BROWNFIELD CLEANUP PROGRAM

APPENDIX E-7
SITE MANAGEMENT PLAN

TECUMSEH PHASE I BUSINESS PARK
NYSDEC SITE NO. C915197G (I-7)
LACKAWANNA, NEW YORK

November 2017 0071-017-327

Prepared for:

Tecumseh Redevelopment Inc.
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Revisions to Addenda of Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

PHASE I BUSINESS PARK
SITE MANAGEMENT PLAN: APPENDIX E-7
NYSDEC SITE NO. C915197G (I-7)

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PHASE I BUSINESS PARK
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1.0 INTRODUCTION

The Site Management Plan (SMP) is a required element of the remedial program at the Tecumseh Redevelopment Inc. (Tecumseh) Phase I Business Park (herein referred to as the Controlled Property; see Figure 1) under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The purpose of an SMP is to manage the contamination on a site remaining after remedial action.

The January 2014 SMP (Ref. 1) for the Controlled Property was prepared by TurnKey Environmental Restoration, LLC (TurnKey), on behalf of Tecumseh, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation (Ref. 2) and the guidelines provided by NYSDEC. Since the Controlled Property was divided into 11 BCP Sites designated as Sites I-1 through I-11 (BCP Site Nos. C915197 through C915199K), the main body of the SMP includes the site management components common to all 11 Sites. Site-specific requirements are included as Appendix E to the SMP.

1.1 Site Location and Description

As shown on Figure 2, Site I-7 (approx. 10.03 acres) is bounded by Business Park IA to the west; BCP Site I-5 to the south; BCP Sites I-4/I-6 and Fuhrmann Blvd. to the east; and BCP Site I-9 to the north.

The NYSDEC issued the Decision Document for Business Park I in January 2012 (Ref. 3). The Decision Document specifies, among other requirements, placement of acceptable cover material in areas not otherwise covered by rail lines, etc. Engineering controls (ECs) have been incorporated into the remedy to control exposure to remaining contamination during use of the Site to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC by Tecumseh for the entire Business Park I has been recorded with the Erie County Clerk and requires compliance with this SMP and all ECs and institutional controls (ICs) placed on the Site. The ICs place restrictions on site use, and mandate operation, maintenance, monitoring, and reporting measures for all ECs and ICs.

This Appendix addresses the means for implementing the ICs and ECs that are required by the Environmental Easement for Site I-7 of the Controlled Property. This

Appendix is not to be used as stand-alone documents but as a component document of the January 2014 SMP for the Controlled Property.

1.2 Remedial Investigation

The August 2005 Remedial Investigation (RI) Work Plan (Ref. 4) identified Site characterization requirements to be completed pursuant to the BCP and NYSDEC DER-10 guidance across all 11 Sites within the Controlled Property. The RI was designed to provide defensible data to identify areas of the Controlled Property potentially requiring remediation, define chemical constituent migration pathways, and qualitatively assess human health and ecological risks to allow for performance of a remedial alternatives evaluation.

Investigative activities on Business Park I were performed January-February 2006. Specific to Site I-7, approximately 16 test pits were completed as well as surface soil sampling. In April 2008, a supplemental test pit program was performed to further delineate petroleum-impacted soil/fill in support of interim remedial measures. Monitoring well MW-16A was installed as part of the RI; monitoring well B-2 was installed in 1991 by others. Attachment A includes the monitoring well construction logs. Soil and groundwater samples were collected as detailed in the Work Plan.

Groundwater samples were collected from monitoring well MW-16A during the RI (March 2006) and again in June 2016 during a site-wide groundwater sampling event. No parameters exceeded the groundwater quality standards/guidance values (GWQS/GVs). Site groundwater is not used and is restricted from use for either potable or non-potable purposes without treatment by an Environmental Easement.

The RI Report was submitted to NYSDEC in October 2006, revised, and finalized in June 2007 (Ref. 5). Based on the RI findings, remediation of soil/fill was warranted.

1.3 Interim Remedial Measures

A pre-Interim Remedial Measures (IRM) investigation was proposed (Ref. 6) and performed in April 2008 since the extent of impacts at several test pit locations were not fully defined during the RI. The IRM completed on Business Park I involved petroleum-, tar-, and metals-impacted soil/fill removal in accordance with the NYSDEC-approved August 2008 IRM Work Plan (Ref. 7). A Construction Closeout Report (CCR) was not prepared for these IRM activities; however, a summary of the IRM was presented in

NYSDEC-approved May 2010 Alternatives Analysis Report (AAR) for Business Park I (Ref. 8). The AA Report recommended deferred soil cover system placement during redevelopment as well as ECs and ICs to limit future use of the Controlled Property to restricted (commercial or industrial) applications and prevent groundwater use for potable purposes (see Section 2.0).

The following remedial work was performed between April and June 2009 on Site I-7 (see Figure 3):

- Construction of temporary on-site biotreatment pads on paved areas in the northern portion of Business Park I.
- Excavation of approximately 250 cubic yards of petroleum-impacted soil/fill in the vicinity of test pit TP-6-7 (Site I-7). The impacted soil/fill was placed in the bioremediation area for on-site treatment (tilling). The treated soils were stockpiled for use as on-site, subgrade fill during future backfill and site grading work.
- Backfill of excavations with steel slag under BUD #555-9-15; bioremediated slag/fill; and non-impacted crushed asphalt. Backfill material was placed into the excavation and compacted/tracked with the excavator/backhoe bucket in 2-foot lifts.

1.4 Summary of Remedial Actions

The final remedial measures for this Site involved placement of the cover system in accordance with the NYSDEC-approved June 2017 Remedial Action Work Plan (RAWP) (Ref. 9). Details of cover system placement are provided in the November 2017 Final Engineering Report (Ref. 10).

1.5 Remaining Contamination

1.5.1 Soil

The IRM conducted on Site I-7 has removed all known "source area" (i.e., petroleum-impacted) slag/fill. The remaining soil/fill is generally characterized by widespread exceedance of the Part 375 unrestricted-use SCOs (USCOs) for several ubiquitous constituents. Specifically, nearly all samples collected during the RI exhibited exceedance of the USCOs for carcinogenic polyaromatic hydrocarbons (PAHs), as well as

arsenic, cadmium, chromium, lead, and mercury. PCB Aroclors 1248 and 1254 remain at concentrations above USCOs. Table 1 summarizes the results of all soil samples remaining on Site I-7 that exceed USCOs following completion of the remedial actions. It is not possible to quantify with any certainty areas that do not exceed one or more of the USCO criteria; therefore, it is assumed that the entire 10.03 acres constituting Site I-7 are impacted above the USCOs to the approximate native soil depth of 8 fbgs.

Following grading of this Site, demarcation was constructed and placed so as to easily identify the existing sub-grade from the cover system material, and prevent the potential for inadvertent removal of sub-grade material during future intrusive work. The demarcation layer is comprised of an orange ¾-inch plastic industrial netting material was rolled across the sub-grade and overlapped by approximately one foot at the seams.

1.5.2 Groundwater

The groundwater quality on Site I-7 has been assessed by sampling monitoring well MW-16A in March 2006 and June 2010 during the RI. The groundwater was analyzed for VOCs, SVOCs, and inorganic parameters. As indicated on Table 2, groundwater concentrations were non-detect or below NYSDEC Class GA GWQS/GVs. Well MW-16A was decommissioned in September 2012 during the railroad realignment.

2.0 ENGINEERING & INSTITUTIONAL CONTROL PLAN

2.1 Introduction

Since contaminated soil/fill remains beneath the Site, Engineering Controls and Institutional Controls (EC/ICs) are required to protect public health and the environment. The EC/IC Plan in the Phase I BP SMP describes the procedures for the implementation and management of site-wide EC/ICs. The EC/IC Plan is one component of the SMP and subject to revision by NYSDEC. EC/ICs specific to Site I-7 are described below.

2.2 Engineering Control Systems

The cover system for Site I-7 is described in the Final Engineering Report (Ref. 10). Figure 4 shows the approximate locations and types of cover system materials placed on the Site. In the event this cover system is breached, penetrated, or temporarily removed, the cover system shall be repaired in accordance with Section 2.2 of the SMP and Section 4.0 of the Excavation Work Plan (SMP Appendix B).

2.3 Institutional Controls

The Institutional Controls described in Section 2.3 of the SMP (i.e., Environmental Easement and Excavation Work Plan) must be implemented. There are no site-specific Institutional Control requirements for Site I-7.

2.4 Inspections and Notifications

The Inspections and Notifications described in Section 2.4 of the SMP must be implemented for Site I-7. There are no site-specific inspection and notification requirements.

2.5 Contingency Plan

Emergencies conditions are addressed in the Emergency Response Plan (ERP), which is an attachment to the HASP (SMP Appendix C). The following emergency contact numbers are specific to Site I-7:

Table 3: Emergency Contact Numbers

Name: John Cappellino Title: Executive Vice President, Buffalo and Erie County Industrial Land Development Corporation	Work: (716) 856-6525 Mobile: (716) 472-6667
Name: Thomas Forbes Title: Principal Engineer, Benchmark Environmental	Work: (716) 856-0599 Mobile: (716) 864-1730

Note: Contact numbers subject to change and should be updated as necessary

3.0 SITE MONITORING PLAN

The Site Monitoring Plan describes the measures for evaluating the performance and effectiveness of:

- The remedy to reduce or mitigate contamination at the Site;
- The soil cover system; and
- All affected Site media.

Monitoring of the cover system is described in the SMP. No site-specific monitoring is required.

4.0 OPERATION & MAINTENANCE PLAN

The remedy for Site I-7 does not rely on any mechanical systems, such as sub-slab depressurization or soil vapor extraction, to protect public health and the environment. Therefore, a site-specific Operation and Maintenance Plan is not required.

5.0 INSPECTIONS, REPORTING & CERTIFICATIONS

All inspection, reporting, and certification requirement are described in Section 3.0 of the SMP. Attachment B includes sample EC/IC Certification Form to be completed for Site I-7.

6.0 REFERENCES

1. TurnKey Environmental Restoration, LLC. *Site Management Plan for BCP Tecumseh Phase I Business Park, NYSDEC Site No. C915197 through C915197K, Lackawanna, New York*. January 2014.
2. New York State Department of Environmental Conservation. *DER-10/Technical Guidance for Site Investigation and Remediation*. May 3, 2010.
3. New York State Department of Environmental Conservations. *Decision Document, Tecumseh Phase I Business Park, Brownfield Cleanup Program, Lackawanna, Erie County, Site No. C915197*. January 2012.
4. TurnKey Environmental Restoration, LLC. *Remedial Investigation Work Plan, Phase I Business Park Area, Lackawanna, New York*. August 2005.
5. TurnKey Environmental Restoration, LLC. *Remedial Investigation Report, Phase I Business Park, Tecumseh Redevelopment Inc., Lackawanna, New York*. June 2007.
6. TurnKey Environmental Restoration, LLC. *Correspondence to Mr. Maurice Moore of the NYSDEC Re: Phase I Business Park Area, Supplemental Remedial Investigation*. March 27, 2008.
7. TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering & Science, PLLC. *Interim Remedial Measures Work Plan, Phase I Business Park Area, Lackawanna, New York, BCP Site No. C915197*. August 2008.
8. TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering & Science, PLLC. *Alternatives Analysis Report (AAR) Phase I Business Park, ArcelorMittal Tecumseh Redevelopment, Inc., Lackawanna, New York, BCP Site No. C915197*. May 2010.
9. TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering & Science, PLLC. *Remedial Action Work Plan, Tecumseh Business Parks I and II, Lackawanna, New York*. June 2017.
10. TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering & Science, PLLC. *Final Engineering Report, Tecumseh Business Park I, Sub-Parcel I-7, Lackawanna, New York*. November 2017.

TABLES

TABLE 1
SUMMARY OF REMAINING SOIL/FILL CONTAMINATION ABOVE USCOs

SITE MANAGEMENT PLAN

Phase I Business Park, Site I-7
Tecumseh Redevelopment Inc., Lackawanna, New York

Parameter [1]	USCOs (mg/kg)[2]	SS-04	SS-05	SS-08	SS-26	SS-28	SS-29	TP-1-(13-17)	TP-1-(13-17)	TP-1-18	TP-1-19	TP-1-22[3,4]	TP-4-(1-5)	TP-4-(1-5)	TP-6-(1-5)	TP-6-(1-5)	TP-6-7	TP-6-10
		0.0 - 1.0	0.0 - 1.0	0.0 - 1.0	0.0 - 1.0	0.0 - 1.0	0.0 - 1.0	0.0 - 2.0	2.0 - 5.0	2.0 - 5.0	2.0 - 5.0	2.0 - 6.5	0.0 - 1.0	1.0 - 3.0	0.0 - 2.0	2.0 - 6.0	2.0 - 4.0	2.0 - 6.0
		grab	grab	grab	grab	grab	grab	composite	composite	grab	grab	grab	composite	composite	composite	composite	grab	grab
Wet Chemistry - units shown parenthentically																		
pH (S.U.)		--	--	--	8.4	--	--	--	--	--	--	--	--	--	--	--	--	--
STARS Volatile Organic Compounds (VOCs - Method 8021) - mg/kg																		
Methylene Chloride	**0.05**	--	--	--	--	--	--	--	--	--	--	0.012	--	--	--	--	--	--
Base-Neutral Semi-Volatile Organic Compounds (SVOCs - Method 8270) - mg/kg																		
Acenaphthene	**20**	--	--	--	--	--	0.31 J	0.2 J	ND	ND	0.89 J	ND	ND	ND	5.4 J	6.8 J	--	--
Acenaphthylene	**100**	--	--	--	--	--	0.23 J	0.55 J	1.1 J	0.41 J	5.2	1.6 J	ND	0.68 J	ND	ND	--	--
Anthracene	**100**	--	--	--	--	--	0.94 J	0.8 J	0.66 J	0.44 J	5.3	0.89 J	1.2 J	0.61 J	14 J	14 J	--	--
Benzo(a)anthracene	**1**	--	--	--	--	--	**2.4 J**	**2.4**	**2.2**	**1.6 J**	**16**	**5.9 J**	**4.4 J**	**1.9**	**30 J**	**28 J**	--	--
Benzo(b)fluoranthene	**1**	--	--	--	--	--	**3.2 J**	**3.3 J**	**3.2 J**	**2.1 J**	**21 J**	**7.1 J**	**5.5 J**	**3.1 J**	**36 J**	**27 J**	--	--
Benzo(k)fluoranthene	**0.8**	--	--	--	--	--	**1.1 J**	**1.3 J**	**1.1 J**	0.65 J	**7 J**	**2.4 J**	**1.8 J**	**0.99 J**	**41 J**	**6.8 J**	--	--
Benzo(g,h,i)perylene	**100**	--	--	--	--	--	1.7 J	1.4 J	1.4 J	0.85 J	6	3.9 J	2.4 J	1.6 J	15 J	14 J	--	--
Benzo(a)pyrene	**1**	--	--	--	--	--	**2.5 J**	**2.5**	**2.3**	**1.6 J**	**14**	**5.3 J**	**4.2 J**	**2.2**	**22 J**	**22 J**	--	--
Chrysene	**1**	--	--	--	--	--	**2.5 J**	**2.3**	**2.2**	**1.4 J**	**15**	**5.7 J**	**4.4 J**	**2**	**28 J**	**25 J**	--	--
Dibenz(a,h)anthracene	**0.33**	--	--	--	--	--	**0.4 J**	**0.39 J**	**0.38 J**	0.25 J	**2.1**	**1.3 J**	**0.72 J**	**0.5 J**	**4.5 J**	**4.1 J**	--	--
Dibenzofuran	**7**	--	--	--	--	--	0.32 J	0.21 J	ND	0.1 J	1.2 J	ND	ND	0.13 J	3.1 J	3.6 J	--	--
Fluoranthene	**100**	--	--	--	--	--	5.6	4.8	3.8	2.3	36 J	9.4	9	3.3	71	65	--	--
Fluorene	**30**	--	--	--	--	--	0.45 J	0.27 J	0.2 J	ND	1.7 J	ND	ND	0.2 J	5.8 J	6.4 J	--	--
Indeno(1,2,3-cd)pyrene	**0.5**	--	--	--	--	--	**1.4 J**	**1.2 J**	**1.1 J**	**0.76 J**	**6.1**	**3.7 J**	**2.1 J**	**1.4 J**	**13 J**	**12 J**	--	--
2-Methylnaphthalene	**12**	--	--	--	--	--	ND	0.21 J	ND	ND	0.3 J	ND	ND	ND	ND	ND	--	--
Naphthalene	**12**	--	--	--	--	--	0.57 J	ND	ND	ND	ND	ND	ND	0.11 J	ND	2.2 J	--	--
Phenanthrene	**100**	--	--	--	--	--	4.1	2.9	1.5 J	1.4 J	24	2.7 J	3.3 J	2	52	51	--	--
Pyrene	**100**	--	--	--	--	--	4.6	3.5	2.7	1.8 J	23	9.8	8.1 J	2.8	55	51	--	--
TOTAL SVOCs (mg/kg)		*0*	*0*	*0*	*0*	*0*	*32*	*28*	*24*	*16*	*185*	*60*	*47*	*24*	*396*	*339*	*0*	*0*
Polychlorinated Biphenyls (PCBs) - mg/kg																		
Aroclor 1248	**0.1**	**1.2**	0.54	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	ND
Aroclor 1254	**0.1**	**3.0**	ND	**0.88**	--	ND	--	--	--	--	--	--	--	--	--	--	--	**0.58**
Aroclor 1260	**0.1**	ND	0.38	ND	--	0.35	--	--	--	--	--	--	--	--	--	--	--	ND
TOTAL PCBs (mg/kg)	***0.1***	***4.2***	*0.92*	*0.88*	--	*0.35*	--	--	--	--	--	--	--	--	--	--	--	*0.58*
Inorganic Compounds - mg/kg																		
Arsenic, Total	**13**	--	--	--	12.6	--	**17.7**	**21.2**	**15.7**	--	--	--	9.3 J	7	**14.7 J**	**22.6 J**	**39.2 J**	--
Cadmium, Total	**2.5**	--	--	--	**5.8**	--	**8**	1.7 J	ND	--	--	--	**3.2 J**	2.1	**5.3 J**	**5.1 J**	**3 J**	--
Chromium, Total	**30**	--	--	--	**245**	--	**171**	**104 J**	**46.8 J**	--	--	--	**114 J**	**82.3 J**	**123**	**99.1**	**52.8**	--
Lead, Total	**63**	--	--	--	**355**	--	**440**	**437 J**	**231 J**	--	--	--	**642 J**	**800 J**	**454**	**474**	**1660**	--
Mercury, Total	**0.18**	--	--	--	**3.8**	--	**0.389**	0.146	0.112	--	--	--	**1.5 J**	**0.559 J**	**1.2**	**1.1**	**0.362**	--
Cyanide, Total	**27**	--	--	--	8.2 J	--	ND	1.3	1.2	--	--	--	ND	ND	ND	ND	2	--

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. SCO = Soil Cleanup Objective (Protection of Public Health - Commercial), per NYSDEC 6NYCRR Part 375-6.8(b), Final December 2006.
3. Soil/fill sample TP-1-22 (2.0 - 6.5) was analyzed for TCL VOCs plus STARS, all other samples were analyzed for STARS VOCs, only.
4. Soil/fill sample TP-1-22 (2.0 - 6.5) was analyzed for TCL SVOCs (BNAs), all other samples were analyzed for BN SVOC only.

Definitions:

J = estimated value; result is less than the sample quantitiation limit but greater than zero.
ND = parameter not detected above laboratory detection limit.
"--" = not analyzed for this parameter or no individual SCO.
" RED TEXT " = Data was qualified per the third party Data Usability Summary Report (DUSR).

Color Code:

BOLD = Value exceeds Part 375 Unrestricted Soil Cleanup Objectives.

= Slag/fill removed from Test Pit Locations during IRM excavations

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL DATA

SITE MANAGEMENT PLAN

Phase I Business Park, Site I-7
Tecumseh Redevelopment Inc., Lackawanna, New York

Parameter [1]	Well ID, Location, & Sampling Date				GWQS/GV [3]
	MW-16A		MW-16A		
	Site 1-7				
	3/7/06 [2]		6/30/10		
Field Measurements (units as indicated)					
pH (units)	7.14	7.27	7.54	7.41	**6.5 - 8.5**
Temperature (°C)	6.9	4.7	14.3	14.6	**NA**
Specific Conductance (uS)	793.9	791.5	776.5	759.2	**NA**
Turbidity	12.3	8.3	15.6	4.5	**50****
Dissolved Oxygen (mg/L)	--	--	1.23	1.12	**NA**
ORP (mV)	-4	8	-120	-105	**NA**
Volatile Organic Compounds (VOCs) - ug/L					
Acetone	--		--		**50***
n-Butylbenzene	ND		ND		**5**
1,2,4-Trichlorobenzene	--		--		**5*** [4]
Base-Neutral Semi-Volatile Organic Compounds (SVOCs - Method 8270) - ug/L [5]					
TOTAL SVOCs (ug/L)	ND		ND		**NA**
Polychlorinated Biphenyls (PCBs) - ug/L					
TOTAL PCBs (ug/L)	ND		ND		**NA**
Total Inorganic Compounds - mg/L [6]					
Barium, Total	--		--		**1**
Cadmium, Total	ND		ND		**0.005**
Chromium, Total	ND		ND		**0.05**
Copper, Total	--		--		**0.2**
Cyanide, Total	0.024 J		--		**0.2**
Manganese, Total	--		--		**0.3**
Nickel, Total	--		--		**0.1**
Zinc, Total	0.024 J		--		**0.2**

Notes:
1. Only those parameters detected at a min. of 1 sample location are presented; all other compounds were reported as N
2. Groundwater collected from March 2006 event were only analyzed for parameters listed in August 2005 RIWP.
3. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV) as per 6 NYCRR Part 703.
4. A Guidance Value limit of 10 ug/L applies to the sum of 1,2,3-, 1,2,4-, and 1,3,5-Trichlorobenzene.
5. Groundwater collected from wells were only analyzed for BN SVOCs.
6. Groundwater collected from wells were only analyzed for arsenic, cadmium, chromium, cyanide, lead, and mercury.

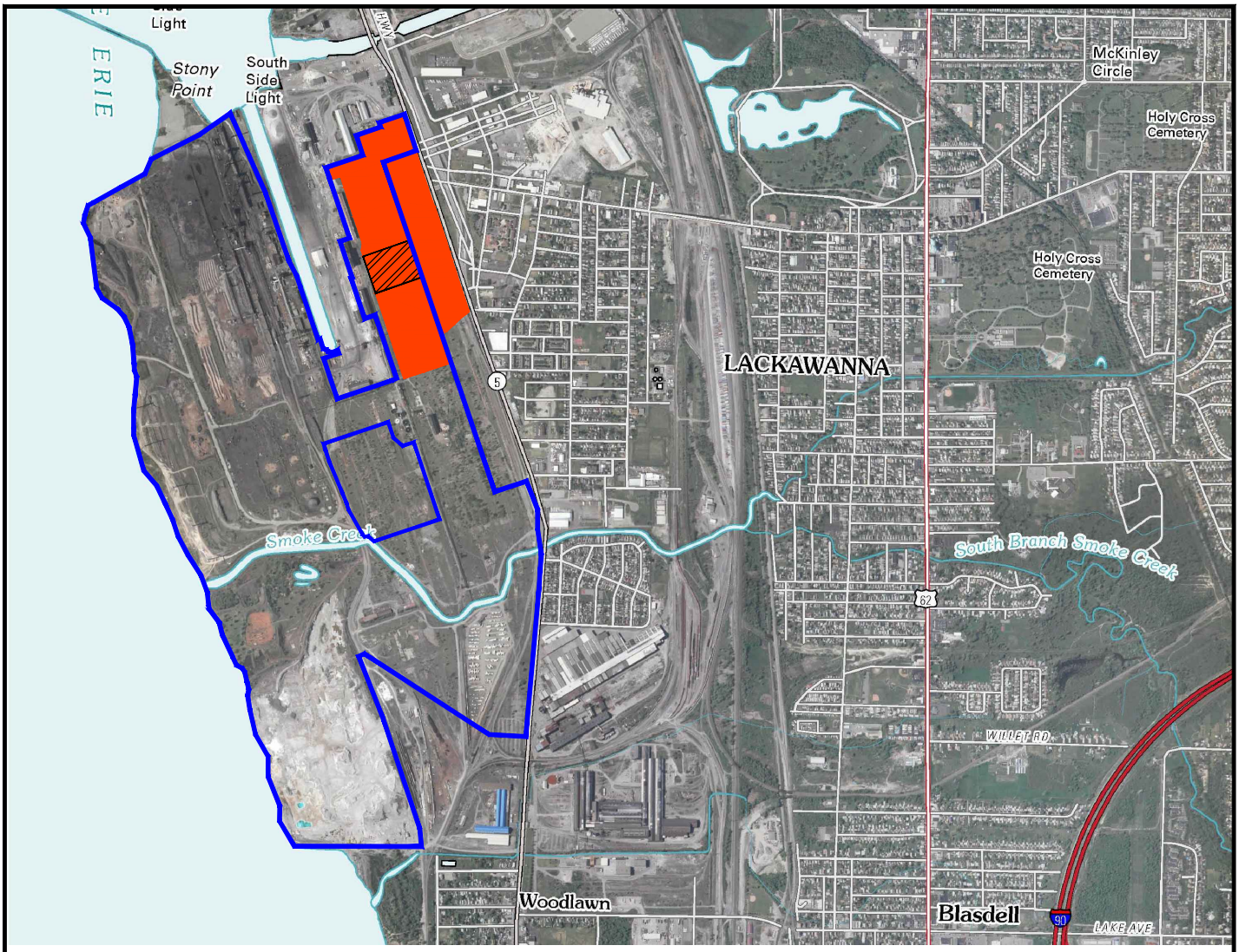
Definitions:
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
ND = parameter not detected above laboratory detection limit.
" -- " = not analyzed for this parameter
" * " = Groundwater Quality Guidance Value
" ** " = field threshold value; when exceeded, field filtered metals sample is collected (i.e., dissolved metals).
NA = No groundwater quality standard or guidence value is available at this time.
" RED TEXT " = Data was qualified per the third party Data Usability Summary Report (DUSR).

BOLD = Result is above the GWQS/GV.

FIGURES

F:\CAD\TurnKey\Tecumseh Redevelopment\Brownfield Cleanup Program (BCP)\Phase I Parcel\Site Management Plan\Site I-7\Figure 1; Site Location and Vicinity Map.dwg

FIGURE 1



N

2,500' 0' 2,500' 5,000'

SCALE: 1 INCH = 2,500 FEET
SCALE IN FEET
(approximate)

LEGEND:

- APPROXIMATE TECUMSEH PROPERTY BOUNDARY
- TECUMSEH BUSINESS PARK I
- SITE I-7

TURNKEY ENVIRONMENTAL RESTORATION, LLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0071-017-327

DATE: SEPTEMBER 2017

DRAFTED BY: CMC

SITE LOCATION AND VICINITY MAP

SITE MANAGEMENT PLAN

TECUMSEH PHASE I BUSINESS PARK
BCP SITE NO. C915197G (I-7)
LACKAWANNA, NEW YORK

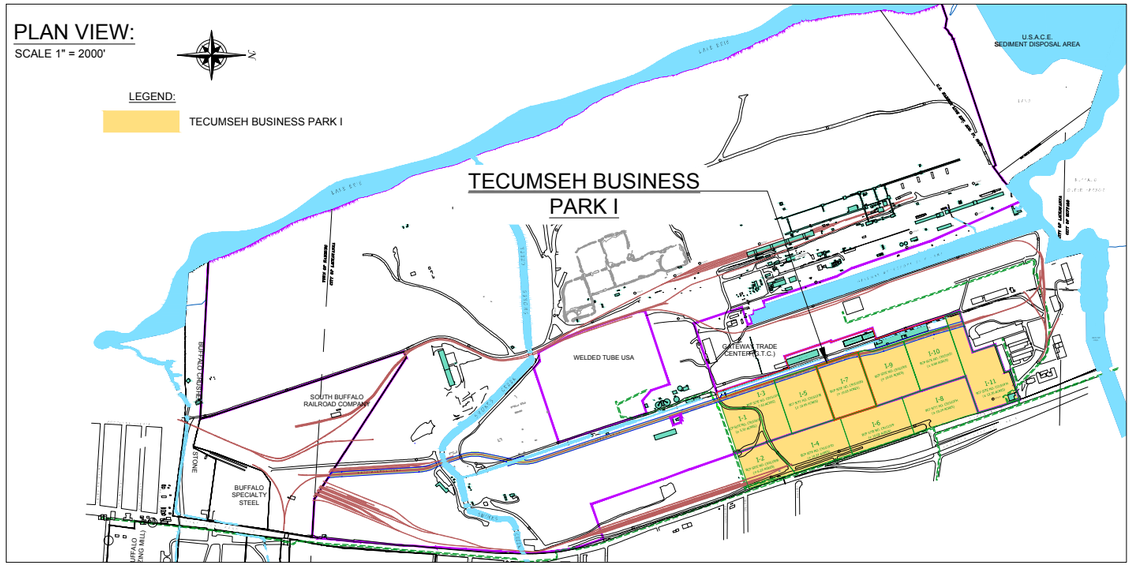
PREPARED FOR

TECUMSEH REDEVELOPMENT INC.

F:\CAD\TurnKey\Tecumseh Redevelopment\Brownfield Cleanup Program (BCP)\Phase I Parcel\Site Management Plan\Site I-7\Figure 2- Site Plan (Aerial).dwg

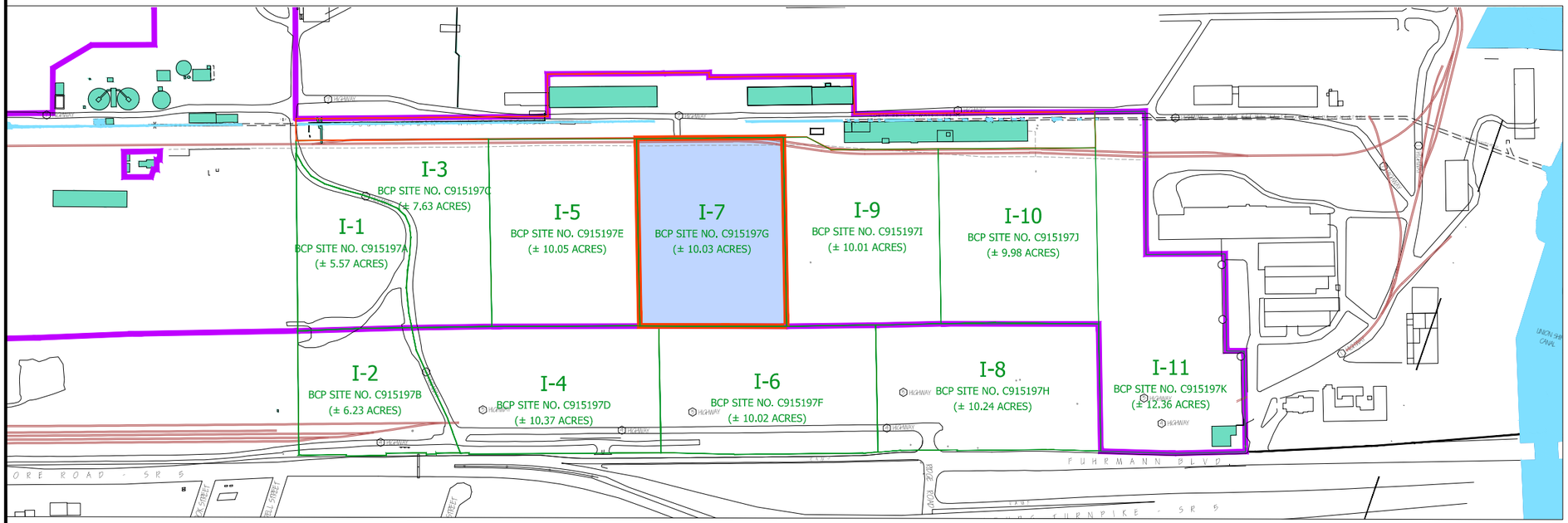
PLAN VIEW:
SCALE 1" = 2000'

LEGEND:
TECUMSEH BUSINESS PARK I



LEGEND:

- TECUMSEH PROPERTY BOUNDARY
- SITE I-7
- EXISTING BUILDING / STRUCTURE
- TECUMSEH BUSINESS PARK I SUB-PARCEL BOUNDARIES
- RAILROAD TRACK



500' 0' 500' 1,000'

SCALE: 1 INCH = 1,000 FEET
SCALE IN FEET
(approximate)

DATE: AUGUST 4, 2017
DRAFTED BY: RFL

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: 0071-017-327

SITE DELINEATION MAP

SITE MANAGEMENT PLAN
TECUMSEH PHASE I BUSINESS PARK
BCP SITE NO. C915197G (I-7)
LACKAWANNA, NEW YORK
PREPARED FOR
TECUMSEH REDEVELOPMENT INC.

FIGURE 2

F:\CAD\TurniKey\Tecumseh Redevelopment\Brownfield Cleanup Program (BCP)\Phase I Parcel\Site Management Plan\Site I-7\Figure 3; Completed Remedial Measures.dwg

LEGEND:

TECUMSEH PROPERTY BOUNDARY

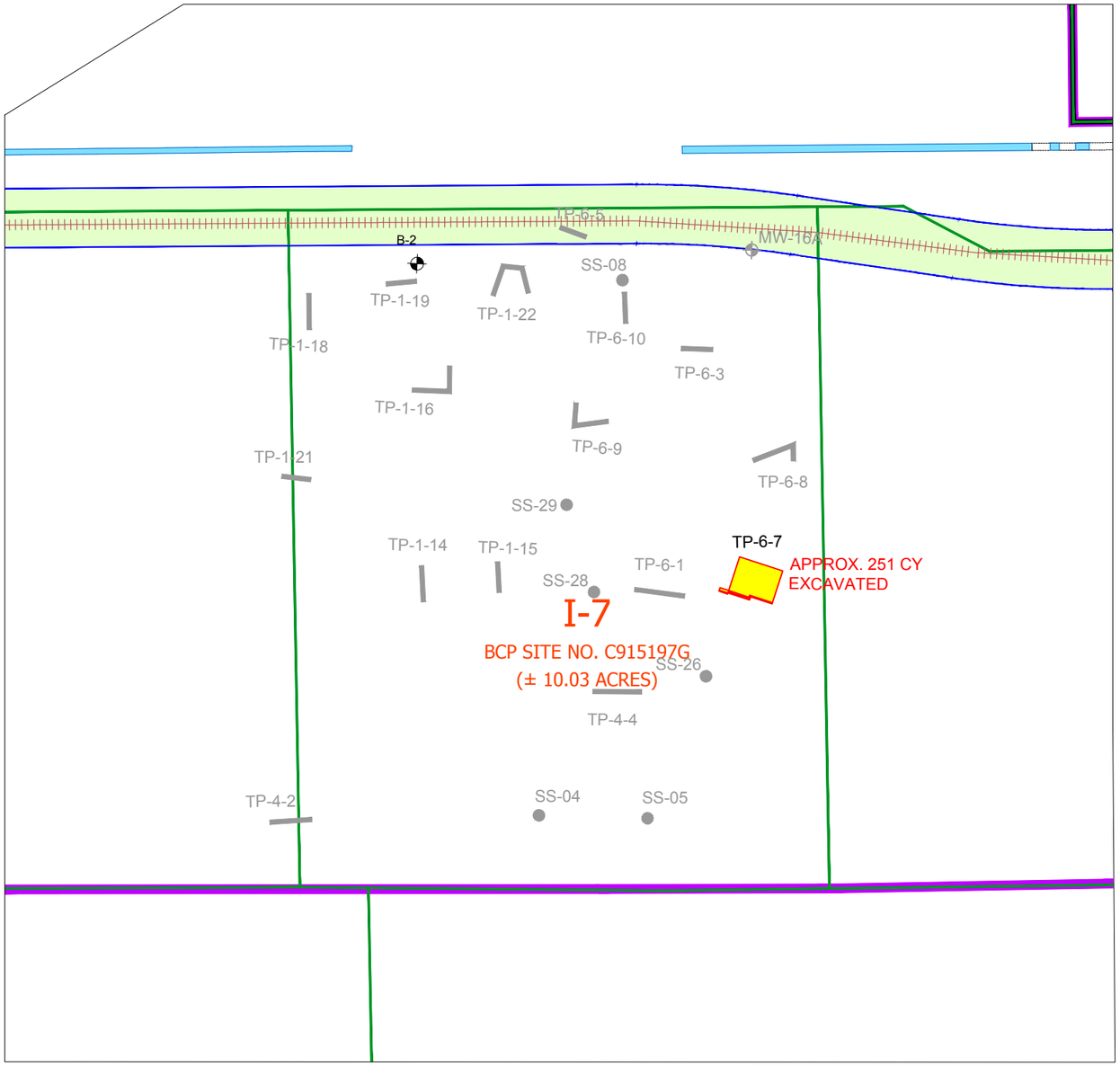
TECUMSEH BUSINESS PARK I SITE-PARCEL BOUNDARIES

IMPACTED SOIL/FILL EXCAVATED

N

150' 0' 150' 300'

SCALE: 1 INCH = 150 FEET
SCALE IN FEET
(approximate)



DATE: SEPTEMBER 2017
DRAFTED BY: RFL-CMC

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

TURNKEY ENVIRONMENTAL RESTORATION, LLC

JOB NO.: 0071-017-327

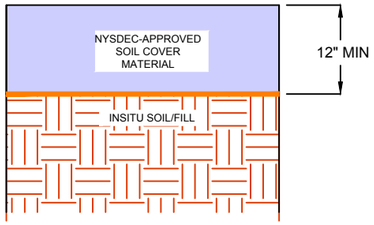
COMPLETED REMEDIAL MEASURES

SITE MANAGEMENT PLAN
TECUMSEH PHASE I BUSINESS PARK
BCP SITE NO. C915197G (I-7)
LACKAWANNA, NEW YORK
PREPARED FOR
TECUMSEH REDEVELOPMENT INC.

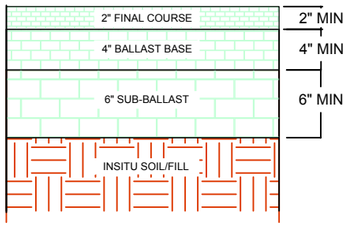
FIGURE 3

F:\CAD\TurnKey\Tecumseh Redevelopment\City and County\1-ECIDA_ILDC Purchase of Tecumseh Phase I & II\FERs\Phase 4 (Parcel I-7)\SMP\Figure 4; Approx Loc and Types of CS Matls\R.dwg

SOIL COVER SYSTEM DETAIL
NTS

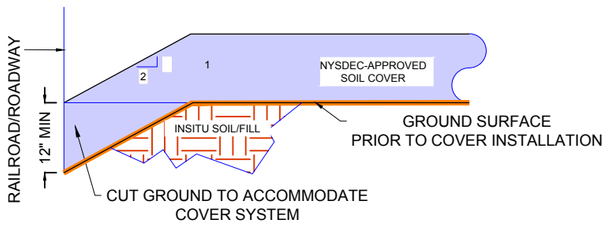


COVER SYSTEM BENEATH TRACKS
COVER SYSTEM DETAIL[1]
NTS



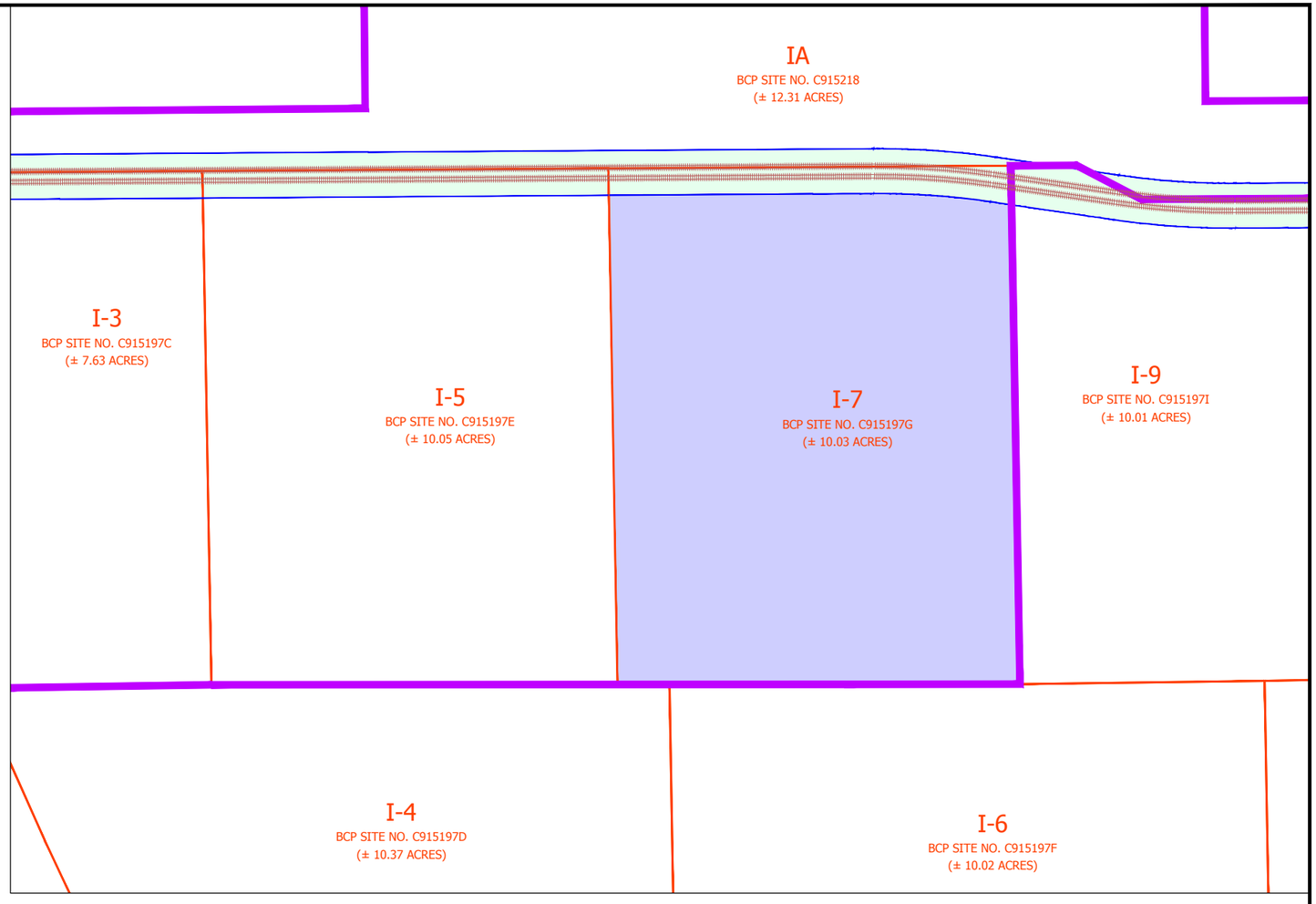
NOTES:
1. BASED ON DESIGN DRAWINGS PROVIDED BY OTHERS

TIE-IN DETAIL
NTS



200' 0' 200' 400'

SCALE: 1 INCH = 200 FEET
SCALE IN FEET
(approximate)



LEGEND:

- TECUMSEH PROPERTY BOUNDARY
- SITE BOUNDARIES
- EXISTING BUILDING / STRUCTURE
- SITE 1-7 SOIL COVER SYSTEM
- EXISTING EAST HARBOR LEAD RAILROAD TRACK AND ROW

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
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TURNKEY ENVIRONMENTAL RESTORATION, LLC

JOB NO.: 0071-017-327

APPROXIMATE LOCATION AND TYPES OF COVER SYSTEM MATERIALS

SITE MANAGEMENT PLAN
TECUMSEH PHASE 1 BUSINESS PARK
BCP SITE NO. C915197G (I-7)
LACKAWANNA, NEW YORK
PREPARED FOR
TECUMSEH REDEVELOPMENT INC.

FIGURE 4

DATE: NOVEMBER 2017
DRAFTED BY: RFL

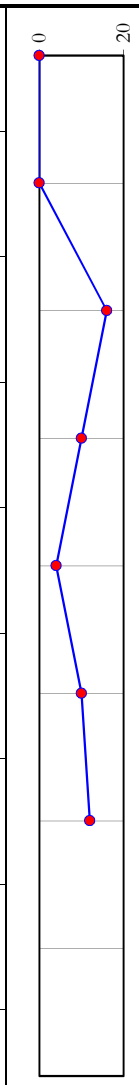
ATTACHMENT A

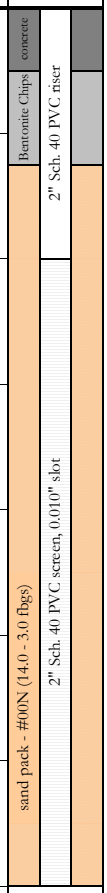
MONITORING WELL BORING AND CONSTRUCTION LOG

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	Phase 1 BPA	**BORING NUMBER:**	**MW-16A**
Project Number:	0071-006-102	**Location:**	Phase I BPA
Client:	Tecumseh Redevelopment, Inc.	**Start Date/Time:**	01/29/06 10:30 AM
Drilling Company:	Earth Dimensions, Inc.	**End Date/Time:**	01/29/06 12:15 PM
Driller:	Brian Bartran	**Logged By:**	TAB
Helper:	Harold	**Drilling Method:**	4.25 HSA
Rig Type:	CME 85	**Weather:**	Partly Cloudy, cool, sl. breeze, Low 40's F

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery	SAMPLE DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type, Texture, Plasticity, Fabric, Bedding, Weathering/Fracturing, Odor, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Soil Unit
583.42	0		-- -- -- --	0	NA	Augered to 4.0 fbgs (description from soil cuttings) **SOIL/FILL:** Black/Dark Brown, moist, NPF	FILL	0.0	--	FILL
581.42	2		-- -- -- --	0	NA	Same as above	FILL	0.0	--	FILL
579.42	4	S1	4 6 10 8	16	1.2	(0.0 - 0.4) **SOIL/FILL:** Black, wet, 90% NPF, 10% FS, LWD (0.4 - 1.1) yellow refractory brick: wet (1.1 - 1.2) orange brick: wet	FILL	0.0	--	FILL
577.42	6	S2	4 7 3 7	10	0.7	(0.0 - 0.2) Same as S1 (0.0 - 0.4) (0.2 - 0.7) **SANDY LEAN CLAY:** Medium grey, wet, stiff, 60% MPF, 40% FS, slow dilatency	FILL CL	0.0	--	FILL CLAY
575.42	8	S3	3 2 2 4	4	1.2	Same as S2 (0.2 - 0.7) w/ lenses of peat	CL	0.0	--	CLAY
573.42	10	S4	2 4 6 11	10	1.5	Same as S2 (0.2 - 0.7) w/ lenses of peat & iron-stained mottling	CL	0.0	--	CLAY
571.42	12	S5	2 7 5 7	12	0.5	Same as S2 (0.2 - 0.7) w/ lenses of peat & iron-stained mottling	CL	0.0	--	CLAY
569.42	14					EOB @ 14.0 fbgs				
567.42	16									
565.42	18									





ABREVIATIONS:

C = coarse	fbgs = feet below ground surface	HSA = hollow stem auger	MS = medium sand
CG = coarse gravel	FG = fine gravel	LP = low plasticity	NA = not applicable
CS = coarse sand	fmsl = feet above mean sea level	LWD = loose when disturbed	NPF = not plastic fines
EOB = end of boring	FS = fine sand	M = medium	SA = sub-angular
F = fines or fine	HP = high plasticity	MP = medium plasticity	SR = sub-rounded
			SS = split spoon

ATTACHMENT B

SAMPLE EC/IC CERTIFICATION FORM

Enclosure 1
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No.C915197G

Site Name: Site I-7 Tecumseh Phase I Business Park

Site Address: 2303 Hamburg Turnpike Zip Code: 14218

City/Town: Lackawanna

County: Erie

Current Use: Commercial

Intended Use: Commercial

Verification of Site Details	**Box 2** YES	NO
1. Are the Site Details above, correct?	☐	☐
If NO, are changes handwritten above or included on a separate sheet?	☐	☐
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment since the initial/last certification?	☐	☐
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	☐
3. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property since the initial/last certification?	☐	☐
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	☐
4. Has a change-of-use occurred since the initial/last certification?	☐	☐
If YES, is documentation or evidence that documentation has been previously submitted included with this certification?	☐	☐
5. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), has any new information revealed that assumptions made in the Qualitative Exposure Assessment for offsite contamination are no longer valid?	☐	☐
If YES, is the new information or evidence that new information has been previously submitted included with this Certification?	☐	☐
6. For non-significant-threat Brownfield Cleanup Program Sites subject to ECL 27-1415.7(c), are the assumptions in the Qualitative Exposure Assessment still valid (must be certified every five years) ?	☐	☐

SITE NO. C915197G **Box 3**

Description of Institutional Control Certification

	YES	NO
1. Compliance with the Site Management Plan (SMP) for the implemented remedy:	□	□
2. The groundwater beneath the Site is not used as a potable water source or for any other use without prior written permission of the Department:	□	□
3. Groundwater monitoring as specified in the SMP:	□	□
4. Operation and maintenance of the ASD system as specified in the SMP:	□	□

Description of Engineering Control Certification **Box 4**

	YES	NO
1. Maintenance of the cover systems over the Site:	□	□

Control Certification Statement

For each Institutional or Engineering control listed above, I certify by checking "Yes" that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(d) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control.

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

IC/EC CERTIFICATIONS
SITE NO. C915197G

Box 5

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 2 & 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ at _____,
print name print business address

am certifying as _____(Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

_____ _____
Signature of Owner or Remedial Party Rendering Certification Date

Box 6

QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP) SIGNATURE

I certify that all information and statements in Box 4 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I _____ at _____,
print name print business address

am certifying as a Qualified Environmental Professional for the _____

(Owner or Remedial Party) for the Site named in the Site Details Section of this form.

_____ _____ _____
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification | Stamp (if Required) | Date

Enclosure 2

Certification of Institutional Controls/ Engineering Controls (ICs/ECs)
Step-by-Step Instructions, Certification Requirements and Definitions

The Owner, or Remedial Party, and when necessary, a Professional Engineer (P.E.), or the Qualified Environmental Professional (QEP), must review and complete the IC/EC Certification Form, sign the IC/EC Certifications Signature Page, and return it, along with the Periodic Review Report (PRR), within 45 days of the date of this notice.

Please use the following instructions to complete the IC/EC Certification.

I. Verification of Site Details (Box 1 and Box 2):

Answer the six questions in the Verification of Site Details Section. Questions 5 and 6 refer to only sites in the Brownfield Cleanup Program. ECL Section 27-1415-7(c) is included in **IV. IC/EC Certification Requirements**. The Owner and/or your P.E. or QEP may include handwritten changes and/or other supporting documentation, as necessary.

II. Verification of Institutional / Engineering Controls (Box 3 and Box 4)

Review the listed Institutional / Engineering Controls, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party is to petition the Department requesting approval to remove the control.

2. Select "YES" or "NO" for **Control Certification** for each IC/EC, based on Sections (a)-(e) of the **Control Certification Statement**.

   If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Project Manager. If the Department has any questions or concerns regarding the completion of the certification, the Project Manager will contact you.

3. If you cannot certify "Yes" for each Control, please continue to complete the remainder of this **Control Certification** form. Attach supporting documentation that explains why the **Control Certification** cannot be rendered, as well as a statement of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Control Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is conducted.

   If the Department concurs with the explanation, the corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Project Manager. Once the corrective measures are complete a new Periodic Review Report (with IC/EC Certification) is to be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 5 and Box 6):

1. If you certified "Yes" for each Control, please complete and sign the IC/EC Certifications page. To determine WHO signs the **IC/EC Certification,** please use Table 1. Signature Requirements for the IC/EC Certification, which follows.

Table 1. Signature Requirements for Control Certification Page

Type of Control	Example of IC/EC	Required Signatures
IC only	Environmental Easement Deed Restriction.	A site or property owner or remedial party.
IC with an EC which does not include a treatment system or engineered caps.	Fence, Clean Soil Cover, Individual House Water Treatment System, Vapor Mitigation System	A site or property owner or remedial party, and a QEP. (P.E. license not required)
IC with an EC that includes treatment system or an engineered cap.	Pump & Treat System providing hydraulic control of a plume, Part 360 Cap.	A site or property owner or remedial party, and a QEP with a P.E. license.

IV. IC/EC Certification Requirements:

Division of Environmental Remediation Program Policy requires periodic certification of IC(s) and EC(s) as follows:

For Environmental Restoration Projects: N.Y. Envtl Conserv.Law Section 56-0503 (Environmental restoration projects; state assistance)

For State Superfund Projects: Envtl Conserv.Law Section 27-1318. (Institutional and engineering controls)

For Brownfields Cleanup Program Projects: Envtl Conserv.Law Section 27-1415. (Remedial program requirements)

Envtl Conserv.Law Section 27-1415-7(c) states:

(c) At non-significant threat sites where contaminants in groundwater at the site boundary contravene drinking water standards, such certification shall also certify that no new information has come to the owner's attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of offsite contamination are no longer valid. Every five years the owner at such sites shall certify that the assumptions made in the qualitative exposure assessment remain valid. The requirement to provide such certifications may be terminated by a written determination by the Commissioner in consultation with the Commissioner of Health, after notice to the parties on the brownfield site contact list and a public comment period of thirty days.

Voluntary Cleanup Program: Applicable program guidance.

Petroleum Remediation Program: Applicable program guidance.

Federal Brownfields: Applicable program guidance.

Manufactured Gas Plant Projects: Applicable program guidance (including non-registry listed MGPs).

WHERE to mail the signed Certification Form by March 1st of each year (or within 45 days of the date of the Department notice letter):

New York State Department of Environmental Conservation
Division of Environmental Remediation

Attn: Division of Environmental Remediation – North Section
NYSDEC
270 Michigan Avenue
Buffalo, NY 14203-2999

Please note that extra postage may be required.

V. Definitions

"Engineering Control" (EC), means any physical barrier or method employed to actively or passively contain, stabilize, or monitor contamination, restrict the movement of contamination to ensure the long-term effectiveness of a remedial program, or eliminate potential exposure pathways to contamination. Engineering controls include, but are not limited to, pavement, caps, covers, subsurface barriers, vapor barriers, slurry walls, building ventilation systems, fences, access controls, provision of alternative water supplies via connection to an existing public water supply, adding treatment technologies to such water supplies, and installing filtration devices on private water supplies.

"Institutional Control" (IC), means any non-physical means of enforcing a restriction on the use of real property that limits human and environmental exposure, restricts the use of groundwater, provides notice to potential owners, operators, or members of the public, or prevents actions that would interfere with the effectiveness of a remedial program or with the effectiveness and/or integrity of operation, maintenance, or monitoring activities at or pertaining to a remedial site.

"Professional Engineer" (P.E.) means an individual or firm licensed or otherwise authorized under article 145 of the Education Law of the State of New York to practice engineering.

"Property Owner" means, for purposes of an IC/EC certification, the actual owner of a property. If the site has multiple properties with different owners, the Department requires that the owners be represented by a single representative to sign the certification.

"Oversight Document" means any document the Department issues pursuant to each Remedial Program (see below) to define the role of a person participating in the investigation and/or remediation of a site or area(s) of concern. Examples for the various programs are as follows:

BCP (after approval of the BCP application by DEC) - Brownfield Site Cleanup Agreement.
ERP (after approval of the ERP application by DEC) - State Assistance Contract.
Federal Superfund Sites - Federal Consent Decrees, Administrative Orders on Consent or Unilateral Orders issued pursuant to CERCLA.
Oil Spill Program - Order on Consent, or Stipulation pursuant to Article 12 of the Navigation Law (and the New York Environmental Conservation Law).
State Superfund Program - Administrative Consent Order, Record of Decision.
VCP (after approval of the VCP application by DEC) - Voluntary Cleanup Agreement.
RCRA Corrective Action Sites- Federal Consent Decrees, Administrative Orders on Consent or permit conditions issued pursuant to RCRA.

“Qualified Environmental Professional” (QEP), means a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the presence of releases or threatened releases to the surface or subsurface of a property or off-site areas, sufficient to meet the objectives and performance factors for the areas of practice identified by this Part. Such a person must:

(1) hold a current professional engineer’s or a professional geologist’s license or registration issued by the State or another state, and have the equivalent of three years of full-time relevant experience in site investigation and remediation of the type detailed in this Part; or

(2) be a site remediation professional licensed or certified by the federal government, a state or a recognized accrediting agency, to perform investigation or remediation tasks consistent with Department guidance, and have the equivalent of three years of full-time relevant experience.

“Qualitative Exposure Assessment” means a qualitative assessment to determine the route, intensity, frequency, and duration of actual or potential exposures of humans and/or fish and wildlife to contaminants.

“Remedial Party” means a person implementing a remedial program at a remedial site pursuant to an order, agreement or State assistance contract with the Department.

“Site Management” (SM) means the activities undertaken as the last phase of the remedial program at a site, which continue after a Certificate of Completion is issued. Site management is conducted in accordance with a site management plan, which identifies and implements the institutional and engineering controls required for a site, as well as any necessary monitoring and/or operation and maintenance of the remedy.

“Site Management Plan” (SMP) means a document which details the steps necessary to assure that the institutional and engineering controls required for a site are in-place, and any physical components of the remedy are operated, maintained and monitored to assure their continued effectiveness, developed pursuant to Section 6 (DER10 Technical Guide).

“Site Owner” means the actual owner of a site. If the site has multiple owners of multiple properties with ICs and/or ECs, the Department requires that the owners designate a single representative for IC/EC Certification activities.