BROWNFIELD CLEANUP PROGRAM

APPENDIX H-9/H-10
SITE MANAGEMENT PLAN

TECUMSEH PHASE II BUSINESS PARK
NYSDEC SITE NO. C915198I (II-9) and C915198J (II-10)
LACKAWANNA, NEW YORK

December 2020 0489-019-001

Prepared for:

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Revisions to Addenda of Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date
1	11-12-2020	Added Site II-10	
2	12-10-2020	Addressed NYSDEC comments	

PHASE II BUSINESS PARK
SITE MANAGEMENT PLAN: APPENDIX H-9/H-10
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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 II 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 12 BCP Sites designated as Sites II-1 through II-12 (BCP Site Nos. C915198 through C915199L), the main body of the SMP includes the site management components common to all 12 Sites. Site-specific requirements are included as Appendix H to the SMP.

Originally, Site II-10 (C915198J) was included with Site II-12 (C915198L) in Appendix H-10/H-12 (dated August 2017); however, with the purchase of Site II-9 and II-10 by Time Release Properties, LLC (TRP), combining Sites II-9 and II-10 into one appendix was necessary from an operational standpoint. Therefore, Site II-10 was removed from the August 2017 SMP Appendix H-10/H-12 creating a new SMP Appendix H-12

1.1 Site Location and Description

BCP Sites II-9 (SBL 141.19-1-2) and II-10 (SBL 141.15-1-4) are addressed as 6 Dona Street, Lackawanna, NY 14218. As shown on Figure 2, Site II-9 (BCP Site No. C915198I[1], approx. 9.91 acres) and Site II-10 (BCP Site No. C915198J, approx. 15.78 acres) are bounded by the South Return Water Trench (SRWT), and associated non-BCP embankment land, and Welded Tube USA to the west; BCP Site II-7 to the south; BCP Sites II-6 and II-8 to the east; and BCP Site II-12 to the north. The newly constructed Dona Street extension and associated easement area (66' wide right-of-way, total) presently runs in an east-west direction proximate to the southern boundary of Site II-9. This 66-foot wide area was covered with BCP-compliant

[1] On November 1, 2019, the Department approved an application to modify the southern boundary of Site II-9 to correspond to the north line of the Dona Street extension easement, which reduces the Site II-9 acreage from 11.98 acres to 9.91 acres. The 2.07 acres eliminated from Site II-9 was annexed to the adjacent Site II-7 (now approx. 14.3 acres).

hardscape (asphalt roadway, curbing and sidewalk) and soil (vegetated lawn area) during construction. The Niagara Wind Substation 11A consists of approximately 0.3 acres of land between Sites II-10 and II-12. The former 54" Mill Roll Shop (aka. Artmeier Commodity Supply building) covers approximately 0.66 acres on Site II-10. BCA

The NYSDEC issued a Decision Document for Site II-9 on December 30, 2016 and Site II-10 on January 6, 2017 (Refs. 3 and 4). The Decision Documents specify, among other requirements, placement of acceptable cover material such as buildings, pavement, sidewalks comprising the site development or other approved cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). These engineering controls (ECs) are intended 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 Phase II Business Park has been recorded with the Erie County Clerk and requires compliance with this SMP and all ECs. The Environmental Easement also places institutional controls (ICs) on the Site. The ICs restrict 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 Sites II-9 and II-10 of the Controlled Property. This Appendix is not to be used as a stand-alone document but rather as a component document of the January 2014 SMP for the Controlled Property.

1.2 Remedial Investigation

The July 2009 Remedial Investigation/Alternatives Analysis Report (RI/AAR) Work Plan (Ref. 5) identified Site characterization requirements to be completed pursuant to the BCP and NYSDEC DER-10 guidance across all 12 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 specific to Sites II-9 and II-10 were performed in March/April 2010 and included the completion of 22 test pits on Site II-9, and 28 test pits and 18 supplemental test pits to delineate Hotspot D (TP-89) on Site II-10. Monitoring wells MWN-

63A and MWN-63D were installed on Site II-10; there are no wells on Site II-9. Soil and groundwater samples were collected as detailed in the RI/AAR Work Plan.

The nature and extent of contamination at the Site is consistent with the former site use as a steel manufacturing facility. The primary contaminants of concern identified for soils include inorganics (primarily arsenic, chromium, cyanide, and lead); polychlorinated biphenyls (PCBs); and semi-volatile organic compounds (SVOCs), specifically polycyclic aromatic hydrocarbons (PAHs), such as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene. When compared to the commercial soil cleanup objectives (CSCOs), parameters exceeding the objectives were primarily limited to PAHs and arsenic, with limited exceedances for PCBs, cyanide, and lead.

Groundwater samples were collected from the Site II-10 on-site monitoring wells during the RI (April 2010) and again in February 2016 during a site-wide groundwater sampling event. The groundwater sampling on Site II-10 indicated exceedances of the groundwater quality standards (GWQSs) for pH in well MWN-63D (April 2010); and naturally occurring metals manganese (MWN-63A in February 2016) and iron, magnesium, and sodium (MWN-63D in April 2010). Attachment A includes the monitoring well construction logs for MWN-63A and MWN-63D. 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/AA Report was submitted to NYSDEC in May 2011, revised, and finalized in March 2012 (Ref. 6). The RI/AA Report recommended remediation of hotspot slag/fill with deferred soil cover system placement until 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).

1.3 Interim Remedial Measures

As an extension of the RI, a pre-Interim Remedial Measure (IRM) investigation was undertaken along the planned corridor for the East Harbor Lead railroad realignment in May 2009. The East Harbor Lead line was subsequently constructed, and a portion of the line is located along the western boundary of Sites II-9 and II-10 (see Figure 3). Because inorganics are not readily discernible in the field, representative slag/fill samples were collected from five test pits for analysis of select inorganic constituents of potential concern (COPCs), including arsenic, barium, cadmium, chromium, lead, and mercury. In addition, test pit RR-TP-30 (Site

II-9) slag/fill was analyzed for PCBs based on the presence of an apparent transformer pad in that area. Although no evidence of product or grossly impacted slag/fill were encountered, test pit RR-TP-30 exhibited elevated PCB detections in the 0-2 foot depth interval. To define the lateral extent of this hotspot area, TurnKey conducted a supplemental investigation in the vicinity of test pit RR-TP-30 on August 19, 2010. Shallow test pits were excavated approximately 25 feet in each compass direction from the original test pit. Sidewall samples (0-2 foot) were collected and analyzed for PCBs at each supplemental sampling location. In addition, a composite sample was collected from the floor of the supplemental test pits to verify that a 2-foot excavation depth was adequate.

The remediation of Sites II-9 and II-10 included IRMs to expedite remedial activities and facilitate redevelopment. In October 2010, Tecumseh submitted an IRM Work Plan to NYSDEC for Railroad Realignment (Ref. 7) and the work was performed in December 2010:

- Site II-9: Excavation of the PCB-impacted slag/fill proceeded to a depth of 2 feet below ground surface (fbgs) over an approximate 50-foot by 50-foot area centered on test pit RR-TP-30 (see Figure 3). The impacted slag/fill was direct-loaded onto truck trailer dumps and transported by Price Trucking Corp, a licensed hazardous waste transporter (NYSDEC #9A025), to CWM Chemical Services, LLC in Model City, NY. The 258.27 tons of PCB-impacted soil/slag-fill was disposed as regulated hazardous waste under CWM profile NY302140. Post-excavation documentation samples were not collected as the hotspot area was excavated to the pre-determined limits. Imported backfill was comprised of BUD-approved steel slag (BUD# 555-9-15) and placed in 1-foot compacted lifts within each test pit excavation. Approximately 2,400 tons of BUD-approved slag was used as backfill material.
- Site II-10: Approximately 60 cubic yards of arsenic-impacted slag/fill was excavated within the vicinity of test pit RR-TP-42. Excavation proceeded to a depth of 2 feet below grade with lateral dimensions of approximately 35 feet N x 75 feet S x 25 feet E x 25 feet W of RR-TP-42. The slag/fill was direct-loaded onto truck trailer dumps and transported by Zoladz, a licensed solid waste transporter (NYSDEC #9A499) and disposed at the Chautauqua County Landfill (CCLF) in Ellery, NY in accordance with Disposal Permit #CC1201.10S1. Additional documentation samples were not collected as the hotspot area was defined by sampling conducted during the supplemental investigation. Minor regrading was performed to fill in low spots and achieve subgrade elevations; no backfill was placed.

In April 2017, Tecumseh submitted to NYSDEC an IRM Work Plan for Phase II Business Park Sites II-10, II-11, and II-12 (Ref. 8). The Sites were remediated between February 9 and May 17, 2017 in accordance with the NYSDEC-approved IRM Work Plan.

The following remedial work performed on Site II-10 is documented in the August 2017 Final Engineering Report (Ref. 9) and shown on Figure 3:

- **Excavations:** With the exception of Hotspot A, which was associated with shallow PAH impacts, non-impacted overburden slag/fill that exhibited no visual (i.e., sheen product) or olfactory (i.e., nuisance odors) evidence of impact was removed and stockpiled for use as backfill in the excavations following the removal of petroleum/organic-impacted slag/fill. All other excavated materials were transported to the biotreatment pad constructed on Site II-9 except for a small quantity of ash/clay-like soil/fill containing PCBs that was not likely to bioremediate. This soil/fill was disposed off-site. Biotreatment continued until Site-Specific Action Limits (SSALs) were met.
- **In-Situ Amendment:** To address residual smear zone slag/fill impacts (i.e., sheen) in Hotspot G, approximately 320 pounds of RegenOx™ and 55 pounds of ORC Advanced® were applied to the bottom and sidewalls of the excavation using an excavator bucket prior to backfilling with clean overburden slag/fill. The RegenOx™ and ORC Advanced® was applied on March 24, 2017.
- **Backfill:** Following replacement of clean overburden materials and receipt of passing confirmatory results, where applicable, excavations were re-graded with surrounding slag/fill. In the case of Hotspot D (II-10), the backfill was supplemented with biotreated soils from other locations within the Tecumseh BCP Business Park Sites that were treated to meet SSALs and approved for use by the NYSDEC as subgrade backfill.

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 November 2019 Remedial Action Work Plan (RAWP) and Cover System Modification Plan (Ref. 10). The cover system on Site II-10 was originally completed in August 2017. During redevelopment that began in December 2019, a portion of the vegetated cover on the southern side of Site II-10 was removed and replaced by the newly constructed building, new access drive/parking areas, vegetated crushed slag, and storm water detention cover areas. A June 30, 2020 Addendum (Ref. 11) to the November 2019 Report proposed on-site ex-site biotreatment of certain weathered petroleum impacts encountered in June 2020 during building foundation construction activities on Site II-9. These activities are more fully described in the December 2020 Final Engineering Report but involved on-site biotreatment of approximately 210 cubic yards (total) of petroleum-impacted fill between July 6 and September 15, 2020 until no field evidence of impact remained. Sample

results collected September 15, 2020 confirmed conformance with SSALs and the treated soil was reused in the landscape berm below the cover system on both Sites. The cover system on Sites II-9 and II-10 was completed in December 2020.

1.5 Remaining Contamination

The IRM work conducted on Sites II-9 and II-10 removed all known "source area" (i.e., arsenic-, petroleum/organic-, and PCB-impacted) slag/fill and treated residual petroleum-impacted "smear zone" slag/fill in-situ.

The remaining soil/fill is generally characterized by widespread exceedance of the Part 375 unrestricted-use SCOs (USCOs) for several ubiquitous constituents; specifically, PAHs and inorganic compounds (i.e., arsenic, cadmium, chromium, and lead). Other constituents remaining above USCOs in select areas of the Sites include PCBs (Site II-9) and inorganic compounds (i.e., barium, copper, manganese, mercury, nickel, and zinc). 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 9.91-acre Site II-9 and 15.78-acre Site II-10 are impacted above the USCOs to the approximate native soil depth of 12 fbgs. Table 1 summarizes the sample locations remaining above USCOs.

Following grading of these Sites, demarcation was constructed and placed in areas slated for soil or stone cover to easily identify the existing Site 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.

Groundwater was not sampled on Site II-9 as no monitoring wells or piezometers were installed. Slight petroleum sheens were noted on groundwater in test pit BPA2-TP-36; however, groundwater is not used at the Site and is deed restricted from use for either potable or non-potable purposes without treatment. The groundwater quality on Site II-10 has been assessed by sampling monitoring wells MWN-63A and MWN-63D. These wells were sampled in April 2010 during the RI and again in February 2016 during a site-wide groundwater sampling event. The groundwater was analyzed for VOCs, SVOCs, and inorganic parameters. Table 2 presents the groundwater data with a comparison to NYSDEC Class GA GWQS. As indicated, analytical results from theses monitoring wells indicate concentration levels as non-

detect or below GWQS except for pH, iron, magnesium, and sodium in monitoring well MWN-63D on April 29, 2010 and manganese in well MWN-63A on February 26, 2016. These wells will be retained for future monitoring in the event NYSDEC requests groundwater quality monitoring on the larger Business Park II.

1.6 Transformers

Seven transformers are located within the former 54" Mill Roll Shop on Site II-10. In July 2017, TurnKey personnel de-energized the transformers and collected one oil sample from each. PCBs were not detected above the method detection limit (MDL) in 5 of the 7 samples. Aroclor 1260 was detected in two transformers at estimated concentrations of 0.734 mg/kg (transformer T88) and 16.8 mg/kg (transformer T93). According to 40CFR 761.3, none of the transformer are considered PCB transformers since the concentration of PCBs is less than 50 mg/kg. TRP does not intend to use the transformers as building demolition is planned for 2021. Until that time, TRP will monitor Transformers T88 and T93 weekly using the log in Attachment B until the transformer oil and carcasses are disposed off-site in accordance with all local, state, and federal regulatory requirements.

2.0 ENGINEERING & INSTITUTIONAL CONTROL PLAN

2.1 Introduction

Since remaining contaminated soil/fill and groundwater exists beneath the Phase II BP, Engineering Controls and Institutional Controls (EC/ICs) are required to protect public health and the environment. The EC/IC Plan in the Phase II 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 Sites II-9 and II-10 are described below.

2.2 Engineering Control Systems

2.2.1 *Cover System*

As described in the December 2013 Construction Completion Report (CCR; Ref. 12), construction of the railroad bed cover system occurred in April 2013 and involved placement of a minimum 1-foot layer comprised of ballast material, meeting the requirements of the specification in the IRM Work Plan (Ref. 8), and embedded wood rail ties. A woven geotextile was installed on the prepared subgrade prior to placement of the ballast layer and rail ties as a demarcation layer. Ballast material was compacted in accordance with rail construction contract requirements to mitigate potential for settlement. TurnKey personnel were on-site to observe placement of ballast material.

The original cover system for Site II-10 is described in the August 2017 Final Engineering Report (Ref. 9). The final cover system for Sites II-9 and II-10 is described in the December 2020 Final Engineering Report (Ref. 13). Figure 4 shows the approximate locations and types of cover system materials placed on Sites II-9 and II-10. In the event these cover systems are breached, penetrated, or temporarily removed, the cover system shall be repaired in accordance with Section 2.2 of the Control Property SMP and Section 4.0 of the Excavation Work Plan (SMP Appendix B).

2.2.2 *Vapor Barrier and Sub-Slab Radon Mitigation*

Although chlorinated organic compounds were not identified as constituents of concern at the Site, the Control Property SMP requires that a vapor barrier be placed beneath

any future structures designated for occupancy as a conservative measure to protect building occupants against potential vapor intrusion. A vapor barrier has been installed (see Figure 4).

During construction of the Site II-9 building slab, BUD-approved steel slag (BUD# 555-9-15) was used as subbase beneath the building slab. NYSDEC requested a sub-slab radon mitigation piping be installed beneath the building slab due to the potential for radon gas generation from the slag[2] or other fill materials observed in the subgrade, including brick.

Figure 5 shows the locations of the six sub-slab piping runs that were installed beneath building slab during construction. These pipes are generally oriented in an east to west direction, penetrate the building foundation on the west side, and are protected and accessible through road boxes installed on the west side of the building. The sub-slab piping consists of 4-inch diameter schedule 40 PVC perforated pipe and was installed within an 8-inch thick gas permeable layer (ASTM C33 stone material) installed beneath the building slab and 6 mil poly vapor barrier (see Figure 6).

If radon gas is determined to be a concern inside the building, based on analytical testing to be completed after the building is constructed (discussed below), the radon mitigation system construction will be completed. This will consist of installing six exterior vertical pipes consisting of 6-inch diameter solid schedule 40 PVC pipes and vacuum fans to the sub-slab piping. The vertical pipes will be vented a minimum of 1.5 feet above the finished roof line and 10 feet away from any air intake and/or window.

A radon testing program will be developed and implemented inside the building prior to occupancy by a radon measurement professional credentialed by the National Radon Proficiency Program (NRPP) in accordance with the Protocol for Conducting Radon and Radon Decay Product Measurements in Schools and Large Buildings (ANSI/AARST MALB 2014). The results of the radon testing program will be compared to the EPA action level of 4 picocuries per liter.

[2] Some slag in western New York has been identified as containing technologically enhanced naturally occurring radioactive material (TENORM), which contains Radium-226. The decay of Radium-226 generates radon gas which can migrate into overlying buildings. We note that the BUD-approved steel slag (BUD# 555-9-15) that was used has not been identified as TENORM and radon gas is also generated from soil, rock, and water which contain naturally occurring radioactive material (NORM).

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 for Sites II-9 and II-10; however, there are no Site-specific Institutional Control requirements for these Sites.

2.4 Inspections and Notifications

The annual inspections and notifications described in Section 2.4 of the SMP must be implemented for Sites II-9 and II-10; with Periodic Review Reports generated per NYSDEC-approved frequency. There are no other Site-specific inspection and notification requirements for these Sites.

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 Sites II-9 and II-10:

Table 3: Emergency Contact Numbers

Name: Robert Laughlin Title: President, Time Release Properties, LLC	Work: (716) 895-6100 Mobile: (716) 863-8806
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 Section 3.2 of the January 2014 SMP. No additional site-specific cover system monitoring is required.

Indoor air will be tested for radon prior to occupancy and biennially for two consecutive monitoring periods. If the sub-slab radon mitigation system is deemed necessary and put into operation, manometers will be installed on the vertical risers and will be visually checked monthly and recorded to verify the system is in operation.

4.0 OPERATION & MAINTENANCE PLAN

4.1 General

This Operation and Maintenance Plan provides a brief description of the measures necessary to operate, monitor and maintain the mechanical components of the sub-slab radon mitigation system, if necessary, for Sites II-9 and II-10. This Operation and Maintenance Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the Sites II-9 and II-10 to operate and maintain the sub-slab radon mitigation system.
- Will be updated periodically to reflect changes in site conditions, or the way the sub-slab radon mitigation systems are operated and maintained.

Further detail regarding the Operation and Maintenance of the ASD system will be provided in an Operation and Maintenance Manual, which will be added hereto as Attachment C if deemed necessary. A copy of the Operation and Maintenance Manual, along with the complete SMP, will be maintained at Sites II-9 and II-10. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of this Control Property SMP.

4.2 Operation and Maintenance of the Sub-slab Radon Mitigation System

The following sections provide a description of the operations and maintenance of the ASD system. Cut-sheets and as-built drawings for the ASD will be provided in Attachment C - Operations and Maintenance Manual, if needed.

4.2.1 System Start-Up and Testing

All system components will be visually inspected by a qualified person to ensure proper installation. With the system operating, smoke tubes may be used to check for leaks through floor joints and at suction points. Any leaks will be identified, noted, and repaired prior to continuing with testing and confirmation.

A field test will be conducted to confirm the negative pressure created beneath the slab. One-quarter inch diameter holes will be drilled through the concrete slab and into the sub-slab to measure vacuum in the subsurface using a digital manometer or comparable instrument

at the test locations. If adequate depressurization is not occurring, the following procedures will be enacted:

- All testing procedures will be repeated to ensure proper testing protocol
- Client and NYSDEC personnel will be informed of inadequate vacuum results

Troubleshooting of the system will then be completed, including the following:

- Confirmation of fan operation
- Inspection of and sealing of all major entry routes and penetrations (if necessary)
- Location of potential sub-slab barriers
- Inspection of the HVAC system and determination whether the HVAC system has a negative effect on the performance of the system

Upon completion of troubleshooting, if re-testing sub-slab test points indicates insufficient communication, the following measures will be considered:

- Adjustment of the HVAC system, and/or
- Installation of additional suction points to enhance sub-slab vacuum.

The system testing described above will be conducted if, during the system lifetime, the system goes down or significant changes are made to the system and the system must be restarted.

4.2.2 Routine System Operation and Maintenance

The manometers installed on the system stack pipes will be observed for vacuum readings. These reading will be compared to the system start-up measurements. If there is change in the vacuum readings of 40% or more from start-up, confirmation testing will be performed on that suction pit and/or system where the difference was noted and the troubleshooting procedures in Section 4.2.1 will be followed.

4.2.3 Non-Routine Operation and Maintenance

If the system is not working properly (i.e., loss of vacuum), the following protocol should be followed:

- The building owner/operator and head maintenance person should be contacted immediately

- The building owner/operator should apprise the NYSDEC of the system failure
- The date and time should be recorded
- The warning device should be identified (e.g., Gauge 1, 2, etc.)
- The fans should be inspected to confirm operation; if a circuit breaker was tripped causing the fan to cease operation, the circuit breaker should be reset
- System components should be visually inspected for signs of damage or dysfunction

If the system failure is not remedied, the building owner should contact a qualified engineer or other person with experience in radon systems to inspect the system and take the necessary measures to place the system back in service. The NYSDEC will be apprised of the system failure and what measures that will be taken to place the system back in service.

5.0 INSPECTIONS, REPORTING & CERTIFICATIONS

All inspection, reporting, and certification requirement are described in Section 5.0 of the January 2014 SMP. Attachment D includes EC/IC Certification Forms to be completed for Sites II-9 and II-10.

6.0 REFERENCES

1. TurnKey Environmental Restoration, LLC. *Site Management Plan for BCP Tecumseh Phase II Business Park, NYSDEC Site No. C915198 through C915198L, 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, Site II-9 Tecumseh Phase II Business Park, Brownfield Cleanup Program, Lackawanna, Erie County, Site No. C915198I*. December 2016.
4. New York State Department of Environmental Conservations. *Decision Document, Site II-10 Tecumseh Phase II Business Park, Brownfield Cleanup Program, Lackawanna, Erie County, Site No. C915198J*. January 2017.
5. TurnKey Environmental Restoration, LLC. *Remedial Investigation/Alternatives Analysis Report (RI/AAR) Work Plan, Phase II Business Park Area, Lackawanna, New York*. July 2009.
6. TurnKey Environmental Restoration, LLC. *Remedial Investigation/Alternatives Analysis (RI/AA) Report for Phase II Business Park, Tecumseh Redevelopment Inc., Lackawanna, New York*. Revised March 2012.
7. TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering & Science, PLLC. *Interim Remedial Measures (IRM) Work Plan, Railroad Realignment, Phase I-III Business Park Areas, Lackawanna, New York, BCP Site Nos. C915197-C915199.* October 2010.
8. TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering & Science, PLLC. *Interim Remedial Measures (IRM) Work Plan, Phase II Business Park, Sites II-10, II-11 and II-12, BCP Site Nos. C915198J, C915198K & C915198L, Lackawanna, New York*. February 2017, revised April 2017.
9. TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering & Science, PLLC. *Final Engineering Report, Tecumseh Business Park II, Sub-Parcels II-10 and II-12, Lackawanna, New York*. August 2017.
10. Benchmark Environmental Engineering & Science, PLLC. *Remedial Action Work Plan (RAWP) and Cover System Modification Plan, Site II-9 (C915198I) and II-10 (C915198J), Tecumseh Phase II Business Park, Lackawanna, NY*. November 2019.
11. Benchmark Environmental Engineering & Science, PLLC. *Addendum to Remedial Action Work Plan (RAWP) and Cover System Modification Plan, Site II-9 (C915198I) and II-10 (C915198J), Tecumseh Phase II Business Park, Lackawanna, NY*. June 30, 2020.

12. TurnKey Environmental Restoration, LLC in association with Benchmark Environmental Engineering & Science, PLLC. *Construction Completion Report, Railroad Realignment, Tecumseh Phase I-III Business Park, Lackawanna, New York, BCP Site Nos. C915197-C915199*. December 2013.
13. Benchmark Environmental Engineering & Science, PLLC. *Final Engineering Report, Tecumseh Business Park II, Site II-9, Lackawanna, New York*. December 2020.

TABLES

TABLE 1
SUMMARY OF REMAINING SOIL/FILL CONTAMINATION ABOVE UNRESTRICTED SCOs

Site Management Plan
Phase II Business Park, Sites II-9 and II-10
Tecumseh Redevelopment Inc.
Lackawanna, New York

Parameter [1]	Unrestricted SCO (mg/kg)	Test Pit Location and Depth Interval (feet)												
		Site II-9										Site II-10		
		TP-34	TP-35	TP-36	TP-38	TP-39	TP-40	TP-41	TP-43	Blind 3	TP-91	TP-90	TP-96	TP-97
		0.0 - 2.0	1.0 - 3.0	0.0 - 1.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	(TP-43)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
Volatile Organic Compounds (VOCs) - mg/kg														
Benzene	**0.06**	--	--	--	0.017	--	--	--	--	--	--	--	ND	--
Ethylbenzene	**1**	--	--	--	0.027	--	--	--	--	--	--	--	ND	--
n-Butylbenzene	**12**	--	--	--	0.036	--	--	--	--	--	--	--	ND	--
sec-Butylbenzene	**11**	--	--	--	0.0096 J	--	--	--	--	--	--	--	ND	--
Isopropylbenzene	**--**	--	--	--	0.0073 J	--	--	--	--	--	--	--	ND	--
p-Cymene	**--**	--	--	--	0.014	--	--	--	--	--	--	--	ND	--
n-Propylbenzene	**3.9**	--	--	--	0.0078 J	--	--	--	--	--	--	--	ND	--
Toluene	**0.7**	--	--	--	0.071	--	--	--	--	--	--	--	ND	--
1,2,4-Trimethylbenzene	**3.6**	--	--	--	0.059	--	--	--	--	--	--	--	ND	--
1,3,5-Trimethylbenzene	**8.4**	--	--	--	0.017	--	--	--	--	--	--	--	ND	--
o-Xylene	**0.26**	--	--	--	0.057	--	--	--	--	--	--	--	ND	--
Xylenes, Total	**--**	--	--	--	0.16	--	--	--	--	--	--	--	ND	--
Naphthalene	**--**	--	--	--	0.3 B	--	--	--	--	--	--	--	ND	--
Methylene Chloride	**0.05**	--	--	--	--	--	--	--	--	--	--	--	0.0036 J	--
TOTAL VOCs (mg/kg)	--	*0*	*0*	*0*	*0.62*	*0*	*0*	*0*	*0*	*0*	*0*	--	*0.0036*	--
Semi-Volatile Organic Compounds (SVOCs) - mg/kg														
Acenaphthene	**20**	--	ND	ND	0.11 DJ	ND	1.1 DJ	ND	ND	ND	ND	ND	ND	2.6 DJ
Acenaphthylene	**100**	--	0.26 DJ	ND	0.1 DJ	ND	0.59 DJ	ND	ND	ND	0.32 DJ	0.4 DJ	0.23 DJ	ND
Acetophenone	**--**	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	**100**	--	0.19 DJ	0.24 DJ	0.52 DJ	0.067 DJ	3.7 D	ND	0.058 DJ	ND	0.3 DJ	1.5 DJ	0.34 DJ	13 D
Benzo(a)anthracene	**1**	--	0.9 DJ	**2.3 D**	**3.1 D**	0.33 DJ	**12 D**	0.53 DJ	0.26 DJ	0.25 DJ	**1.3 DJ**	**4.8 D**	**1.7 DJ**	**35 D**
Benzo(b)fluoranthene	**1**	--	**1 DJ**	**5.2 D**	**4 D**	0.35 DJ	**14 D**	0.67 DJ	0.38 DJ	0.34 DJ	**2.4 D**	**5.9 D**	**2.7 D**	**37 D**
Benzo(k)fluoranthene	**0.8**	--	0.38 DJ	**1.6 DJ**	**1.9 D**	0.14 DJ	**4.8 D**	0.27 DJ	0.16 DJ	0.14 DJ	**0.8 DJ**	**2.4 D**	**0.89 DJ**	**17 D**
Benzo(g,h,i)perylene	**100**	--	0.82 DJ	4.3 D	3.1 D	0.3 DJ	8.7 D	0.56 DJ	0.31 DJ	0.26 DJ	1.7 DJ	3.4 D	2 D	25 D
Benzo(a)pyrene	**1**	--	0.89 DJ	**3.9 D**	**3.8 D**	0.3 DJ	**12 D**	0.56 DJ	0.33 DJ	0.28 DJ	**1.7 DJ**	**4.9 D**	**2.2 D**	**35 D**
Bis(2-ethylhexyl) phthalate	**1**	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Biphenyl	**0.33**	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	**7**	--	--	--	--	--	--	--	--	--	--	--	0.12 DJ	--
Chrysene	**1**	--	0.88 DJ	**2.4 D**	**3.2 D**	0.34 DJ	**12 D**	0.52 DJ	0.3 DJ	0.25 DJ	**1.2 DJ**	**4.5 D**	**1.7 DJ**	**31 D**
Dibenz(a,h)anthracene	**0.33**	--	ND	**0.89 DJ**	**0.86 DJ**	0.083 DJ	ND	ND	0.091 DJ	0.073 DJ	**0.38 DJ**	**0.89 DJ**	**0.52 DJ**	**6.6 DJ**
Dibenzofuran	**--**	--	ND	ND	0.17 DJ	ND	0.47 DJ	ND	ND	ND	ND	ND	ND	1.8 DJ
Fluoranthene	**100**	--	1.2 DJ	2.8 D	3.4 D	0.4 DJ	25 D	0.71 DJ	0.39 DJ	0.34 DJ	2.8 D	11 D	3 D	77 D
Fluorene	**30**	--	ND	ND	0.11 DJ	ND	1.2 DJ	ND	ND	ND	ND	0.19 DJ	ND	3.3 DJ
Indeno(1,2,3-cd)pyrene	**0.5**	--	**0.69 DJ**	**3.2 D**	**2.7 D**	0.24 DJ	**8 D**	0.45 DJ	0.27 DJ	0.22 DJ	**1.5 DJ**	**3.2 D**	**1.7 DJ**	**23 D**
2-Methylnaphthalene	**--**	--	0.096 DJ	ND	0.26 DJ	0.048 DJ	0.18 DJ	ND	ND	0.051 DJ	ND	ND	ND	ND
Naphthalene	**12**	--	ND	ND	0.27 DJ	ND	0.36 DJ	ND	ND	ND	ND	ND	ND	1.7 DJ
Phenanthrene	**100**	--	0.6 DJ	0.96 DJ	1.8 DJ	0.25 DJ	12 D	0.28 DJ	0.17 DJ	0.15 DJ	1 DJ	4.5 D	1.4 DJ	42 D
Pyrene	**100**	--	1.3 DJ	2.1 D	3.2 D	0.42 DJ	23 D	0.71 DJ	0.34 DJ	0.3 DJ	2 D	7.6 D	2.3 D	54 D
TOTAL SVOCs (mg/kg)	--	--	*9.2*	*30*	*33*	*3.3*	*139*	*5.3*	*3.1*	*2.7*	*17*	*55.2*	*20.8*	*405*
Polychlorinated Biphenyls (PCBs) - mg/kg														
Aroclor 1248	**--**	--	--	0.029 J	--	--	ND	--	--	--	ND	ND	ND	--
Aroclor 1254	**--**	--	--	0.16 J	--	--	0.098 J,QSU	--	--	--	ND	ND	ND	--
Aroclor 1260	**--**	--	--	0.061 C8 J	--	--	0.064 J,QSU	--	--	--	0.13 QSU	ND	ND	--
TOTAL PCBs (mg/kg)	***0.1***	--	--	***0.25***	--	--	***0.162***	--	--	--	***0.13***	*0*	*0*	--

TABLE 1
SUMMARY OF REMAINING SOIL/FILL CONTAMINATION ABOVE UNRESTRICTED SCOs

Site Management Plan
Phase II Business Park, Sites II-9 and II-10
Tecumseh Redevelopment Inc.
Lackawanna, New York

Parameter [1]	Unrestricted SCO (mg/kg)	Test Pit Location and Depth Interval (feet)												
		Site II-9										Site II-10		
		TP-34	TP-35	TP-36	TP-38	TP-39	TP-40	TP-41	TP-43	Blind 3	TP-91	TP-90	TP-96	TP-97
		0.0 - 2.0	1.0 - 3.0	0.0 - 1.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	(TP-43)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
Inorganic Compounds - mg/kg														
Arsenic, Total	**13**	**13.2**	**31.9 J**	6.6 J	11.7 J	**19.2 J**	**152 J**	**30.4 J**	**17.2 J**	**13 J**	**37.1**	**55.5**	**15.4**	4.7
Barium, Total	**350**	**103**	146 J	27.2 J	139 J	143 J	158 J	219 J	190 J	170 J	35.4	172	150	73.2
Cadmium, Total	**2.5**	**2.49**	**2.67 J**	1.03 J	**4.68 J**	**5.77 J**	**4.22 J**	**8.19 J**	**3.82 J**	**2.36 J**	1.13	**2.65**	1.49	1.31
Chromium, Total	**1**	**55.3**	**96.5 J**	**67.2 J**	**54.3 J**	**87.9 J**	**112 J**	**101 J**	**113 J**	**63.1 J**	**67.4**	**122**	**671**	**95.6**
Lead, Total	**63**	**265**	**282 J**	**128 J**	**914**	**442 J**	**656 J**	**1090**	**731**	**762**	**162**	**235**	**148**	**463**
Mercury, Total	**0.18**	**0.375**	**0.201 J**	0.0902 J	0.0998	0.09 J	0.0699 J	0.124	0.108	0.0877	0.0833 D	0.104 D	0.168	**0.671**
Cyanide, Total	**27**	--	ND J	**27 J**	**27.8 J**	ND J	ND J	10.5 NJ	ND J	ND J	--	ND	--	--

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.

Definitions:

B = Analyte was detected in associated Method Blank.
C8 = Calibration Verification recovery was above the method control limit for this analyte. A high bias may be indicated.
D = Dilution required due to high concentration of target analyte, sample matrix effects, sample color, or sample viscosity.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
ND = parameter not detected above laboratory detection limit.
NJ = The detection is tentative in identification and estimated in value.
QSU = Sulfur (EPA 3660) clean-up performed on extract.
ND J = The analyte was not detected. The associated reported quantitation limit is an estimate and may be inaccurate or imprecise.
" -- " = Not analyzed for this parameter or no individual SCO.

Color Code:

BOLD = Value exceeds Part 375 Unrestricted Soil Cleanup Objectives.

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL DATA

SITE MANAGEMENT PLAN

Phase II Business Park, Sites II-9 and II-10
Tecumseh Redevelopment Inc., Lackawanna, New York

PARAMETER [1]	GWQS [2]	Site II-10							
		MWN-63A		MWN-63A		MWN-63D [3]		MWN-63D	
		4/30/2010		2/26/2016		4/29/2010		2/26/2016	
Field Measurements [4]:									
Sample No.	--	initial	final	initial	final	initial	final	initial	final
pH (units)	**6.5 - 8.5**	6.65	6.67	6.92	6.93	**6.28**	6.52	6.60	6.64
Temperature (°C)	**NA**	11.0	12.2	7.8	7.1	11.7	12.7	9.8	8.4
Sp. Conductance (uS)	**NA**	1150	1141	961	960	1410	1402	1551	1547
Turbidity (NTU)	**NA**	480.0	252.0	45.4	23.2	36.2	23.0	17.3	11.8
Dissolved Oxygen (mg/L)	**NA**	--	--	3.05	2.95	--	--	2.49	1.93
Eh (mV)	**NA**	-81	-93	-84	-82	41	28	- 29	- 24
Total Inorganic Compounds (mg/L) [5]:									
Aluminum - Total	**NA**	--		--		0.878		--	
Barium - Total	**1**	0.206		0.2		0.87		0.91	
Calcium - Total	**NA**	--		--		167		--	
Chromium - Total	**0.05**	0.006		ND		ND		0.0011 J	
Iron - Total	**0.3**	--		--		**1.43**		--	
Lead - Total	**0.025**	0.005		0.003 J		ND		0.0031 J	
Magnesium - Total	**35***	--		--		**58.2**		--	
Manganese - Total	**0.3**	--		**1.2**		0.105		ND	
Potassium - Total	**NA**	--		--		15.2		--	
Sodium - Total	**20**	--		--		**91.4**		--	
Cyanide - Total	**0.2**	--		0.0073 J		ND		ND	
Soluble Inorganic Compounds (mg/L) [5,6]:									
Barium - Soluble	**1**	0.133		--		--		--	
Volatile Organic Compounds (ug/L) [6]:									
1,2,4-Trimethylbenzene	**5**	ND		ND		1.8		ND	
Cyclohexane	**NA**	--		ND		3.3		ND	
Methylcyclohexane	**NA**	--		ND		8.8		0.71 J	
m-Xylene & p-Xylene	**10**	ND		ND		1 J		ND	
Xylenes, total	**15**	ND		ND		1 J		ND	
Semi-Volatile Organic Compounds (ug/L) [6]:									
Benzaldehyde	**NA**	ND		0.78 J, B		ND		0.52 J, B	
Butyl benzyl phthalate	**50**	ND		0.64 J, B		ND		0.44 J, B	
Pyrene	**50***	ND		ND		ND		ND	

Notes:

1. Only those compounds detected above the method detection limit at a minimum of one sample location are reported in this table.
2. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV) as per TOGS 1.1.1 (June 1998, January 1999 Errata, April 2000 Addendum, and June 2004 Addendum).
3. Blind Duplicate and Matrix Spike/Matrix SpikeDuplicate (MS/MSD) analysis performed on groundwater sample collected from MWN-63D.
4. Field measurements were collected immediately before and after groundwater sample collection.
5. If the sample turbidity was above 50 NTUs, the sample was analyzed for dissolved metals.
6. Groundwater collected at April 2010 monitoring event was only analyzed for parameters listed in the July 2009 Remedial Investigation Work Plan.

Definitions:

J = Estimated Value; result is less than the sample quantitation limit but greater than zero.
B = Analyte was detecded in the associated method blank.
"--" = Not analyzed
NA = No standard available
ND = Indicates parameter was not detected above method detection limit.
* = Guidance Value

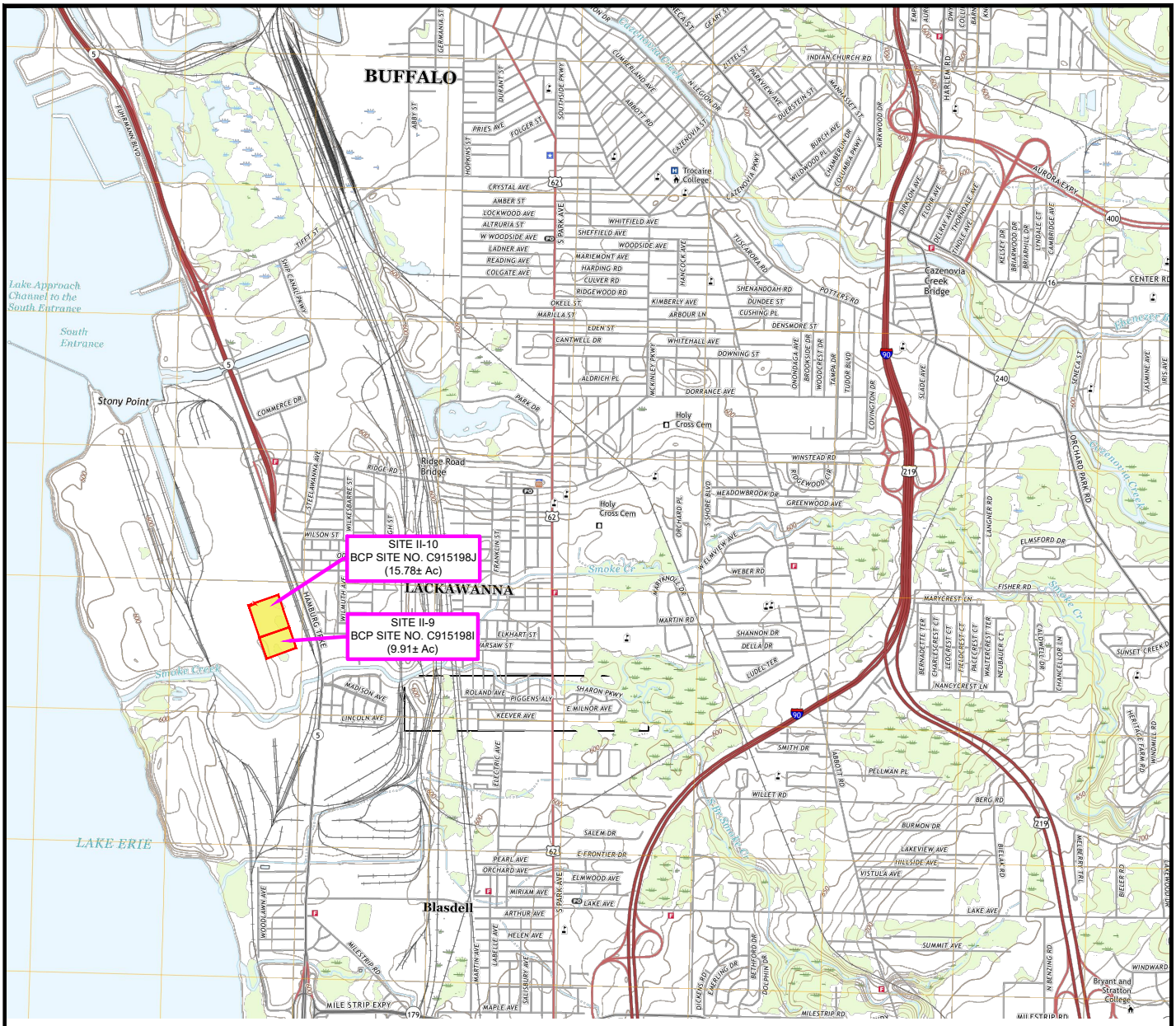
Color Code:

BOLD = Result exceeds the GWQS/GV.

FIGURES

F:\CAD\TurnKey\Tecumseh Redevelopment\Brownfield Cleanup Program (BCP)\Phase II Parcel\Site Management Plan\SMP Site II9 and II10\Figure 1; Site Location and Vicinity Map.dwg, 11/12/2020 10:33:02 AM

FIGURE 1



BASEMAP PER USGS QUADRANGLE BUFFALO SOUTHEAST 2019

4,000' 0' 4,000' 8,000'

SCALE: 1 INCH = 4,000 FEET
SCALE IN FEET
(approximate)

LEGEND:

TRP SITE

QUADRANGLE LOCATION

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0489-019-001

DATE: NOVEMBER 2020

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SITE LOCATION AND VICINITY MAP

SITE MANAGEMENT PLAN

TECUMSEH PHASE II BUSINESS PARK
BCP SITE NOS. C915198I (II-9) & C915198J (II-10)
LACKAWANNA, NEW YORK

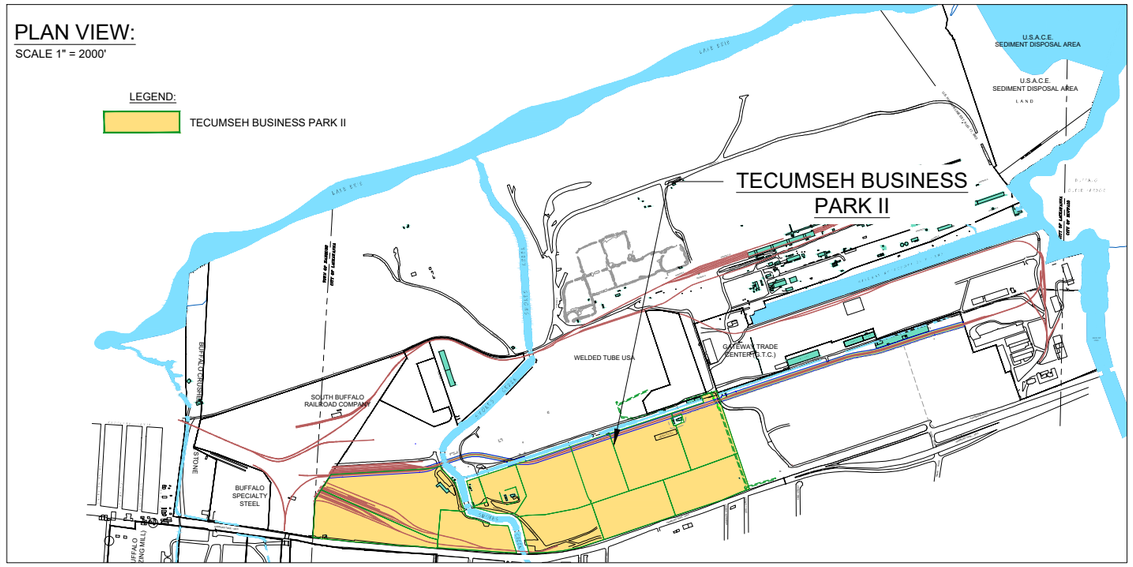
PREPARED FOR

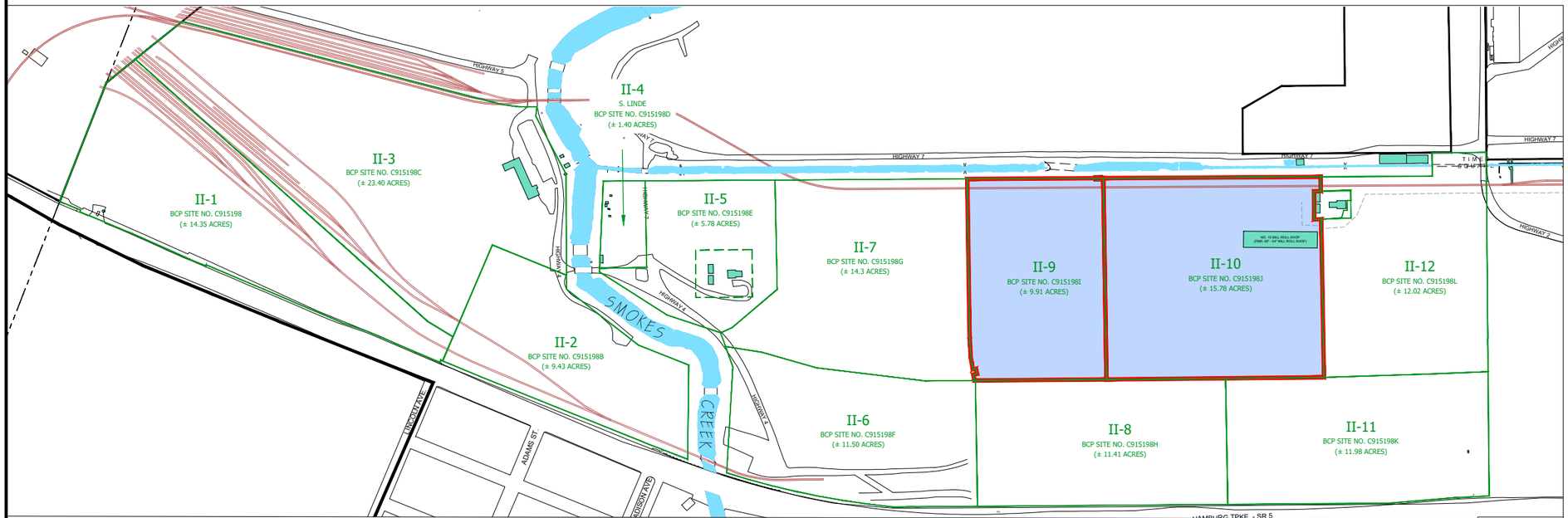
TIME RELEASE PROPERTIES, LLC

F:\CAD\TurnKey\Tecumseh Redevelopment\Brownfield Cleanup Program (BCP)\Phase II Parcel\Site Management Plan\SMP Site II9 and II10\Figure 2- Site Delineation Map.dwg, 12/3/2020 2:57:51 PM

PLAN VIEW:

SCALE 1" = 2000'





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

DATE: NOVEMBER 2020
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2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

JOB NO.: 0489-019-001

SITE DELINEATION MAP

SITE MANAGEMENT PLAN
TECUMSEH PHASE II BUSINESS PARK
BCP SITE NOS. C915198I (II-9) & C915198J (II-10)
LACKAWANNA, NEW YORK
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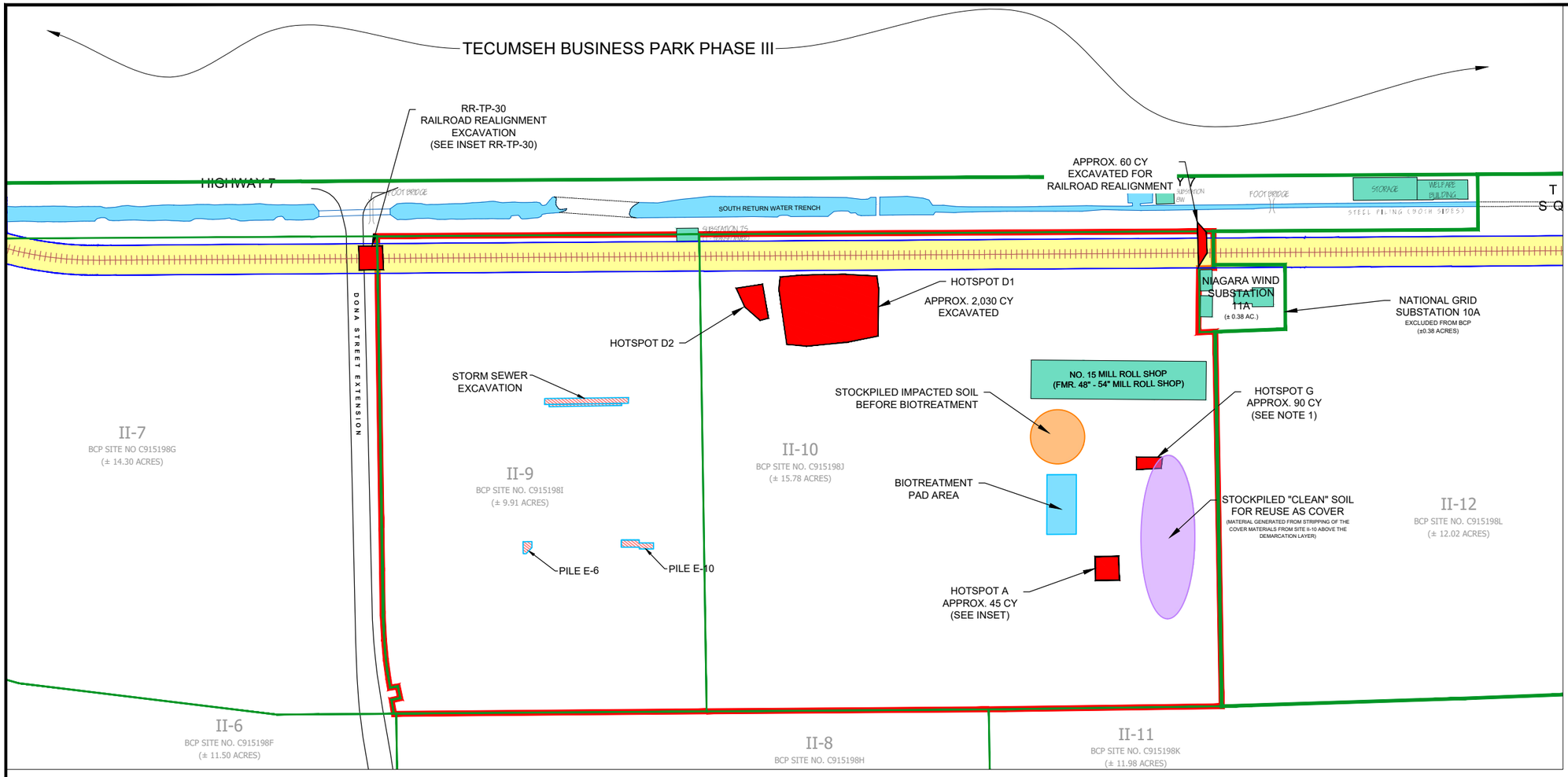
FIGURE 2



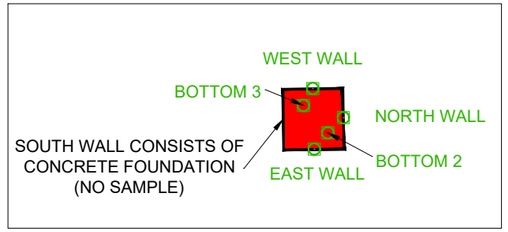
200' 0' 200' 400'

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

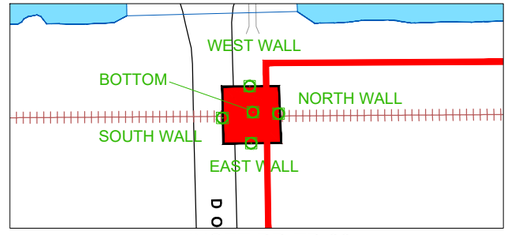
LEGEND:

- BCP BOUNDARY (TRP PROPERTY BOUNDARY)
- TECUMSEH BUSINESS PARK II SITE BOUNDARIES
- TECUMSEH BUSINESS PARK II SITE BOUNDARIES
- IMPACTED SOIL/FILL EXCAVATED (HOTSPOT) DURING CONSTRUCTION (2020)
- IMPACTED SOIL/FILL EXCAVATED (HOTSPOT) PRE-CONSTRUCTION
- WEST WALL — CONFIRMATORY SAMPLE LOCATION
- EXISTING EAST HARBOR LEAD RAILROAD TRACK AND ROW

NOTE: 1) REGENOX™ & ORC ADVANCED® APPLIED



HOTSPOT A
NTS



INSET RR-TP-30
NTS

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SCIENCE, PLLC
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BUFFALO, NY 14218
(716) 856-0599

JOB NO.: 0489-019-001

COMPLETED REMEDIAL MEASURES SITES II-9 & II-10

SITE MANAGEMENT PLAN

TECUMSEH PHASE II BUSINESS PARK
BCP SITE NOS. C915198I (II-9) & C915198J (II-10)
LACKAWANNA, NEW YORK

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FIGURE 3

F:\CAD\TurnKey\Tecumseh Redevelopment\Brownfield Cleanup Program (BCP)\Phase II Parcel\Site Management Plan\SMP Site II9 and II10\Figure 3; Completed IRMs on Site II-9 and II-10.dwg, 12/10/2020 10:59:45 AM
DATE: NOVEMBER 2020
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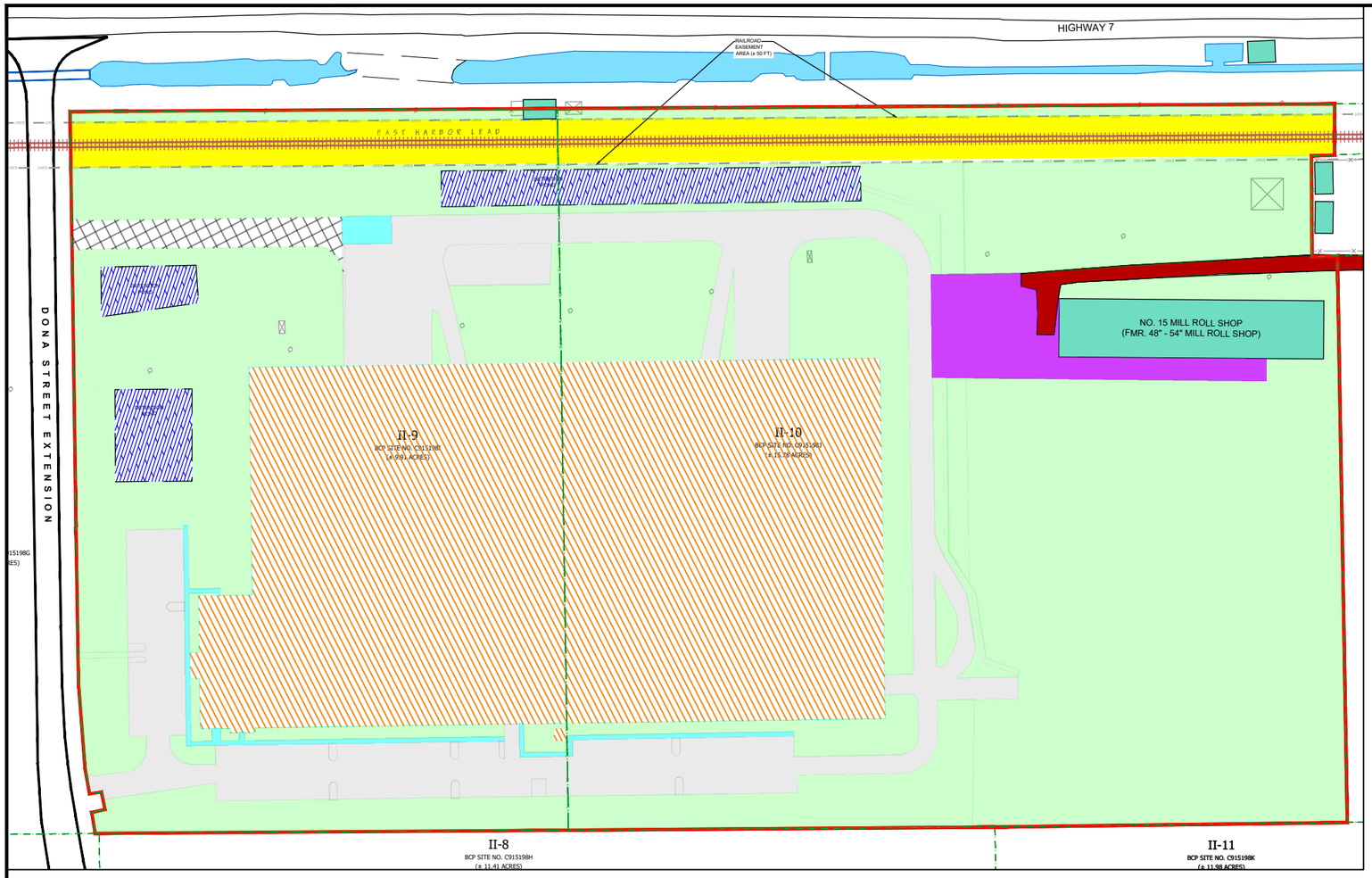
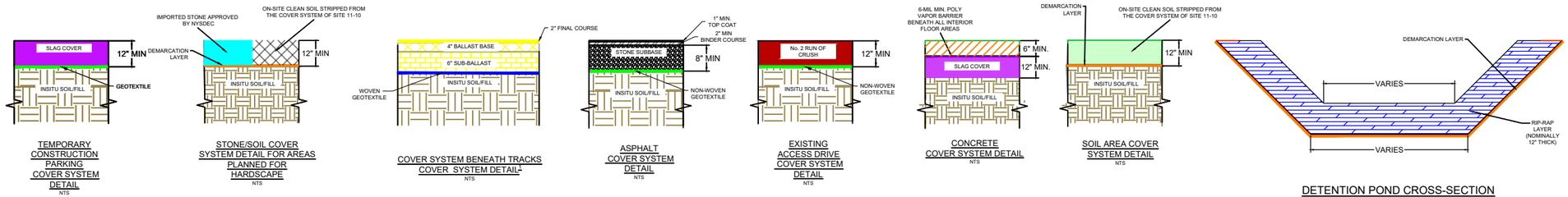


150' 0' 150' 300'

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

LEGEND:

- BCP BOUNDARY (TRP PROPERTY)
- BCP SITE BOUNDARIES
- RAILROAD TRACK
- RAILROAD EASEMENT BOUNDARY
- ELECTRIC TOWER
- POWER POLE
- EXISTING BUILDING WITH CONCRETE SLAB ON GRADE FOUNDATION
- ACCESS DRIVE (RUN OF CRUSH) COVER
- ASPHALT COVER
- DETENTION POND COVER
- SOIL COVER
- STONE COVER (MIN. 12") PLANNED TO BE SIDEWALK
- CONCRETE COVER
- RAILROAD COVER SYSTEM
- SOIL COVER SYSTEM PLANNED TO BE ASPHALT PAVING
- SLAG COVER SYSTEM



TEMPORARY CONSTRUCTION PARKING COVER SYSTEM DETAIL
NTS

STONE/SOIL COVER SYSTEM DETAIL FOR AREAS PLANNED FOR HARDSCAPE
NTS

COVER SYSTEM BENEATH TRACKS COVER SYSTEM DETAIL
NTS

ASPHALT COVER SYSTEM DETAIL
NTS

EXISTING ACCESS DRIVE COVER SYSTEM DETAIL
NTS

CONCRETE COVER SYSTEM DETAIL
NTS

SOIL AREA COVER SYSTEM DETAIL
NTS

DETENTION POND CROSS-SECTION
NTS

NOTES:
1. BASED ON RECORD DRAWINGS PROVIDED BY C&S COMPANIES

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SUITE 300
BUFFALO, NY 14218
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JOB NO.: 0489-019-001

COVER SYSTEM PLAN

SITE MANAGEMENT PLAN
TECUMSEH PHASE II BUSINESS PARK
BCP SITE NOS. C915198I (II-9) & C915198J (II-10)
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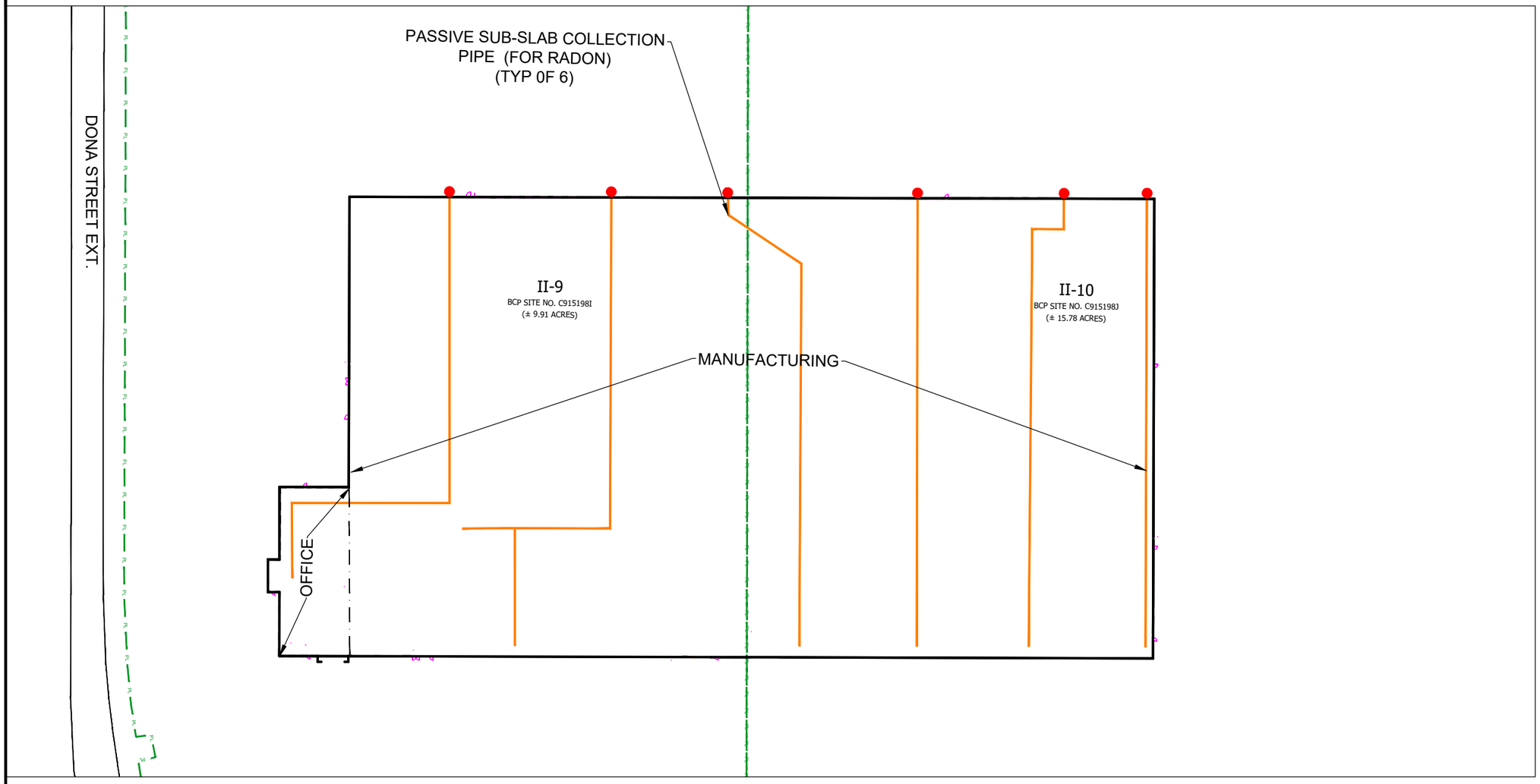
FIGURE 4

DATE: NOVEMBER 2020
DRAFTED BY: RFL

F:\CAD\TurnKey\Tecumseh Redevelopment\Brownfield Cleanup Program (BCP)\Phase II Parcel\Site Management Plan\SMP Site II9 and II10\Figure 4; Cover System Plan\SMREV.dwg, 12/16/2020 8:13:48 AM



DATE: NOVEMBER 2020
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SUB-SLAB RADON MITIGATION SYSTEM

SITE MANAGEMENT PLAN

TECUMSEH PHASE II BUSINESS PARK
BCP SITE NOS. C915198I (II-9) & C915198J (II-10)
LACKAWANNA, NEW YORK

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FIGURE 5

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
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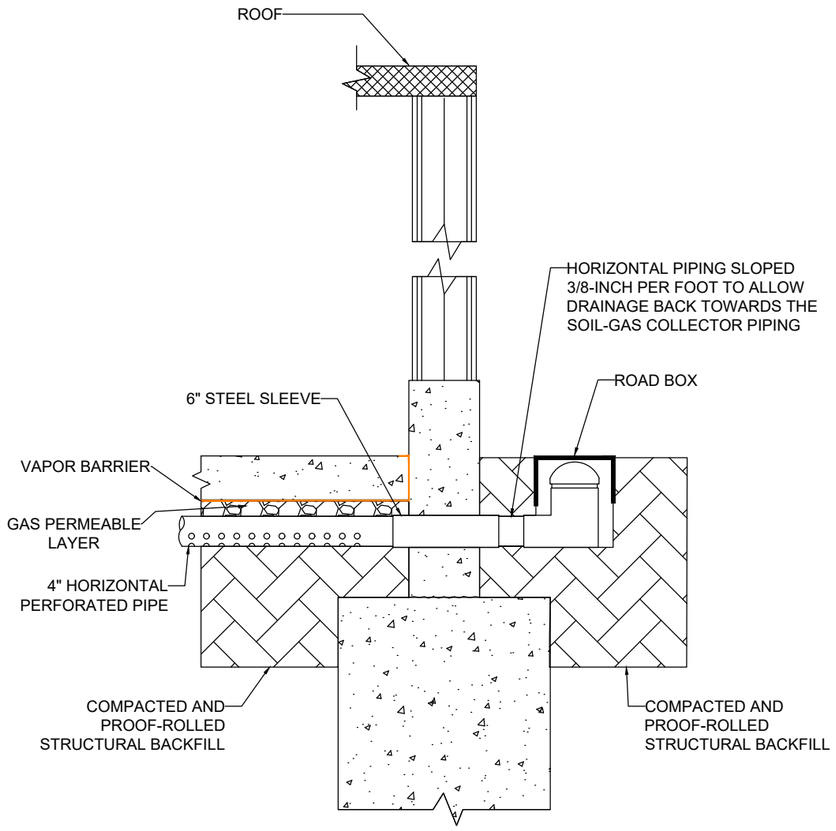
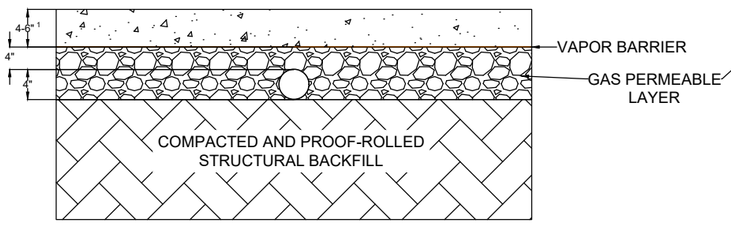


SPECIFICATIONS

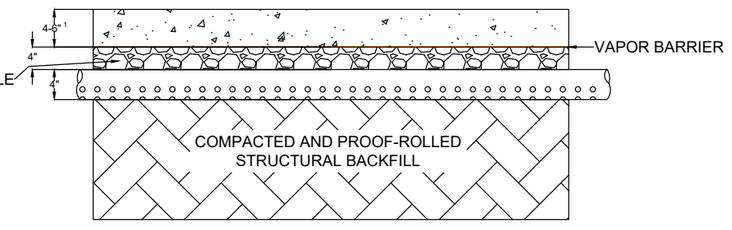
1. NO. 1 "CLEAN" CRUSHED STONE WAS USED FOR THE GAS PERMEABLE LAYER.
2. 2"-MINUS BENEFICIAL USE DETERMINATION (BUD) SLAG WAS USED FOR THE STRUCTURAL BACKFILL.
3. SUB-SLAB HORIZONTAL PIPING IS 4-INCH NOMINAL DIAMETER SDR 35 PVC PERFORATED PIPE.
4. PLASTIC PIPING THROUGH FOUNDATIONS WAS BE SLEEVED WITHIN 6-INCH NOMINAL DIAMETER SCHEDULE 40 STEEL PIPE.
5. ABOVE GRADE VERTICAL EXHAUST PIPING (IF NEEDED) SHALL BE 6-INCH NOMINAL DIAMETER SOLID SDR 35 PVC PIPE.
6. VAPOR BARRIER MEMBRANE IS POLYETHYLENE SHEETING 6 MILS IN THICKNESS
7. SEALANT USED IS POLYURETHANE CAULK (ASTM C920 CLASS 25)

INSTALLATION INSTRUCTIONS

1. THE STRUCTURAL BACKFILL WAS COMPACTED AND PROOF-ROLLED PRIOR TO INSTALLATION OF THE HORIZONTAL PERFORATED PIPING.
2. 8-INCHES OF NO. 1 "CLEAN" CRUSHED STONE WAS PLACED BENEATH THE SLAB (REPRESENTING THE GAS PERMEABLE LAYER). THE HORIZONTAL PIPE WAS PLACED ON TOP OF THE COMPACTED AND PROOF-ROLLED STRUCTURAL SUB-BASE AND THE NO. 1 STONE WAS PLACED SUCH THAT 4" ARE ABOVE THE PIPE (I.E., FROM THE TOP OF PIPE TO BOTTOM OF FLOOR SLAB).
3. HORIZONTAL PIPING WAS PLACED PER THE LAYOUT ON FIGURE 5 AND SUPPORTED BY PLACING AGGREGATE AROUND THE PIPE. PIPE PERFORATIONS WERE POSITIONED IN THE DOWNWARD DIRECTION TO AID IN DRAINAGE.
4. ALL NON-PERFORATED HORIZONTAL PIPING THAT IS CONNECTED TO THE SOIL-GAS COLLECTORS WAS SLOPED 3/8-INCH PER FOOT SO AS TO DRAIN INTO THE PERFORATED SOIL-GAS COLLECTORS.
5. STEEL SLEEVES WERE INSTALLED THROUGH THE FOUNDATION PER THE STRUCTURAL ENGINEER'S SPECIFICATIONS.
6. THE VAPOR BARRIER MEMBRANE WAS PLACED OVER THE GAS PERMEABLE LAYER.
7. PLUMBING AND ELECTRICAL CONDUITS BELOW GRADE WERE SOLVENT-WELDED.
8. PENETRATIONS THROUGH THE SLAB-ON-GRADE WERE SEALED USING POLYURETHANE CAULK.
9. CRACKS WERE SEALED USING POLYURETHANE CAULK.
10. VERTICAL EXHAUST PIPING (IF INSTALLED) WILL BE SECURED WITH BRACKETS EVERY 10 FEET.
11. TOP OF VERTICAL EXHAUST STACK SHALL BE MINIMUM 1.5' FEET ABOVE FINISHED ROOF AND BE 10' AWAY FROM ANY AIR INTAKE AND WINDOWS (IF INSTALLED).
12. WIRE MESH SHALL BE PLACED ON TOP OF THE EXHAUST STACK (IF INSTALLED) TO PREVENT DEBRIS OR SMALL ANIMALS FROM ENTERING THE EXHAUST PIPING.



GAS PERMEABLE LAYER CROSS-SECTION
NTS



GAS PERMEABLE LAYER CROSS-SECTION
NTS

NOTES:
1. THE CONCRETE SLAB IS 4" THICK IN THE OFFICE AREA; AND AT LEAST 6" THICK IN THE MANUFACTURING AREA.

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

JOB NO.: 0489-019-001

VAPOR BARRIER & SUB-SLAB RADON MITIGATION DETAILS

SITE MANAGEMENT PLAN

TECUMSEH PHASE II BUSINESS PARK
BCP SITE NOS. C915198I (II-9) & C915189J (II-10)
LACKAWANNA, NEW YORK

PREPARED FOR
TIME RELEASE PROPERTIES, LLC

FIGURE 6

DATE: NOVEMBER 2020
DRAFTED BY: RFL

F:\CAD\TurnKey\Tecumseh Redevelopment\Brownfield Cleanup Program (BCP)\Phase II Parcel\Site Management Plan\SMP Site II9 and II10\Figure 6 Radon Remediation 11x17 scaling.dwg, 11/13/2020 2:03:59 PM

ATTACHMENT A

MONITORING WELL BORING AND COMPLETION LOGS

Project No: 0071-009-311

Borehole Number: MWN-63A

Project: Phase II Business Park Area

A.K.A.:

Client: Tecumseh Redevelopment, Inc.

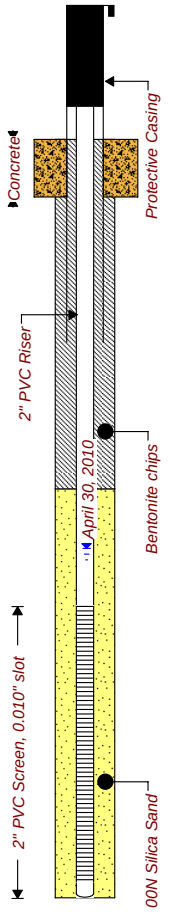
Logged By: TAB

Site Location: Lackawanna, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
-3.0									
	0.0 / 0.0	Ground Surface							
		Advanced augers to 13.0 fbgs, see MWN-63D 0.0 to 13.0 fbgs for soil descriptions .							
2.0									
7.0									
12.0									
	-13.0 / 13.0	End of Borehole							
17.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Diedrich D-120
Drill Method: 4 1/4" HSA, no sampling
Comments:
Drill Date(s): 4 2 10

Hole Size: 8 1/2 - inch
Stick-up: 2.06 - feet
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0071-009-311

Borehole Number: MWN-63D

Project: Phase II Business Park

A.K.A.:

Client: Tecumseh Redevelopment, Inc.

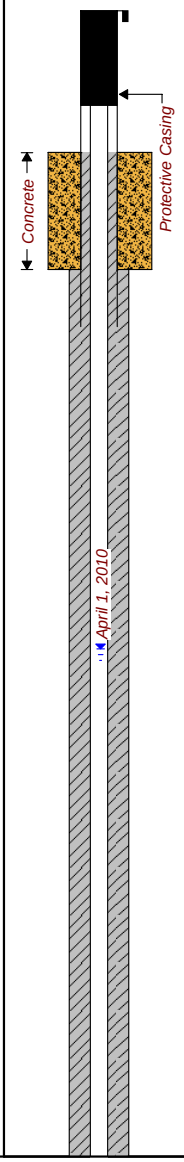
Logged By: TAB

Site Location: Lackawanna, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
-3.0									
	0.0	Ground Surface							
	0.0	***Fill*** Black, moist, non-plastic fines with some fine sand with slag, orange brick pieces, coal pieces, medium dense, loose when disturbed.	S1	18	1.3		0.0		
	-2.0								
2.0	2.0	Brown, moist to wet, non plastic fines, some sand, slag, brick, with pockets of lean clay.	S2	5	1.1		0.0		
	-4.0								
	4.0	***Lean Clay*** Grey, moist, mostly medium plastcity fines, few fine sands, stiff.	S3	6	1.1		0.0		
	-6.0								
	6.0	Same as above.	S4	17	1.4		0.0		
7.0	-8.0								
	8.0	***Poorly Graded Sand*** Dark grey, wet at (8.5 fbgs), mostly medium sand, trace non-plastic fines, few coarse sands, trace sub-rounded fine gravel, loose, rapid dilatancy.	S5	3	1.1		0.0		
	-10.0								
	10.0	As above	S6	10	.9		0.0		
	-12.0								
12.0	12.0	Same as above	S7	NA	1.1		0.0		
	-13.0								
	13.0	***Sandy Organic Soil*** Brown, wet, mostly organic fines, some fine sand, rootlets, low plasticity fines, soft.							
	-14.0								
	14.0	Same as above.	S8	3	1.0		0.0		
	-16.0								
	16.0								
	-16.5								
	16.5		S9	4	.9		0.0		
17.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Dietrich D-120
Drill Method: 2' Continuous SS w/ 4 ¼" HSA and NQ core barrel
Comments:
Drill Date(s): 4/1 - 4/2/10

Hole Size: 8 1/2 -inch
Stick-up: 2.24-feet
Datum: Mean Sea Level

Sheet: 1 of 3

Project No: 0071-009-311

Borehole Number: MWN-63D

Project: Phase II Business Park

A.K.A.:

Client: Tecumseh Redevelopment, Inc.

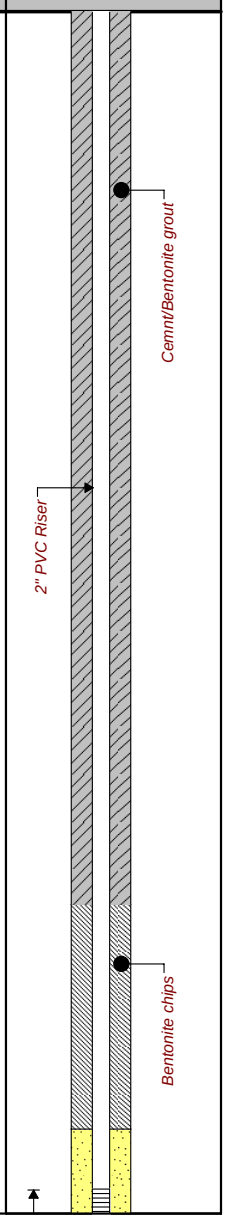
Logged By: TAB

Site Location: Lackawanna, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
	-18.0 / 18.0	***Lean Clay*** Grey, moist, mostly medium plasticity fines, few fine sand with organic particles, stiff.	S9	4			0.0		
		Sandy Organic Soil Brown, wet, mostly organic fines, some fine sand, rootlets, low plasticity fines, soft, thinley bedded lean clay lenses.	S10	5	.9		0.0		
	-20.0 / 20.0	Same as above,no clay lenses.							
	-21.0 / 21.0	Same as above.	S11	16	1.1		0.0		
	-22.0 / 22.0	***Poorly Graded Sand with Silt*** Grey, wet, Some fine sand, few silt, with trace trace fine gravel, medium dense							
22.0		***Silty Sand*** Grey, wet, mostly fine sand, few non plastic fines, medium dense	S12	12	1.4		0.0		
	-24.0 / 24.0	***Lean Clay*** Grey, wet, mostly high plasticity fines, few sand, very stiff, thinnly bedded.	S13	11	1.2		0.0		
	-26.0 / 26.0	Same as above, stiff to soft	S14	6	1.5		0.0		
27.0	-28.0 / 28.0	Same as above,soft.	S15	WH	2.0		0.0		
	-30.0 / 30.0	***Sandy Lean Clay*** Grey, wet, mostly medium plastcity fines with some fine sand, few fine gravel, trace coarse gravel, very dense, massive	S16	6	1.0		0.0		
32.0	-32.0 / 32.0	As above, few subangular coarse gravel.	S17	43	1.0		0.0		
	-34.0 / 34.0	***Dolomitic Limestone with Shale bedding.***							
	-34.8 / 34.8	Shale chips; Top of bedrock 34.8 fgbs (Auger refusal)	S18	NA	0.0		0.0		
37.0									



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Dietrich D-120
Drill Method: 2' Continuous SS w/ 4 ¼" HSA and NQ core barrel
Comments:
Drill Date(s): 4/1 - 4/2/10

Hole Size: 8 1/2 -inch
Stick-up: 2.24-feet
Datum: Mean Sea Level

Sheet: 2 of 3

Project No: 0071-009-311

Borehole Number: MWN-63D

Project: Phase II Business Park

A.K.A.:

Client: Tecumseh Redevelopment, Inc.

Logged By: TAB

Site Location: Lackawanna, NY

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm 0 12.5 25	Lab Sample	Well Completion Details or Remarks
42.0		Dark grey to grey, microcrystaline with laminations less then 1 to 3 mm, moderate field strength weathered slightly along bedding planes, medium soft, broken. Run #1 34.8 - 44.8 total recovery 99% RQD 43.69% poor, lost approximatley 20 gallons of drilling water. Run #2 44.8 - 49.8 total recovery 95% RQD 59% Fair, lost approximatley 180 gallons of drilling water.							2" PVC Screen, 0.010" slot 00N Silica Sand
47.0									
	-49.8 49.8	End of Borehole							
52.0									
57.0									

Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Dietrich D-120
Drill Method: 2' Continuous SS w/ 4 ¼" HSA and NQ core barrel
Comments:
Drill Date(s): 4/1 - 4/2/10

Hole Size: 8 1/2 -inch
Stick-up: 2.24-feet
Datum: Mean Sea Level

Sheet: 3 of 3

ATTACHMENT B

TRANSFORMER INSPECTION LOG

Inspection Log for Transformers in 54" Mill Roll Shop

Site Management Plan
Phase II Business Park, Sites II-9 and II-10
Tecumseh Redevelopment Inc.
Lackawanna, New York

Date	Inspector	Transformer T88 (PCB = 0.734 mg/kg)				Transformer T93 (PCB = 16.8 mg/kg)			
		In Use	Decommissioned	Leaking	Corrective Action	In Use	Decommissioned	Leaking	Corrective Action

ATTACHMENT C

OPERATIONS AND MAINTENANCE MANUAL

ATTACHMENT D

EC/IC CERTIFICATION FORMS

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. C915198I

Site Name: Site II-9 Tecumseh Phase II Business Park

Site Address: 6 Dona Street 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. C915198I **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. C915198I

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

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 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)

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

Enclosure 2
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. **C915198J**

Site Name Site II-10 Tecumseh Phase II Business Park

Site Address: 6 Dona Street Zip Code: 14218
City/Town: Lackawanna
County: Erie
Site Acreage: 15.780

Reporting Period: April 28, 2019 to April 28, 2020

	YES	NO
1. Is the information above correct?	☐	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☐
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☐
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☐
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☐

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☐	☐
7. Are all ICs/ECs in place and functioning as designed?	☐	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____
Signature of Owner, Remedial Party or Designated Representative Date

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☐

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	☐	☐

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C915198J **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
141.15-1-4	Time Release Properties, LLC	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan IC/EC Plan

Institutional Control Description:

Adherence to Site Management Plan (SMP)
Restriction to commercial re-use
Prohibition of groundwater use
Allowance for Departmental access
Requires a Periodic Review and Report

Box 4

Description of Engineering Controls

Parcel	Engineering Control
141.15-1-4	Cover System

Engineering Control Desription:

Soil cover, over 5 acres

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☐	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) 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) 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;

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

   (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.

YES	NO
☐	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____	_____
Signature of Owner, Remedial Party or Designated Representative	Date

IC CERTIFICATIONS
SITE NO. C915198J

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 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, Remedial Party, or Designated Representative Rendering Certification Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 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)

_____	_____	_____
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	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.