSHS-B973	12-14	0.7655
SSHS-B953	12-14	0.6239
SSHS-B838	12-14	0.582
SSHS-B981	12-14	0.354
SSHS-B1254	12-14	0.31
SSHS-B855	12-14	0.2202
SSHS-B1254	12-14	0.1634
SSHS-B1198	12-14	0.1068
SSHS-B555	12-14	0.09735
SSHS-B993	12-14	0.07355
SSHS-MW46	12-14	0.05025
SSHS-B1205	12-14	<0.1047
SSHS-B1104	12-14	<0.0951
SSHS-B100	10-13.5	<0
SSHS-B101	12-15.5	<0

NOTES:

PCBS REMAINING IN PLACE SHOWN IN ITALICS (>SUBSURFACE CLEANUP GOAL OF 10MG/KG)

RESIDUAL PCBS SHOWN IN BOLD (>= NYS HAZARDOUS WASTE (50MG/KG))

		Metal: Arsenic (mg/kg)
Metals 20x TCLP Screening (Lead = 1000 pp		100
Sample ID	**Depth Interval (ft bgs)**	
SSHS-B1254	12-14	28
SSHS-B1303	12-14	9.1
SSHS-B537	12-14	38
SSHS-B542	12-14	57
SSHS-B101	12-15.5	5.6
SSHS-B100	10-13.5	8.2

NOTES:

RESIDUAL METALS SHOWN IN BOLD (>200X TCLP LEAD OR > 20X TCLP FOR OTHER METALS)

TCLP – TOXICITY CHARACTERISTIC LEACHING PROCEDURE

LEGEND

Symbol	Description
⌖	PRE-DELINEATION CONFIRMATION SAMPLE
○	MANHOLE CATCH
CB ⊠	BASIN CULVERT
12"CMP	PIPE
	CHAIN LINK FENCE
	GUARD RAIL
℞	PROPERTY LINE
90	EXISTING CONTOUR LINE
	EDGE OF WATER
	EDGE OF WOODS OR BRUSH
E	BURIED ELECTRIC CABLE
SAN	SANITARY SEWER
ST	STORM SEWER
G	NATURAL GAS LINE
W	WATER LINE
-14	AS-BUILT LIMIT OF 12-14 FT EXCAVATION
	EXCAVATION LIMITS
-10	MAJOR ISOPACH CONTOUR
-2	MINOR ISOPACH CONTOUR
	CONCRETE STONE SLAB

RESIDUAL COPCs IN PLACE

Symbol	Description
B931	TOTAL PCBS > 50 MG/KG

COPCs REMAINING IN PLACE

Symbol	Description
B931	TOTAL PCBS >40 AND <50
B931	TOTAL PCBS >30 AND <40
B931	TOTAL PCBS > 20 AND <30
B931	TOTAL PCBS > 10 AND <20
B931	TOTAL PCBS > 1 AND <10
B931	NO COPC EXCEEDANCE
B868	BOTTOM SAMPLE

- BOTTOM OF EXCAVATION/DEMARCATION LAYER 0-2 FEET EXCAVATION
- BOTTOM OF EXCAVATION/DEMARCATION LAYER 2-4 FEET EXCAVATION
- BOTTOM OF EXCAVATION/DEMARCATION LAYER 4-6 FEET EXCAVATION
- BOTTOM OF EXCAVATION/DEMARCATION LAYER 6-8 FEET EXCAVATION
- BOTTOM OF EXCAVATION/DEMARCATION LAYER 8-10 FEET EXCAVATION
- BOTTOM OF EXCAVATION/DEMARCATION LAYER 10-12 FEET EXCAVATION

NOTES:

1. SEE SHEET 2 FOR GENERAL NOTES.
2. EXCAVATION ISOPACH DEVELOPED FROM AS-BUILT SUBGRADE ELEVATIONS BASED ON SURVEY OF SUB GRADE REMEDIATION AREA DATED 6 OCTOBER 2018 AND REVISED 6 NOVEMBER 2018 AND SURVEY OF REMEDIATION AREA EXISTING GRADE DATED 19 JUNE 2018 BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS.
3. EXCAVATION AREAS BASED ON CONSTRUCTION DRAWINGS INCLUDED IN REVISED FINAL IRM #2 WORK PLAN DATED 13 JULY 2018 AND APPROVED BY NYSDEC ON 25 JULY 2018.
4. BENCHING AND SLOPING OF EXCAVATION WAS USED TO SUPPORT EXCAVATION AND UTILITIES IN ACCORDANCE WITH AMENDMENT #2 TO REVISED FINAL IRM #2 WORK PLAN DATED 16 JULY 2018 AND ACCEPTED BY NYSDEC ON 31 JULY 2018.
5. AS-BUILT EXCAVATION DID NOT ACHIEVE DESIGN DEPTHS IN AREAS NOTED DUE TO SUBSURFACE CONCRETE STRUCTURES ENCOUNTERED AND REQUIREMENTS FOR EXCAVATION AND UTILITY SUPPORT IN ACCORDANCE WITH AMENDMENT #2.

NOTES:

1. THE IRM SOIL CLEANUP GOAL BELOW 2 FT BGS WAS 10 MG/KG.
2. METALS RESULTS ARE SHOWN ONLY FOR METAL CONSTITUENTS WITH AT LEAST ONE EXCEEDANCE OF RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVES (6 NYCRR PART 375-6).

0 20' 40'
SCALE IN FEET

AS-BUILT DRAWING

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

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UNISYS

TITLE: 12-14 FEET EXCAVATION

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

SIGNATURE
2/3/2021
DATE

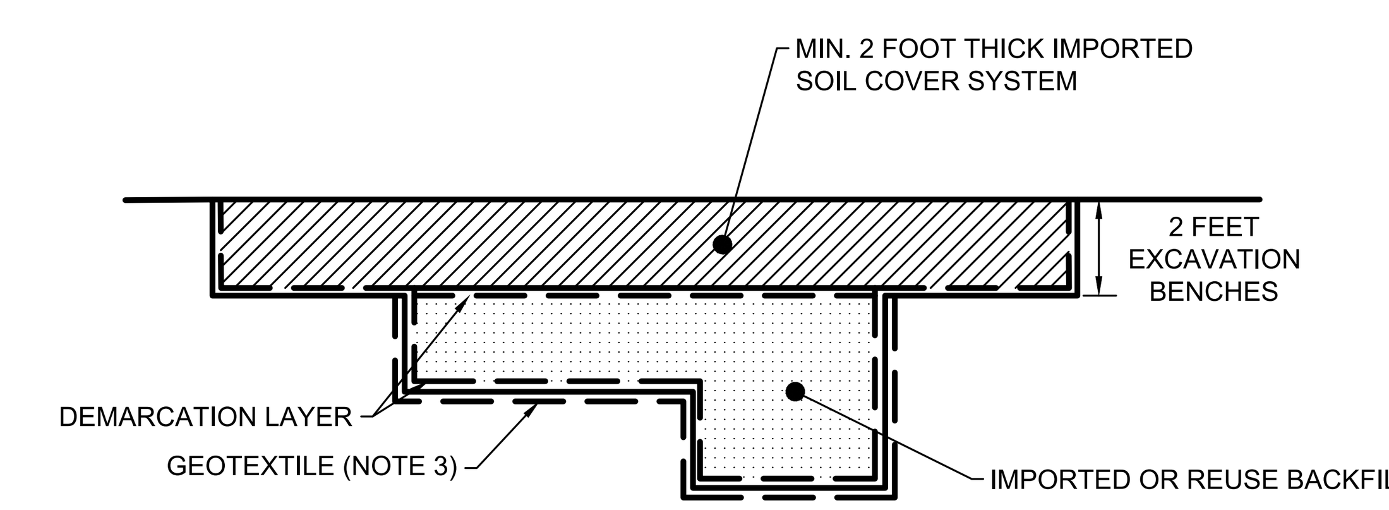
STATE OF NEW YORK ★ ARON A. KRASNOPOLER ★ LICENSED PROFESSIONAL ENGINEER 089954-1

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D102-10
REVIEWED BY:	PLB	FIGURE NO.:	9 OF 13
APPROVED BY:	AK		

9 SECTION
INTERMEDIATE GRADE

LEGEND

- MANHOLE CATCH
- BASIN CULVERT
- PIPE
- CHAIN LINK FENCE
- WOODEN FENCE
- PROPERTY LINE
- EXISTING CONTOUR LINE
- EDGE OF WATER
- EDGE OF WOODS OR BRUSH
- BURIED ELECTRIC CABLE
- SANITARY SEWER
- STORM SEWER
- NATURAL GAS LINE
- WATER LINE
- LIMITS OF REUSE BACKFILL
- 6' ● DEPTH TO REUSE BACKFILL
- 2' ○ DEPTH OF IMPORTED BACKFILL



10 SECTION
AS-BUILT SOIL COVER SYSTEM

NOTES:

1. FINAL GRADE ELEVATIONS BASED ON SURVEY OF REMEDIATION AREA FINAL GRADE DATED 7 SEPTEMBER 2018 BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS.
2. EXTENT OF REUSE BACKFILL IS BASED ON FIELD OBSERVATIONS.
3. GEOTEXTILE FABRIC WAS PLACED AT THE BOTTOM OF THE EXCAVATION WHERE DESIGN DEPTH WAS NOT ACHEIVED. SEE SHEETS 3 TO 9.

0 20' 40'
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

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an affiliate of Geosyntec Consultants

UNISYS

TITLE: INTERMEDIATE RESTORATION

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

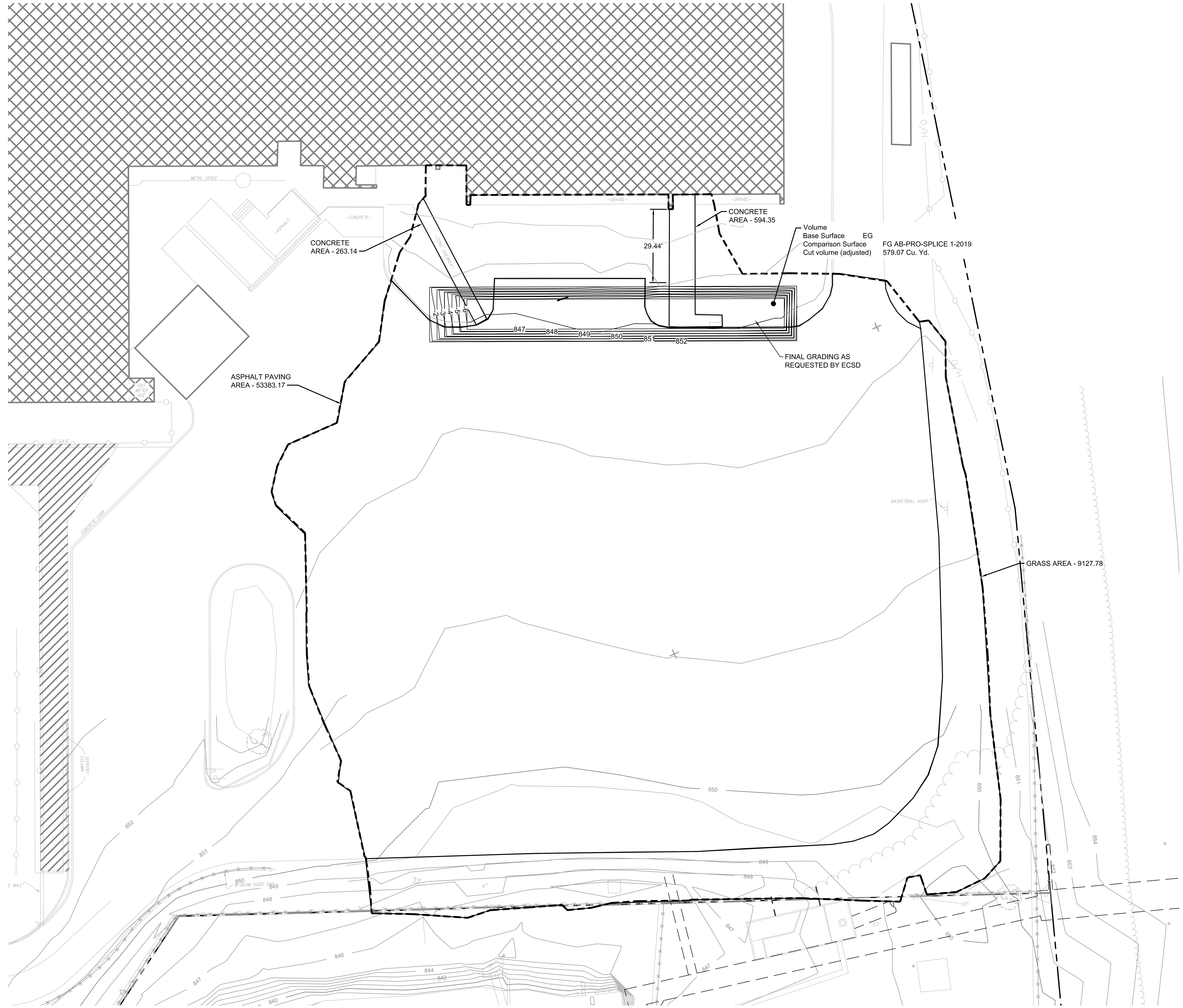
SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

AS-BUILT DRAWING

SIGNATURE
2/3/2021
DATE

STATE OF NEW YORK — ARON A. KRASNOPOLER — 089954-1 — LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D111
REVIEWED BY:	PLB	FIGURE NO.:	10 OF 13
APPROVED BY:	AK		



LEGEND

- MANHOLE CATCH
- BASIN CULVERT
- PIPE
- CHAIN LINK FENCE
- WOODEN FENCE
- PROPERTY LINE
- EXISTING CONTOUR LINE
- EDGE OF WATER
- EDGE OF WOODS OR BRUSH
- BURIED ELECTRIC CABLE
- SANITARY SEWER
- STORM SEWER
- NATURAL GAS LINE
- WATER LINE
- FINAL GRADE CONTOUR

NOTES:

1. FINAL GRADE ELEVATIONS BASED ON SURVEY OF REMEDIATION AREA FINAL GRADE DATED 7 SEPTEMBER 2018 BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS.
2. SEE DETAIL 11 ON SHEET 10 FOR DESCRIPTION OF AS-BUILT SOIL COVER SYSTEM.
3. GEOTEXTILE FABRIC WAS PLACED AT THE BOTTOM OF THE EXCAVATION WHERE DESIGN DEPTH WAS NOT ACHEIVED. SEE SHEETS 3 TO 9.

0 20' 40'
SCALE IN FEET

11 / - SECTION
AS-BUILT FINAL GRADE

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

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UNISYS

TITLE:
AS-BUILT FINAL RESTORATION

PROJECT:
INTERIM REMEDIATION MEASURE
AS-BUILT DRAWINGS

SITE:
FORMER SPERRY-REMINGTON SITE - NORTH PORTION
ELMIRA, NEW YORK

SIGNATURE
2/3/2021
DATE

STATE OF NEW YORK · ARON A. KRASNOPOLER · 089954-1 · LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D111B
REVIEWED BY:	PLB	FIGURE NO.:	
APPROVED BY:	AK	11 OF 13	

AS-BUILT DRAWING

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12 / - PLAN

AS-BUILT WATER LINE RELOCATION

SCALE: 1" = 20'

LEGEND

- MANHOLE CATCH
- BASIN CULVERT
- 12"CMP — PIPE
- CHAIN LINK FENCE
- WOODEN FENCE
- PROPERTY LINE
- 90 — FORMER CONTOUR LINE
- EDGE OF WATER
- EDGE OF WOODS OR BRUSH
- U/E — BURIED ELECTRIC CABLE
- SAN — SANITARY SEWER
- ST — STORM SEWER
- G — NATURAL GAS LINE
- W — WATER LINE
- ENCOUNTERED CONCRETE WALL
- SAMPLE LOCATIONS
- WATER LINE SPOT ELEVATIONS
- REMOVED WATER UTILITIES

Location		CS-01-19	CS-02-19	CS-03-19	CS-04-19	CS-05-19	CS-06-19
Sample Depth (ft bgs)		5.5	6	5.5	5.5	8	5.5
Total PCBs	mg/kg	4.104	0.6071	0.1602	1.625	3.115	1.835
Aluminum	mg/kg	7600	8000	7500	8500	8700	8600
Arsenic	mg/kg	6.3	7.2	5.2	7.3	16	11
Barium	mg/kg	52	75	60	83	84	81
Beryllium	mg/kg	0.32J	0.37J	0.26J	0.39J	0.38J	0.38J
Cadmium	mg/kg	<0.04U	<0.044U	<0.041U	<0.042U	<0.042U	<0.041U
Chromium (III+VI)	mg/kg	11	12	15	12	18	14
Copper	mg/kg	24	30	34	30	98	48
Lead	mg/kg	22	33	11	49	46	31
Manganese	mg/kg	360	390	530	390	430	450
Mercury	mg/kg	0.031J	0.14	0.016J	0.14	6.6	0.19
Nickel	mg/kg	21	24	16	20	250	79
Selenium	mg/kg	<0.56U	<0.63U	<0.58U	<0.59U	<0.59U	<0.58U
Silver	mg/kg	<0.12U	<0.13U	<0.12U	<0.12U	<0.12U	<0.12U
Zinc	mg/kg	64	73	58	90	87	70

0 20' 40'

SCALE IN FEET

NOTES:

1. EXISTING TOPOGRAPHY IS FROM:
   a. A TOPOGRAPHIC SURVEY OF ELMIRA HIGH SCHOOL BY HUNT ENGINEERS, ARCHITECTS, AND SURVEYORS IN SEPTEMBER 2016. VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88/GEOID 12A), HORIZONTAL CONTROL IS REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83/NA 2011).
   b. A TOPOGRAPHIC SURVEY OF FORMER REMINGTON RAND SITE BY WEILER ASSOCIATES, DATED 27 APRIL 2011.
2. WATER LINE RELOCATION WAS COMPLETED IN JUNE 2019. DETAILS ARE PRESENTED IN THE IRM #3 CONSTRUCTION COMPLETION REPORT.

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

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an affiliate of Geosyntec Consultants

UNISYS

TITLE: WATER LINE RELOCATION

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

SIGNATURE

2/3/2021
DATE

JOHN A. KRASNOPOLSKY — 089954-1 — STATE OF NEW YORK — LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D112A
REVIEWED BY:	PLB	FIGURE NO.:	12 OF 13
APPROVED BY:	AK		

AS-BUILT DRAWING

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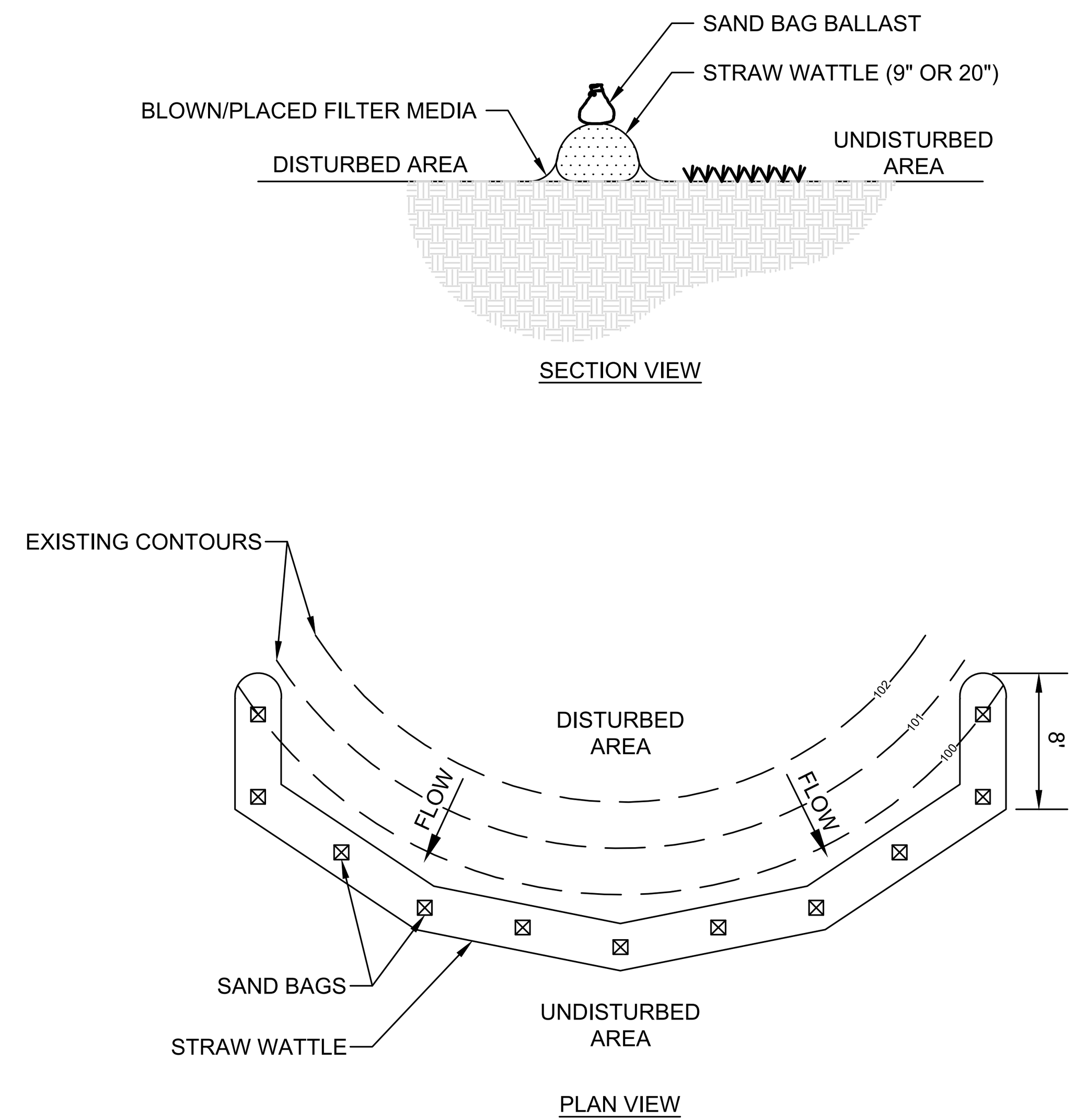
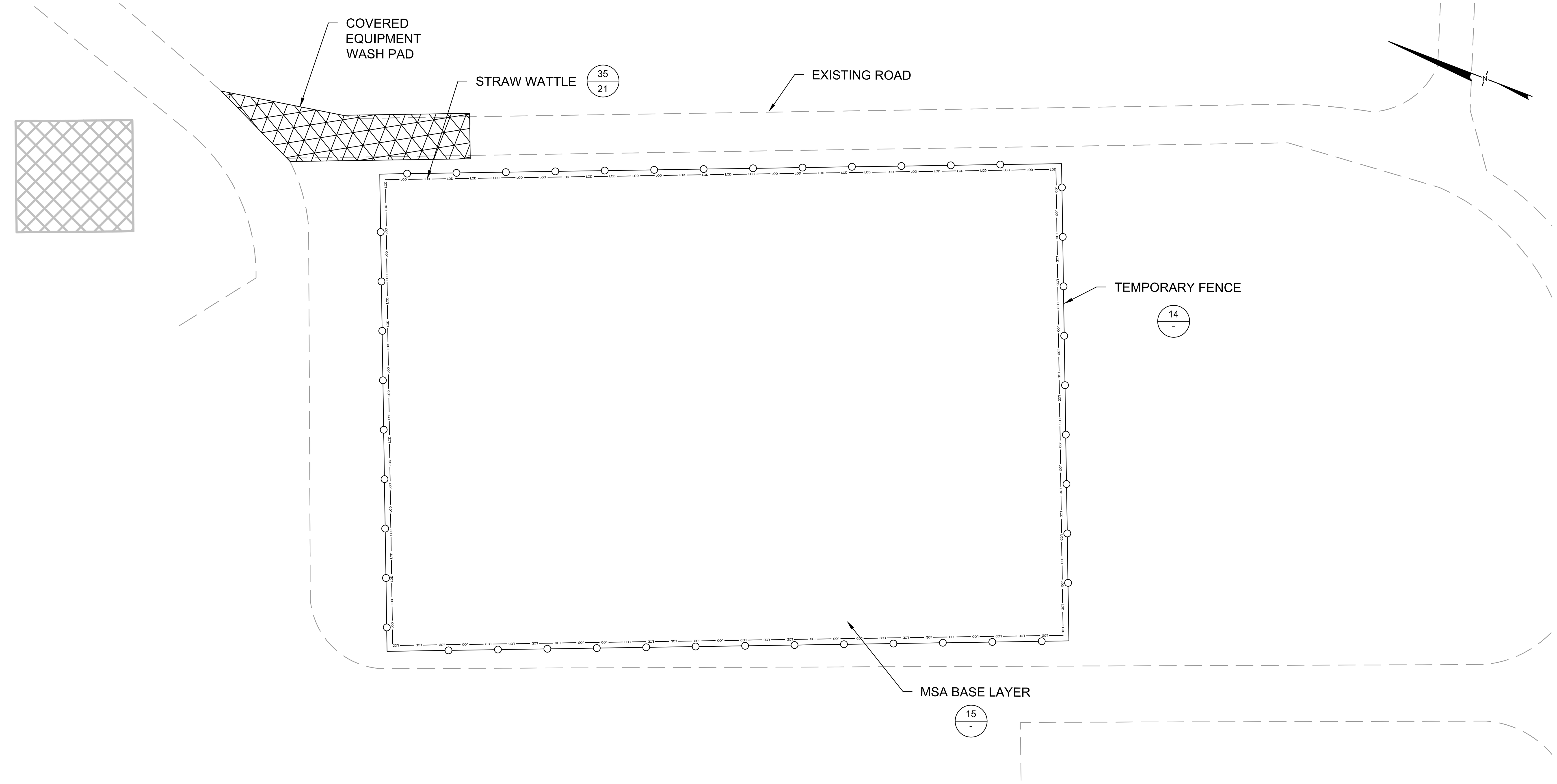
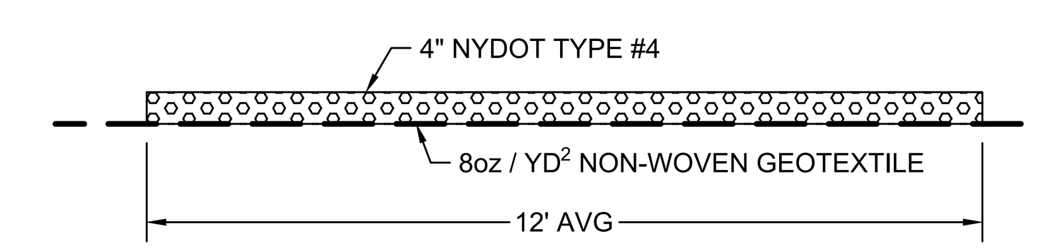


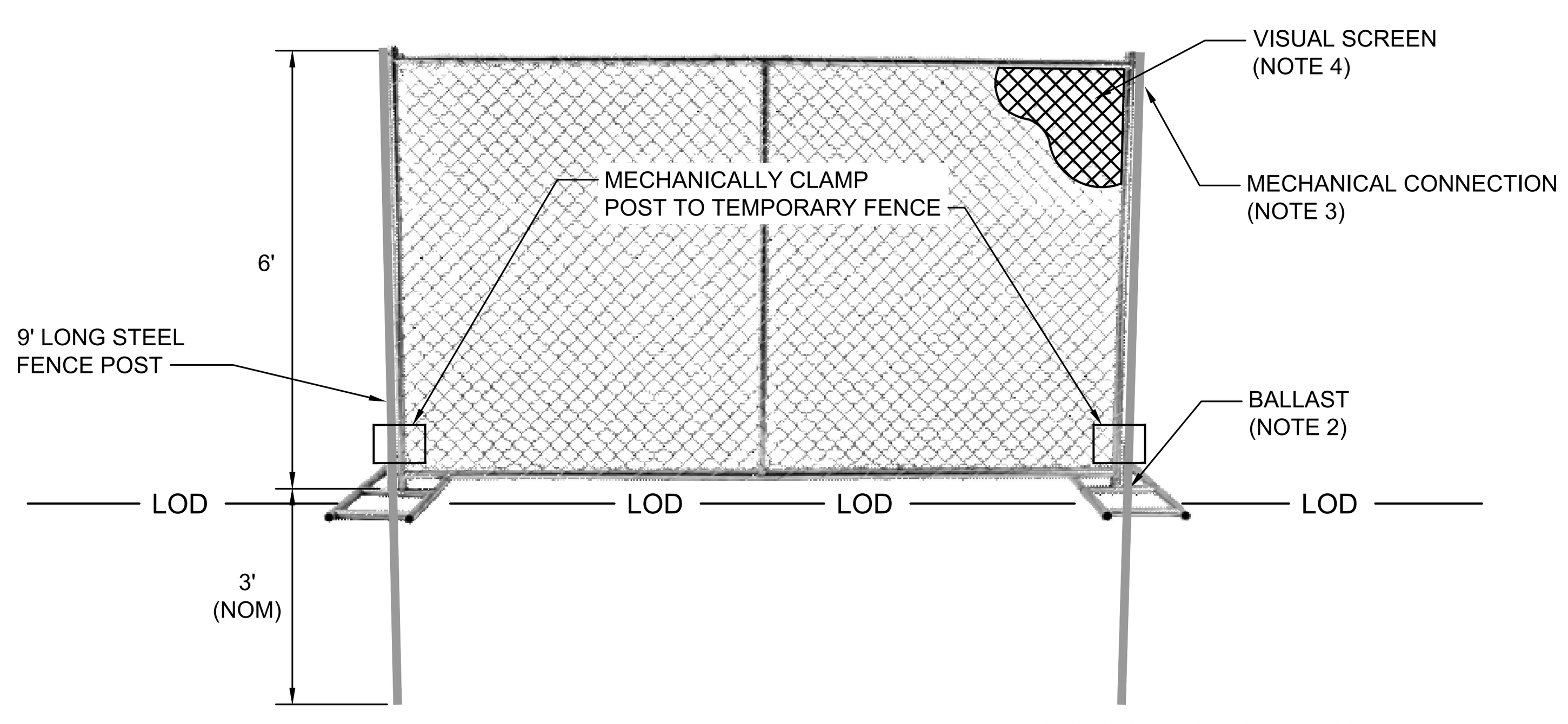
6 / -
PLAN
STRAW WATTLE
SCALE: NOT TO SCALE



13 / -
PLAN
MATERIAL STAGING AREA
SCALE: 1" = 30'



15 / -
DETAIL
MSA BASE LAYER
SCALE: NOT TO SCALE



14 / -
DETAIL
TEMPORARY FENCE
SCALE: NOT TO SCALE

NOTES:

1. 6-FT TALL, PORTABLE CHAIN-LINK FENCE PANELS, SET ON THE EXISTING GROUND SURFACE, COINCIDENT WITH THE LIMIT OF CONSTRUCTION DISTURBANCE.
2. TEMPORARY BALLAST REPLACED WITH DRIVEN POSTS AS SHOWN, TO PREVENT OVERTURNING OF THE FENCE PANELS.
3. FLEXIBLE, MECHANICAL CONNECTION, BETWEEN FENCE PANELS.
4. FULL-COVERAGE VISUAL SCREENING OVER EACH ENTIRE FENCE PANEL.

0 30 60
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
4	2/3/21	RESPONSE TO AGENCY COMMENTS	AM	AK
3	6/26/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
2	3/20/20	RESPONSE TO AGENCY COMMENTS	BGF	AK
1	12/12/19	RESPONSE TO AGENCY COMMENTS	BGF	AK

Beech and Bonaparte engineering p.c.
an affiliate of Geosyntec Consultants

UNISYS

TITLE: MATERIAL STAGING AREA

PROJECT: INTERIM REMEDIATION MEASURE AS-BUILT DRAWINGS

SITE: FORMER SPERRY-REMINGTON SITE - NORTH PORTION ELMIRA, NEW YORK

SIGNATURE: Aron Krasnopoler
DATE: 2/3/2021

STATE OF NEW YORK — ARON A. KRASNOPOLER — 089954-1 — LICENSED PROFESSIONAL ENGINEER

DESIGN BY:	AK	DATE:	JUNE 2020
DRAWN BY:	TSJ	PROJECT NO.:	MN0832D
CHECKED BY:	JMT	FILE:	MN0832D113
REVIEWED BY:	PLB	FIGURE NO.:	
APPROVED BY:	AK	13 OF 13	

AS-BUILT DRAWING