FORMER
DRIGGS PLYWOOD CORP. SITE

11 JACKSON STREET
BROOKLYN NEW YORK
Block 2741 Lot 47

Site Management Plan

NYSDEC Site Number: C224178

Prepared for:
JACKSON ESTATES II, LLC
520 Roebling Street, Suite 316
Brooklyn, NY 11211

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Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date
0	July 1, 2015	Original Submission	
1	October 1, 2015	Editorial changes and additions	
2	October 20, 2015	Editorial changes and additions	
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NOVEMBER 2015

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LIST OF ACRONYMS

Acronym	Definition
AMC	AMC Engineering
AWQS	Ambient Water Quality Standards
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
CQMP	Construction Quality Management Plan
DUSR	Data Usability Statement Report
EBC	Environmental Business Consultants
FER	Final Engineering Report
HDPE	High Density Polyethylene
IRM	Interim Remedial Measure
NYC	New York City
NYCDEP	New York City Department of Environmental Protection
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PS	Public School
PVC	Polyvinyl Chloride
RAO	Remedial Action Objectives
RAWP	Remedial Action Work Plan
RI	Remedial Investigation
RSCOs	Recommended Site Cleanup Objectives
SCG	Standards, Criteria, and Guidelines
SMMP	Soil/Materials Management Plan
SSDS	Sub-slab Depressurization System
SWPPP	Stormwater Pollution Prevention Plan
SVOCs	Semi-Volatile Organic Compounds
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

CERTIFICATIONS

I, Ariel Czemerinski, certify that I am currently a NYS registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

076508	12/7/2015	
NYS Professional Engineer #	Date	Signature

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification:	Site No: C224178 - Former Driggs Plywood Corp. Site 11 Jackson Street, Brooklyn NY	
Institutional Controls:	1. The property may be used for restricted residential use;	
	2. IC • The property may be used for: restricted residential use; • All ECs must be operated and maintained as specified in this SMP; • All ECs must be inspected at a frequency and in a manner defined in the SMP; • The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department; • Environmental or public health monitoring must be performed as defined in this SMP; • Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP; • Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP; • Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP; • Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement; • The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on Figure 6, and any potential impacts that are identified must be monitored or mitigated; and • Vegetable gardens and farming on the site are prohibited.	
	3. All ECs must be inspected at a frequency and in a manner defined in the SMP. This statement is to be included here if there are ECs per the site's remedial program.	
Engineering Controls:	1. Sub-Slab Depressurization (SSD) System	
Inspections:		Frequency
1. SSD System		Annually
Maintenance		
1. Blower maintenance		Annually
Reporting:		
1. Periodic Review Report		Annually

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the Former Driggs Plywood Corp. Site located in Brooklyn, New York (hereinafter referred to as the "Site"). The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP), Site No. C224178 which is administered by New York State Department of Environmental Conservation (NYSDEC).

Jackson Estates II, LLC entered into a Brownfield Cleanup Agreement (BCA) on June 17, 2013, with the NYSDEC to remediate the Site. Figures showing the Site location and boundaries of the Site are provided as **Figures 1** and **2**. The boundaries of the Site are more fully described in the metes and bounds description that is part of the Environmental Easement (**Appendix A)**.

After completion of the remedial work, some contamination was left at the Site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs/ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Kings County Clerk, requires compliance with this SMP and all ECs and ICs placed on the Site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC); and

- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Site No. C224178) for the Site, and thereby subject to applicable penalties.

All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the Site is provided in **Appendix B** of this SMP.

This SMP was prepared by AMC Engineering, PLLC (AMC), on behalf of Jackson Estates II, LLC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May, 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the Site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise,

any action to be taken to mitigate the damage or defect.

- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the Brownfield Cleanup Agreement (BCA), and all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1 on the following page includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in **Appendix B.**

Table 1: Notifications*

Name	**Contact Information**
Michael MacCabe	michael.maccabe@dec.ny.gov; (518) 402-9768;
NYSDEC Regional Chief, Superfund and Brownfield Cleanup Section Jane O'Connell	jane.oconnell@dec.ny.gov; (718) 482-4599
NYSDEC Site Control Chief Kelly Lewandowski	kelly.Lewandowski@dec.ny.gov; (518) 402-9553

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The Site is located in Brooklyn, Kings County, New York and is identified as Block 2741 and Lot 47 on the Brooklyn Tax Map. The Site is located on the north side of Jackson Street between Union Avenue and Meeker Avenue and is designated as Block 2741 Lot 47 on the Brooklyn Tax Map (**Figure 2**). The Site consists of a single tax parcel with 72 feet of street frontage on Jackson Street and is 130 feet deep for a total of 9,360 square feet (0.21 acres). The boundaries of the Site are more fully described in **Appendix A -** Environmental Easement. The owner of the site parcel at the time of issuance of this SMP is:

Jackson Estates II, LLC
520 Roebling Street, Suite 316
Brooklyn, NY 11211

2.2 Physical Setting

2.2.1 Land Use

The Site consists of a residential building. The Site is zoned M1-2 / R6 residential and is currently undergoing construction activities. Site occupants will include residents after the building is complete.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily include mixed-use and residential properties. The properties immediately north of the Site include residential properties; the properties immediately east of the Site include mixed-use properties; and the properties to the west of the Site include residential, mixed-use, and parking properties. There are no properties immediately south of the Site.

2.2.2 Geology

Subsurface soil below the new building consists of a mixture of silty non-native fill to approximately 2 feet below the slab. The fill material is underlain by sandy-silt to at least 10 feet below sidewalk grade. A geologic cross section is shown in **Figure 3**.

2.2.3 Hydrogeology

The property has an elevation of approximately 15 feet above the National Geodetic Vertical Datum (NGVD). The depth to groundwater beneath the Site, as determined from field measurements during the Remedial Investigation (RI), is approximately 8 feet below sidewalk grade. Based on regional groundwater contour maps, groundwater flow is expected to be westerly. A regional groundwater contour map is shown in **Figure 4**.

2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

Previous Uses

Historic Sanborn maps indicate the Site prior to 1887 was divided into three separate thin lots, each developed with a 3-story residential building in the front of the lots, and smaller 2-story dwellings in the rear of the lots. Each of the three lots was labeled with the street numbers 11 Jackson Street, 13 Jackson Street and 15 Jackson Street. The lots remained unchanged until around 1951 when two of the lots were cleared, leaving only the 3-story residential building on 11 Jackson Street. The 3-story building remained until the property was redeveloped in 1951 with the former lumber storage building that was demolished in 2014. All Sanborn maps until the most recent map (2007) label the Site building as being used for lumber storage. City Directory listings from 1965 and 1973 identify the Driggs Plywood Corporation at the 11 Jackson Street address. Arnmart Whole Beer Distributers were posted in directory listings from 1997 and 2000, and “Car Fashion Seat Covers” was listed in 2005. It is not known if the beer distributor or car seat cover shop occupied half of the building or the entire building. The building was most recently occupied by a charter bus maintenance / repair garage (western half of lot) and a metal fabrication shop (eastern half).

2.3.1 *Phase I Environmental Site Assessment Report (EBC, 1/2012)*

A Phase I Environmental Site Assessment Report (Phase I) was prepared by Environmental Business Consultants (EBC) in January of 2012. The Phase I Report noted the following recognized environmental conditions for the Site:

- The use of the Site as an auto repair facility and charter bus repair facility
- The use of the Site as a metal fabrication shop

The Phase I noted that the property was assigned an "E" designation for "hazardous materials" as part of the Greenpoint-Williamsburg rezoning action adopted in 2005. The lots were assigned E-138 under the City Environmental Quality Review (CEQR) number 04DCP003K. An E-Designation for HAZMAT is a NYC zoning map designation that indicates the presence of an environmental requirement pertaining to potential Hazardous Materials Contamination on a particular tax lot. EBC recommended performing a Phase II Subsurface Investigation at the Site to include the collection and laboratory analysis of subsurface soil, groundwater, and sub-slab soil gas samples.

2.3.2 *Remedial Investigation Report (EBC, 6/2013)*

A Remedial Investigation (RI) was performed by EBC on behalf of the Volunteer, Jackson Estates II, LLC. The field work was conducted from March 16th through March 20th, 2012, and May 8, 2013, in accordance to the protocols and methods as established in the NYCOER approved Remedial Investigation Work Plan. The results of the RI were documented in a Remedial Investigation Report (RIR) dated June 2013 (revised November 2013).

The purpose of the RI was to collect data of sufficient quality and quantity to characterize the nature and extent of petroleum contamination in on-Site groundwater, soil, and soil vapor, to complete a qualitative exposure assessment for future occupants of the building and the surrounding community to evaluate alternatives to remediate the contamination.

Activities completed under the RI are as follows:

- Soil sampling and analysis for volatile and semi-volatile organic compounds (VOCs, SVOCs) in soil samples from soil boring locations;
- The installation of groundwater monitoring wells;
- The collection and analysis of groundwater samples for VOCs and SVOCs;
- Sampling for non-petroleum contaminants such as pesticides, PCBs, and metals in soil and groundwater including the analysis of soil and groundwater samples;
- The collection of analysis of soil vapor samples for volatile organic compounds from soil vapor implants;

The samples from the investigation revealed the following:

Soil Gas:

- Tetrachloroethene (PCE) and trichloroethene (TCE) were found above mitigation levels established within the State DOH soil vapor guidance matrix. PCE concentrations ranged from 10.4 µg/m^3 to 8,270 µg/m^3; TCE levels ranged from 10.4 µg/m^3 to 12,300 µg/m^3.

Groundwater:

- PCE was detected in one groundwater sample at a concentration slightly below the GQS.

Soil:

- PCE and TCE were detected in shallow soil samples (0-2 ft), but at concentrations below Unrestricted Use SCOs.
- SVOCs, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)-fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene, were detected above Restricted Residential Use SCOs.
- One or more metals, including barium, copper, lead, and mercury were detected above Restricted Residential Use SCOs in shallow soil samples. Zinc was reported above Unrestricted Use SCOs, but not above Residential Use SCOs.
- The presence of chlorinated solvent contamination in the soil, soil gas, and groundwater.
- Although elevated SVOCs and metals are commonly associated with historic fill, some of the sampling results indicated impact from historic site use, as the results are far above typically encountered historic fill material (i.e. >600,000 µg/kg).

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in Decision Document dated November 25, 2013, are as follows:

2.4.1 Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

2.4.2 Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

2.4.3 Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

2.5 Remaining Contamination

2.5.1 Soil

Laboratory analysis of the end point samples collected after excavation indicate that metals including chromium, mercury, lead, and zinc remain present beneath the Site at concentrations above Unrestricted Use SCOs, but below Restricted Residential Use SCOs. No other parameters were reported above Track 1 Unrestricted Use SCOs within the endpoint soil samples collected at the Site.

Eight soil samples were collected from four soil borings performed after the remedial activities were completed to evaluate the performance of the remedy with respect to attainment of Track 2 SCOs. No VOCs, SVOCs, pesticides, PCBs or metals were detected at a concentration above Track 2 – Residential SCOs within 7 of the 8 soil samples. However, the metal mercury (1.55 mg/kg), and seven SVOCs, including benz(a)anthracene (2,800 µg/kg), benzo(a)pyrene (2,500 µg/kg), benzo(b)fluoranthene (2,200 µg/kg), benzo(k)fluoranthene (2,100 µg/kg), chrysene (3,000 µg/kg), dibenz(a,h)anthracene (400 µg/kg), and indeno(1,2,3-cd)pyrene (1,500 µg/kg), were detected at a concentrations slightly above Restricted Residential Use SCOs within soil sample B1(7-9).

A summary of the compounds remaining above SCOs is presented as **Table 2** and **Figure 6**.

2.5.2 Soil Vapor

During the RI, chlorinated VOCs (CVOCs) were reported in soil vapor samples at elevated concentrations near the rear of the former commercial building. CVOCs detected at elevated concentrations include PCE (ranging from 245 µg/m^3 to 8,270 µg/m^3) and TCE (ranging from 10.4 µg/m^3 to 12,300 µg/m^3). Although it is expected that source area removal has eliminated these vapors, confirmatory sampling under an approved plan will be required by the NYSDEC and NYSDOH before this can be established. It is therefore assumed that CVOC vapors at levels requiring mitigation remain at the Site.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists at the Site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the Site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This plan provides:

- A description of all IC/ECs on the Site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the RAWP to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the Site to restricted residential uses only. Adherence to these ICs on the Site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on **Figure 9**. These ICs are:

- The property may be used for restricted-residential use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of

Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on **Figure 9**, and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the Site are prohibited;

3.3 Engineering Controls

3.3.1 Sub-Slab Depressurization (SSD) System and Vapor Barrier

Since contaminated soil vapors are assumed to remain beneath the Site following the Remedial Action, ICs and ECs are required to protect human health and the environment. These ECs and ICs are described in the following sections. Short-term management of these EC/ICs will be performed under the Site Management Plan (SMP) approved by the NYSDEC.

An active sub-slab depressurization (SSD) system and vapor barrier were designed and installed beneath the occupied portions of the new building which do not require mechanical ventilation by code (parking garage).

The SSD system beneath the occupied portion of the building slab consists of a single venting zone. This zone provides coverage of approximately 2,500 sf of slab area. This is consistent with USEPA SSD design specifications, which recommend a separate vent loop for every 4,000 sf of slab area.

The horizontal vent line is constructed with a continuous loop of perforated 4-inch high density polyethylene (HDPE) pipe. The SSDS loop was installed on a layer of ¾ inch RCA and below the vapor barrier. The SSDS loop is connected to a solid 6 inch schedule 40 PVC riser pipe that extends to the roof. A blower (Radonaway model No. RP350) is fitted to the top of the 6-inch PVC discharge pipe at the roof. The system is hardwired to an electric source. The exhaust from the blower is located a minimum of 10 feet from windows and ventilation inlets. The SSD system utilizes a manometer (Dwyer, 0-5 inches of water manometer) and an alarm (Radonaway alarm) installed on the first floor of the building to ensure proper operation of the blower.

A 20-mil vapor barrier was installed over the SSD system prior to pouring the building's concrete slab. The vapor barrier consists of Raven Industries' VaporBlock Plus 20, which is a seven-layer co-extruded 20 mil vapor barrier made from polyethylene and EVOH resins. The vapor barrier extends throughout the portion of the slab to be used as the mechanical / utility rooms and residential use in the new building constructed at the Site. Vapor barrier seams, penetrations, and repairs were sealed either by the tape method, according to the manufacturer's recommendations and instructions.

Procedures for operating and maintaining the SSD system and vapor barrier are documented in the Operation and Maintenance Plan (Section 5.0 of this SMP). As built drawings, signed and sealed by a professional engineer, are included in **Appendix E** – Operations and Maintenance Manual. **Figures 7 and 8** depict the layout and as-built installation details of the ECs for the Site.

3.3.2 Criteria for Completion of Remediation/Termination of the SSD System

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

The active SSD system will not be discontinued unless prior written approval is granted by the NYSDEC and the NYSDOH. In the event that monitoring data indicates that the SSD system may no longer be required, a proposal to discontinue the SSD system will be submitted by the remedial party to the NYSDEC and NYSDOH.

4.0 MONITORING PLAN

4.1 General

This Monitoring Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring Plan may only be revised with the approval of the NYSDEC. Details regarding inspection and evaluation of the ECs are provided in the following sections.

This Monitoring Plan describes the methods to be used for:

- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

To adequately address these issues, this Monitoring Plan provides information on:

- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 Site – Wide Inspection

Site-wide inspections will be performed at a minimum of once per year. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in **Appendix E** – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the Site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule,

regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date.

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the Site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the Site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 Remedial System Monitoring

4.3.1 SSD System

Monitoring of the sub-slab depressurization (SSD) system will be performed on a routine basis, as identified in **Table 3** Remedial System Monitoring Requirements and Schedule (see below). Modification to the frequency or sampling requirements will require approval from the NYSDEC. A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSD system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. SSD system components to be monitored include, but are not limited to, the components included in Table 3 below.

Table 3 – Remedial System Monitoring Requirements and Schedule

Remedial System Component	**Monitoring Parameter**	**Operating Range**	**Monitoring Schedule**
Vacuum Fan	On or Off		Annually
Magnehelic Meter	Vacuum at Riser	>0.1”W.C.	Annually
Alarm	Alarm trips when fan shut off		Annually

A complete list of components to be inspected is provided in the Inspection Checklist, provided in **Appendix** E - Site Management Forms. If any equipment readings are not within their specified operation range, any equipment is observed to be malfunctioning or the system is not performing within specifications; maintenance and repair, as per the Operation and Maintenance Plan, is required immediately.

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

This Operation and Maintenance Plan provides a brief description of the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the Site. This Operation and Maintenance Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the Site to operate and maintain the sub-slab depressurization (SSD) systems;
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSD systems are operated and maintained.

Further detail regarding the Operation and Maintenance of the SSD system is provided in **Appendix G** - Operation and Maintenance Manual. A copy of this Operation and Maintenance Manual, along with the complete SMP, is maintained at the Site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of this SMP.

5.2 Remedial System (or other Engineering Control) Performance Criteria

The SSD system has been designed with an air blower capable of producing enough negative pressure in the sub-slab as to be able to remove any potential off-gases. A minimum of 0.02" WC will be sought in the most remote sub-slab area. The vacuum achieved at the riser will be around 0.4" WC or higher. The blower, located on the roof, and installed a minimum distance of 10 ft from any vent or operable windows, is electrically fed with a dedicated circuit. A visual and audible alarm which signals when vacuum is lost at the riser, is powered independently from the blower, such that if the blower causes the breaker to trip, the alarm will still provide an alarm status. The blower is designed for continuous duty, and will be used continuously.

5.3 Operation and Maintenance of the Sub-Slab Depressurization (SSD) System

The following sections provide a description of the operations and maintenance of the SSD system. Cut-sheets and as-built drawings for SSD system are provided in **Appendix D** - Operations and Maintenance Manual.

5.3.1 System Start-Up and Testing

The SSD system consists of a perforated sub-slab pipe, a gas permeable aggregate in the form of ¾" clean gravel, a stub out, a riser, and a blower, vacuum gauge and alarm.

Initially after the SSD system is fully installed, vacuum is measured at the riser via the Magnehelic meter. Vacuum at the foot of the riser shall be greater than 0.1"WC.

Within the loop, two points are identified which are remote from each other and from the SSD perforated pipe. Care should be exerted before penetrating the slab and membrane to not perforate any utility pipes. Having identified the two monitoring points, a ½" hole is drilled through the concrete slab and vapor barrier into the gravel. With the help of a portable vacuum meter vacuum is measured in the sub-slab. Vacuum reading should be at least 0.02" WC. If vacuum is less or non-existent, then corrective measures must be taken. As an alternative, the potential for vapor intrusion can be re-evaluated to determine if the system must remain in operation. This evaluation and determination must be made in consultation with and under the approval of the NYSDEC and NYSDOH.

After sub-slab testing is conducted during the start-up, the drilled holes are filled up with non-shrink grout or any other sealant, making sure it creates a seal at the vapor barrier depth.

The system testing described above will be conducted if, in the course of the SSD system lifetime, the system goes down or significant changes are made to the system and the system must be restarted, except that the slab will not have to be drilled again to test for vacuum. Please see the manufacturer's instructions regarding additional information regarding system start-up, maintenance, and testing, provided in **Appendix D** – Operations and Maintenance Manual.

5.3.2 Routine System Operation and Maintenance

The system, as designed, is virtually maintenance free. If any of the components fail (blower, meter, alarm, they must be replaced with in kind. Please see the manufacturer's instructions regarding routine system operation and maintenance, provided in **Appendix D** – Operations and Maintenance Manual.

5.3.3 Non-Routine Operation and Maintenance

The system as designed has no non-routine operation and maintenance requirements. It is important to label the riser on every floor, even if it is concealed behind chases or walls, to prevent unwanted future taps.

Please see the manufacturer's instructions regarding non-routine operation and maintenance, provided in **Appendix B** – Operations and Maintenance Manual.

5.3.4 System Monitoring Devices and Alarms

The SSD system has an alarm, which will go off when the blower is not working properly to maintain a minimum vacuum reading.

The SSD system has warning devices to indicate that the system is not operating properly. In the event that warning device is activated, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the SSD system will be restarted. Operational problems will be noted in the Periodic Review Report to be prepared for that reporting period.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the Site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the Site during periodic assessments, and briefly summarizes the vulnerability of the Site and/or engineering controls to severe storms/weather events and associated flooding.

The Site is located in the northwest portion of Brooklyn, NY. It is located at an elevation of 15 feet above the National Geodetic Vertical Datum (NGVD), or approximately 18 feet above sea level. According to the FEMA Flood Map, the Site is not located within a flood hazard area. The Site is served by the NYC Municipal sewer system and the completed building will meet all NYC building codes for drainage. Therefore, the Site is considered to be vulnerable to storm events related to climate change.

6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the Site during site management, and as reported in the Periodic Review Report (PRR).

6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at

any time that the Project Manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

6.2.2 Frequency Of System Checks, Sampling And Other Periodic Activities

Transportation to and from the Site and use of consumables in relation to visiting the Site in order to conduct system checks and or collect samples and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

As part of this effort, consideration shall be given to:

- Reduced site visits and system checks;
- Coordination/consolidation of activities to maximize foreman/labor time; and
- Use of mass transit for site visits, where available.

6.2.3 Metrics and Reporting

As discussed in Section 7.0 and as shown in **Appendix E** – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during site management and to identify corresponding benefits; a set of metrics has been developed.

7.0. REPORTING REQUIREMENTS

7.1 Site Management Reports

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in **Appendix E**. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 4 and summarized in the Periodic Review Report.

Table 4. Schedule of Interim Monitoring/Inspection Reports

Task/Report	**Reporting Frequency***
Inspection Report	Annually
Periodic Review Report	Annually, or as otherwise determined by the Department

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;

- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the Department beginning sixteen (16) months after the Certificate of Completion (COC) is issued. After submittal of the initial Periodic Review Report, the next PRR shall be submitted every 1 year to the Department or at another frequency as may be required by the Department. In the event that the Site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the Site described in **Appendix C** - Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site.
- Results of the required annual site inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.
- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific RAWP or Decision Document;

- The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
- Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan;
- Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document; and
- The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:*

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *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;*

- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *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 in this report is accurate and complete.*
- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that thee assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and*
- *The assumptions made in the qualitative exposure assessment remain valid.*

I certify that all information and statements in this certification form 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, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative] (and if the site consists of multiple properties): *[I have been authorized and designated by all site owners/remedial parties to sign this certification] for the Site."*

Every five years the following certification will be added:

- *The assumptions made in the qualitative exposure assessment remain valid.*

The signed certification will be included in the Periodic Review Report. The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the Site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC.

8.0 REFERENCES

6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

AMC Engineering, PLLC, *Remedial Action Work Plan, Former Driggs Plywood Corp. Site, 11 Jackson Street, Brooklyn NY, June 2013 (Revised November 2013).*

AMC Engineering, PLLC, *Final Engineering Report, Former Driggs Plywood Corp. Site, 11 Jackson Street, Brooklyn NY, September 2015 (Revised October 2015).*

Environmental Business Consultants, *Phase I Environmental Site Assessment Report, November 2011.*

Environmental Business Consultants, *Remedial Investigation Report, Former Driggs Plywood Corp. Site, 11 Jackson Street, Brooklyn NY, June 2013.*

NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".

NYSDEC, Division of Water, June 1998, Addendum April 2000, *Technical and Administrative Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.*

NYSDOH, Center for Environmental Health, October 2006, *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York.*

TABLES

Table 1: Notifications*

Name	Contact Information
NYSDEC Project Manager Michael MacCabe	michael.maccabe@dec.ny.gov; (518) 402-9768;
NYSDEC Regional Chief, Superfund and Brownfield Cleanup Section Jane O'Connell	(718) 482-4599, jane.oconnell@dec.ny.gov
Kelly Lewandowski	(518) 402-9581, kelly.lewandowski@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

Former Driggs Plywood Corp. Site
11 Jackson Street,
Brooklyn, New York

TABLE 2
Contamination Remaining in Soil Above Unrestricted Use SCOs
Metals

	Compounds	NYSDEC Part 375 Unrestricted Use SCOs*	NYSDEC Part 375.6 Residential Use SCOs*	Endpoint Sample Results						
				EP1 (mg/kg)	EP5 (mg/kg)	EP6 (mg/kg)	EP8 (mg/kg)	EP9 (mg/kg)	EP10 (mg/kg)	Soil Duplicate (mg/kg)
				11/25/2014	11/25/2014	11/25/2014	11/25/2014	11/25/2014	11/25/2014	11/25/2014
				Result	Result	Result	Result	Result	Result	Result
Metals (ppm)	Chromium	30		-	-	37.9	33.9	-	-	33.4
	Lead	63	400	66	-	210	146	261	147	155
	Mercury	0.18	0.81	-	0.26	0.26	0.31	0.81	0.81	-
	Zinc	109	2,200	-	-	-	-	119	-	-

Bold/highlighted- Indicated exceedance of the NYSDEC UUSCO Guidance Value

	Compounds	NYSDEC Part 375 Unrestricted Use SCOs*	NYSDEC Part 375.6 Residential Use SCOs*	NYSDEC Part 375.6 Restricted Residential Use	Post-Remedial Soil Boring Soil Sample Results	
					B1(7-9)	B1(13-15)
					11/4/2015	11/4/2015
					Result	Result
METALS (ppm)	Copper	50	270	270	83.5	-
	Lead	63	400	400	351	-
	Mercury	0.18	0.81	0.81	1.55	0.22
	Nickel	30	140	310	44.8	-
	Zinc	109	2,200	10,000	209	-
SVOCs (ppb)	Benz(a)anthracene	1,000	1,000	1,000	2,800	
	Benzo(a)pyrene	1,000	1,000	1,000	2,500	
	Benzo(b)fluoranthene	1,000	1,000	1,000	2,200	
	Benzo(k)fluoranthene	800	1,000	3,900	2,100	
	Chrysene	1,000	1,000	3,900	3,000	
	Dibenz(a,h)anthracene	330	330	330	400	
	Indeno(1,2,3-cd)pyrene	500	500	500	1,500	

Notes:
ppm - Parts per Million - ppb - Parts per Billion
Bold/highlighted- Indicated exceedance of NYSDEC Unrestricted Use SCO
Bold/highlighted- Indicated exceedance of NYSDEC Residential SCO
Bold/highlighted- Indicated exceedance of NYSDEC Restricted Residential Use SCO

Table 3 – Post Remediation Sampling Requirements and Schedule

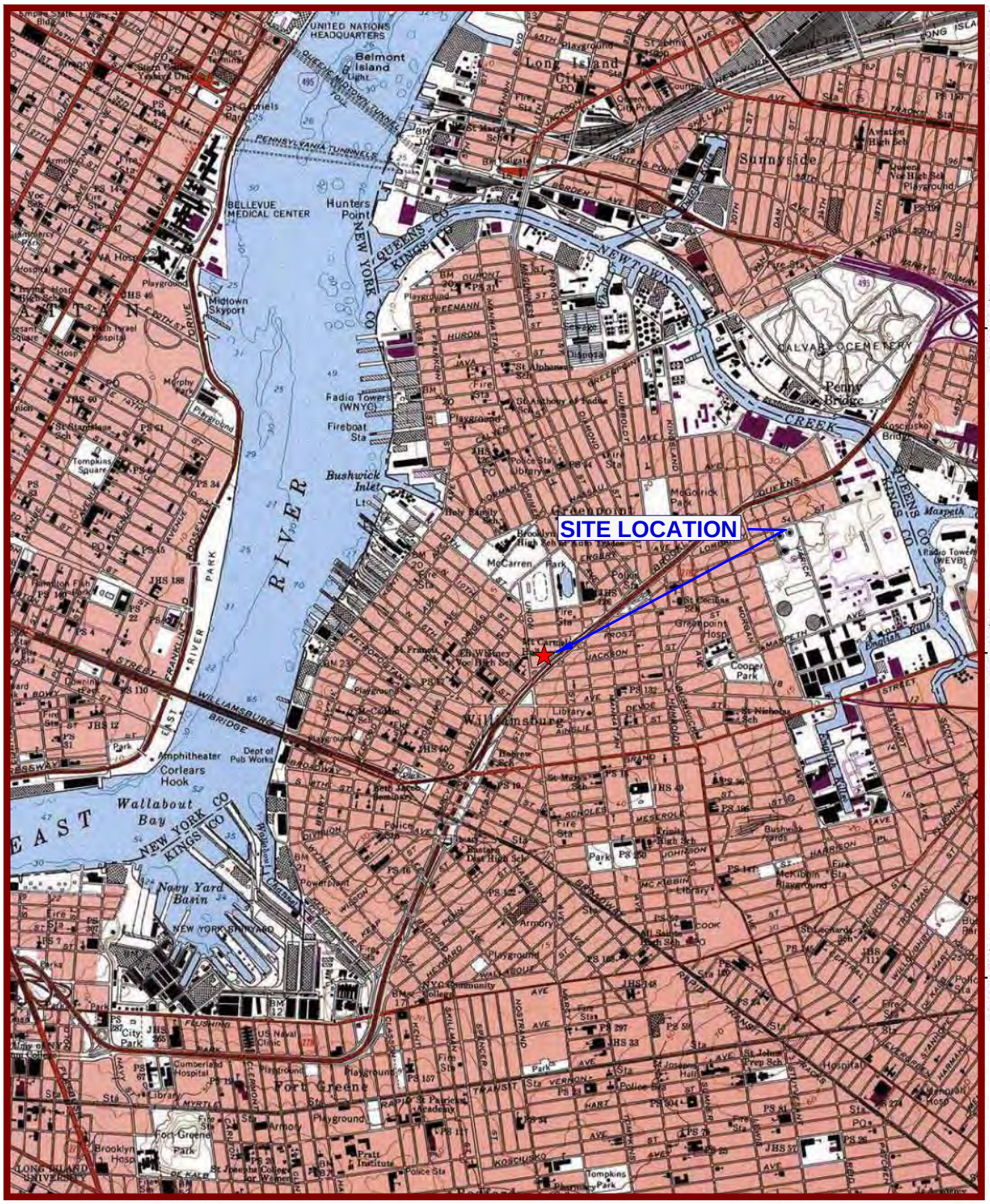
Remedial System Component	**Monitoring Parameter**	**Operating Range**	**Monitoring Schedule**
Vacuum Blower	On or Off		Annually
Magnehelic Meter	Vacuum at Riser	>0.10”W.C.	Annually
Alarm	On or Off		Annually

Table 4: Schedule of Interim Monitoring/Inspection Reports

Task/Report	**Reporting Frequency***
Inspection Report	Annually
Periodic Review Report	Annually, or as otherwise determined by the Department

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

FIGURES



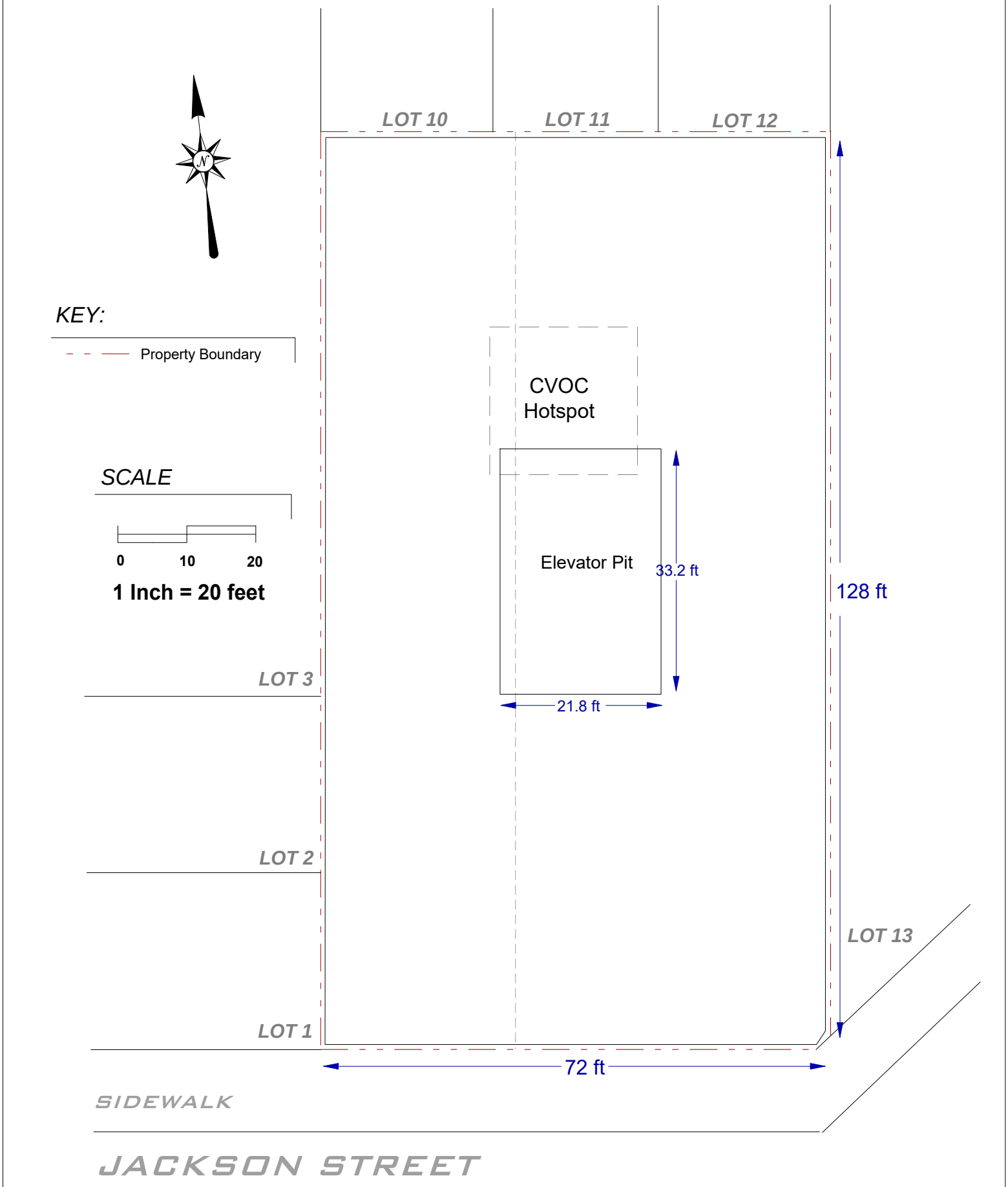
USGS Brooklyn Quadrangle 1995, Contour Interval = 10 feet

EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
Phone 631.504.6000
Fax 631. 924 .2870

FORMER DRIGGS PLYWOOD CORP

11 JACKSON STREET, BROOKLYN, NY

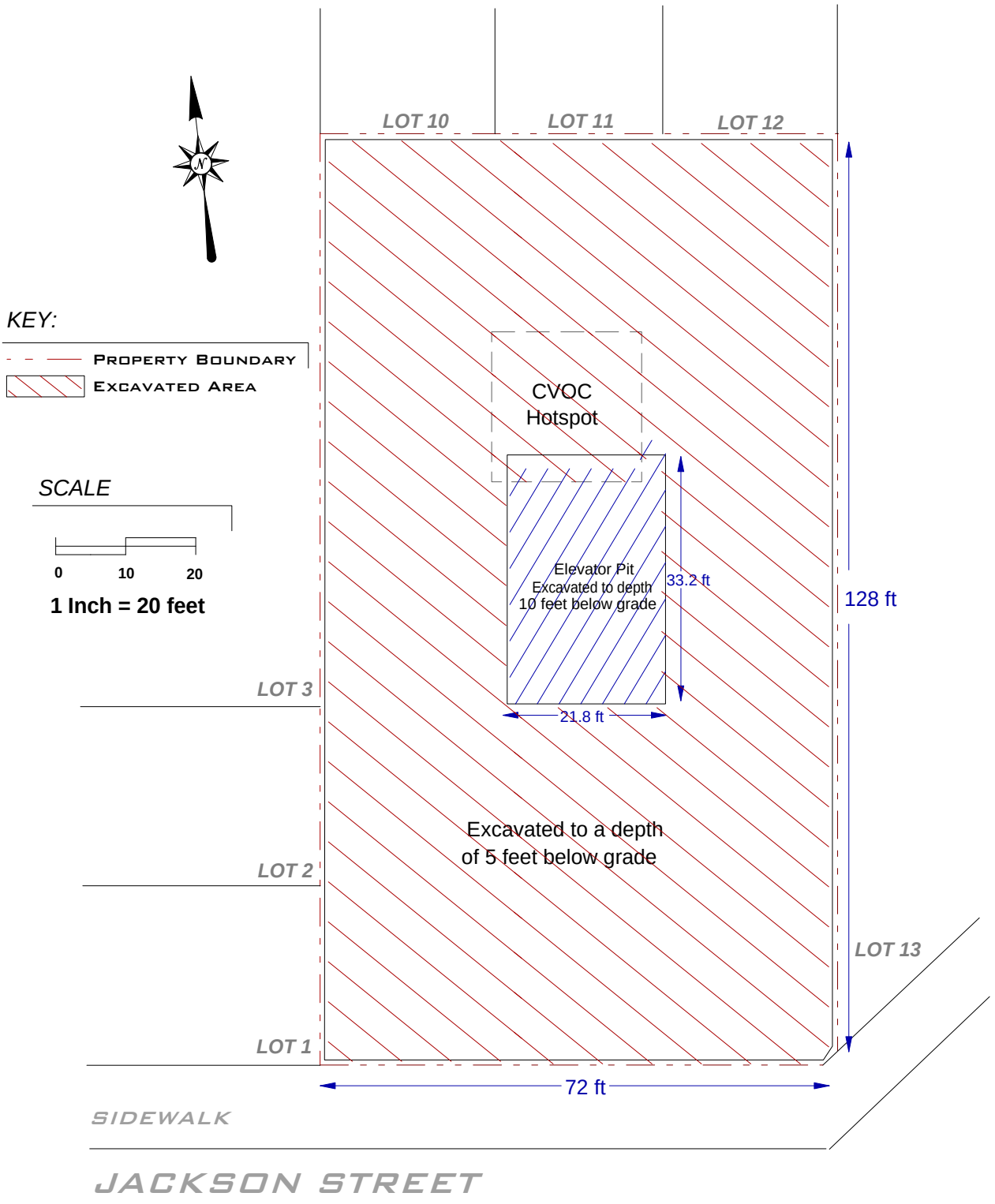
FIGURE 1 SITE LOCATION MAP



EBC
Environmental Business Consultants
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. 2

Site Name: Former Driggs Plywood Corp. Site - C224178
Site Address: 11-15 Jackson Street, Brooklyn, NY
Drawing Title: Site Plan



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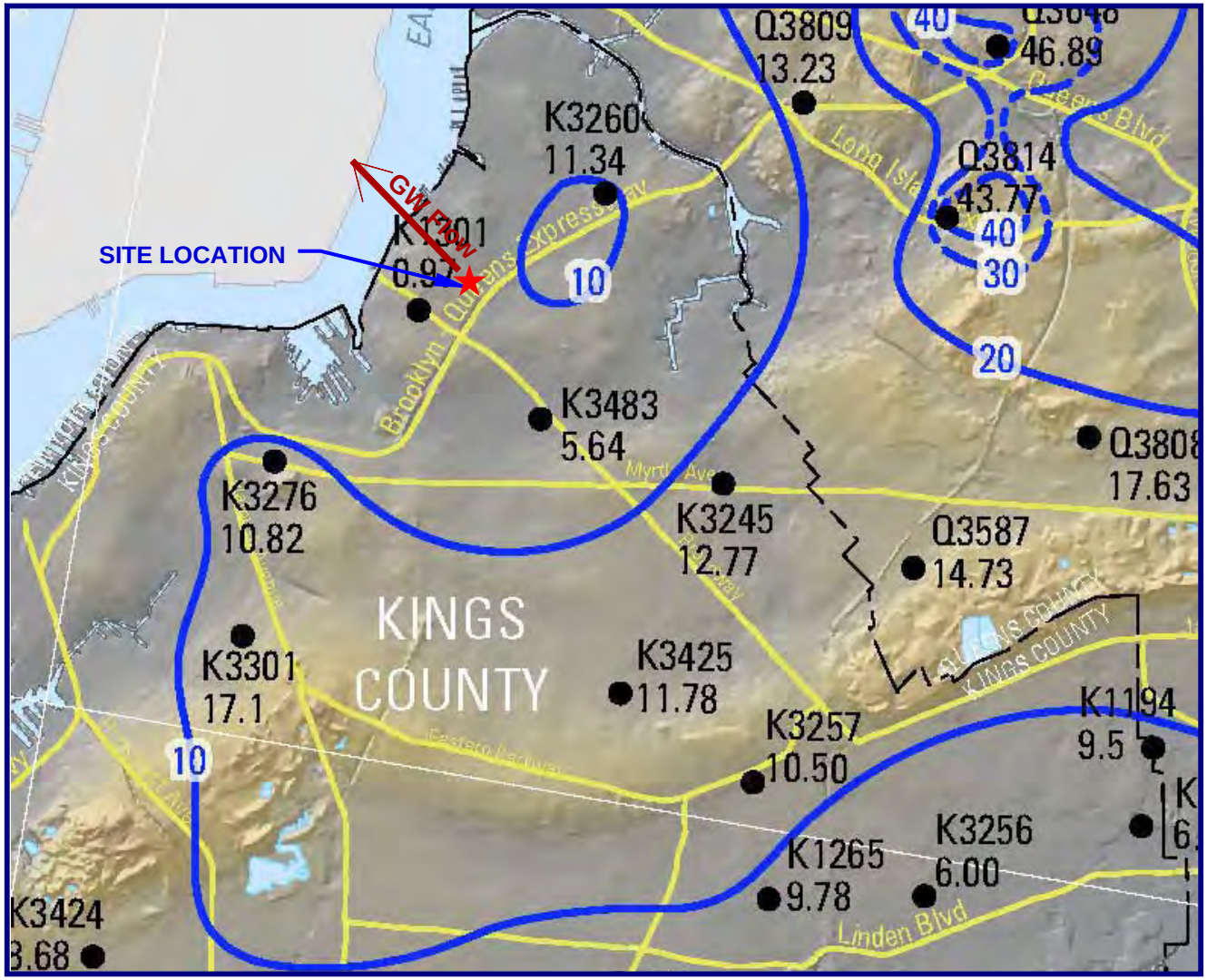
ENVIRONMENTAL BUSINESS CONSULTANTS
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. 3

Site Name: FORMER DRIGGS PLYWOOD CORP. SITE - C224178
Site Address: 11 JACKSON STREET, BROOKLYN, NY
Drawing Title: EXCAVATION MAP



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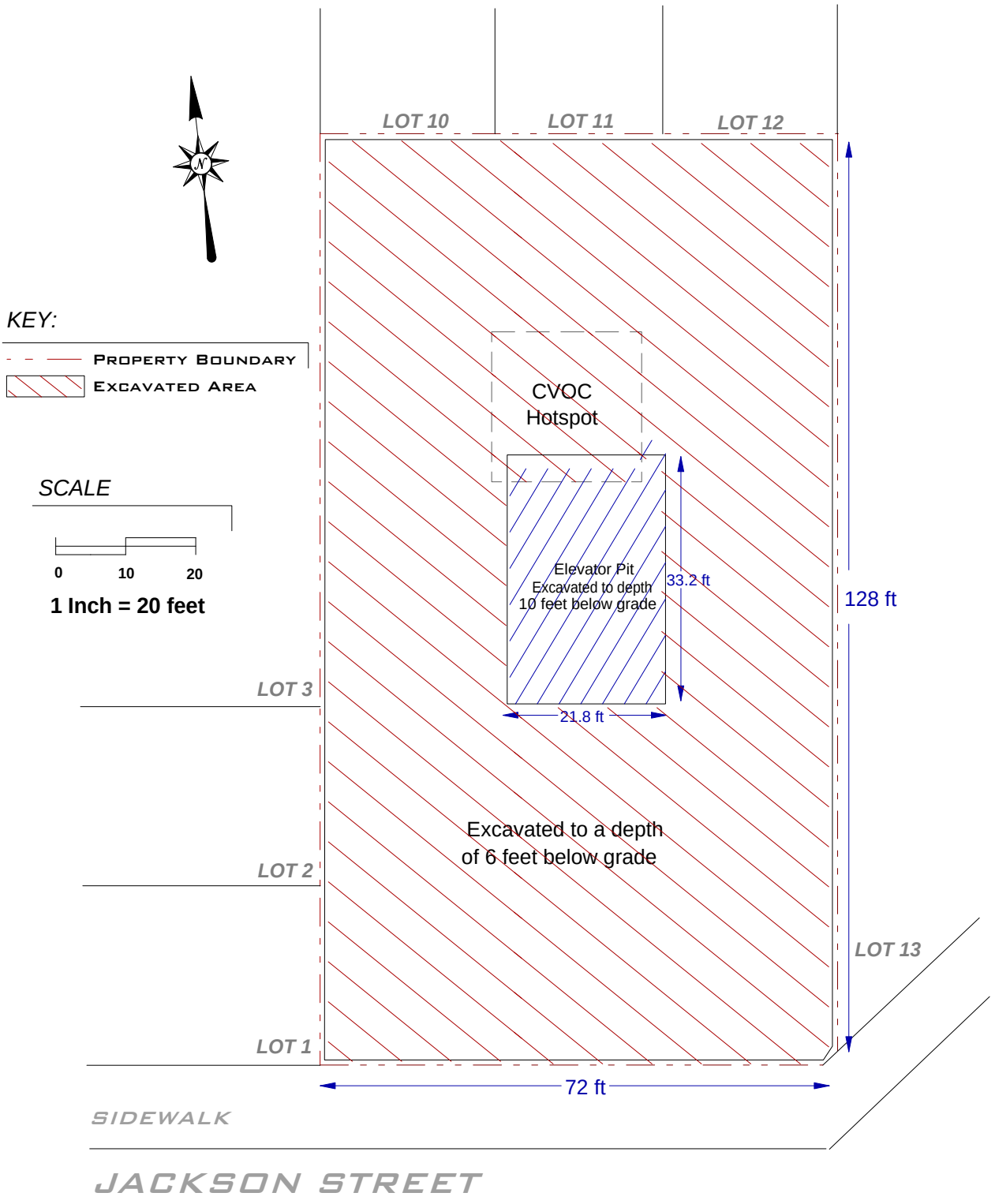
ENVIRONMENTAL BUSINESS CONSULTANTS
1808 MIDDLE COUNTRY ROAD. RIDGE. NY 11961
Phone 631.504.6000
Fax 631.924.2780

FORMER DRIGGS PLYWOOD CORP.
11-15 JACKSON STREET, BROOKLYN, NY

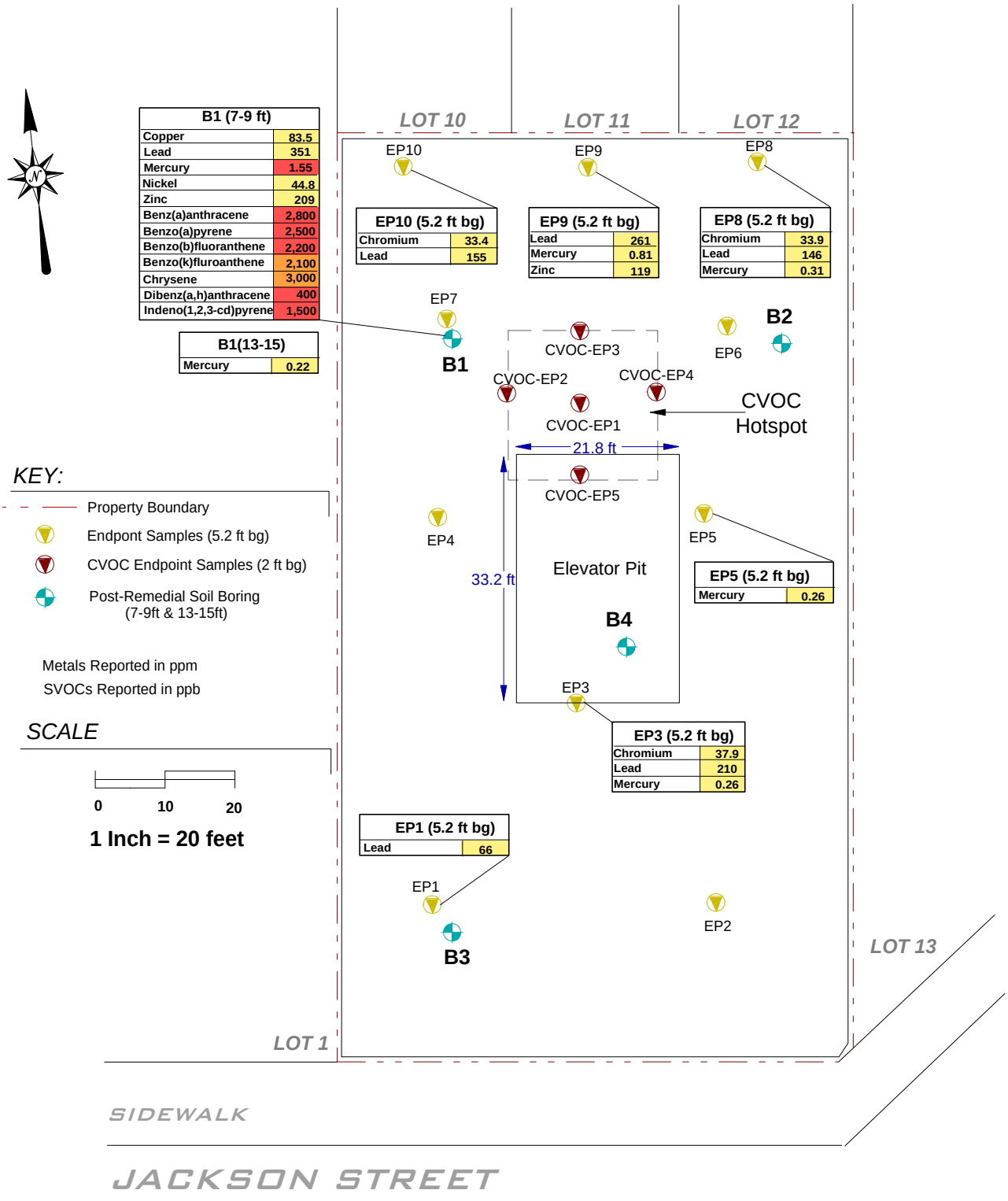
FIGURE 4 REGIONAL GROUNDWATER MAP



EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. 5

Site Name: FORMER DRIGGS PLYWOOD CORP. SITE - C224178
Site Address: 11 JACKSON STREET, BROOKLYN, NY
Drawing Title: SOIL EXCAVATION AND HOTSPOT LOCATIONS



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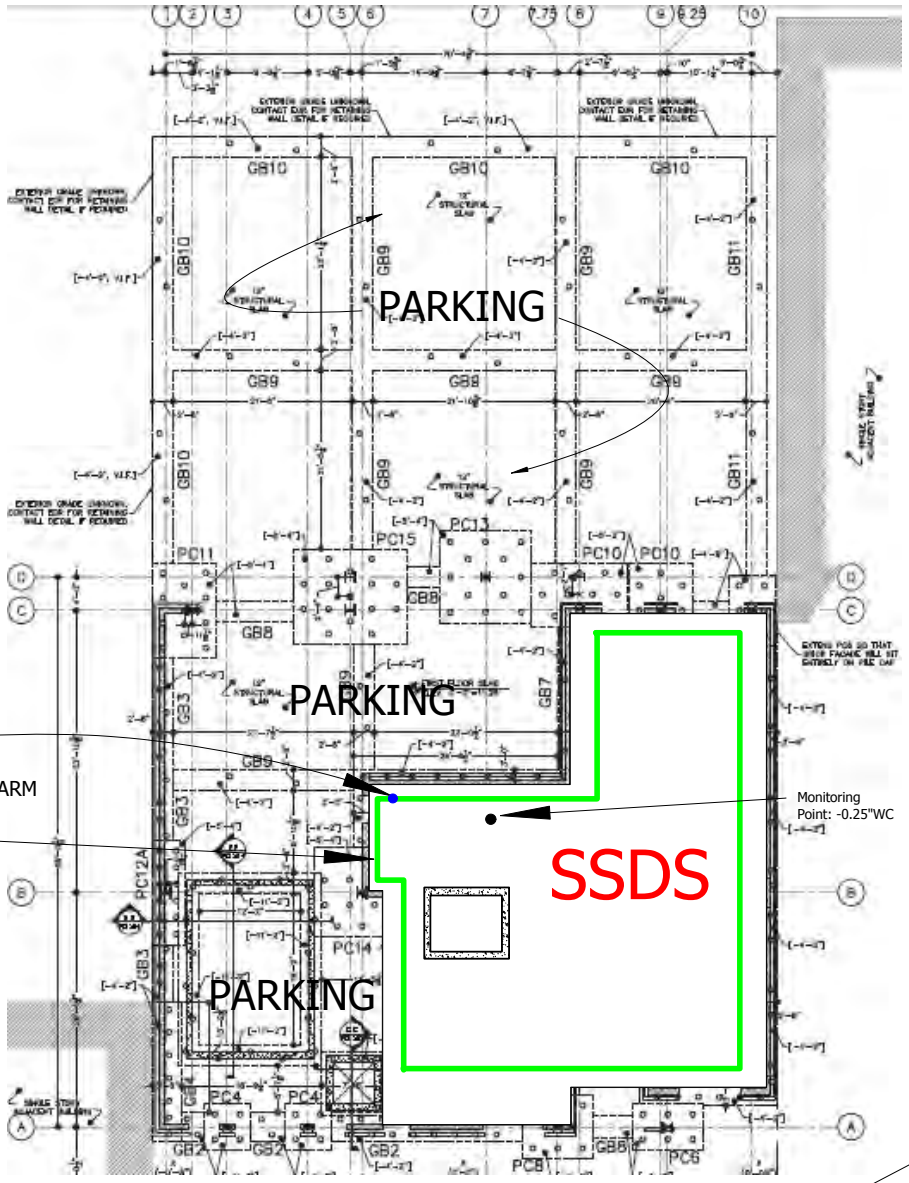
Environmental Business Consultants
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. 6

Site Name: Former Driggs Plywood Corp. Site - C224178
Site Address: 11 Jackson Street, Brooklyn, NY
Drawing Title: Endpoint and CVOC Endpoint Sampling Locations



AMC ENGINEERING PLLC
99 JERICHO TURNPIKE
JERICHO, NY 11753
516 987-1662

PROJECT

Former Driggs Plywood Site
11 Jackson Street,
Brooklyn, NY

TITLE:

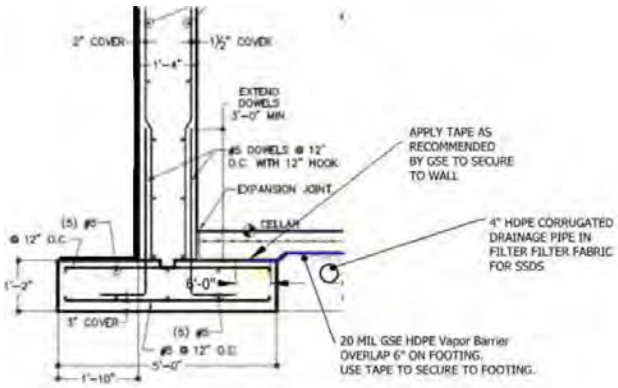
SUBSLAB DEPRESSURIZATION
SYSTEM DESIGN:As built Layout

STATE OF NEW YORK
ARIEL CZEMERINSKI
076508
LICENSED PROFESSIONAL ENGINEER

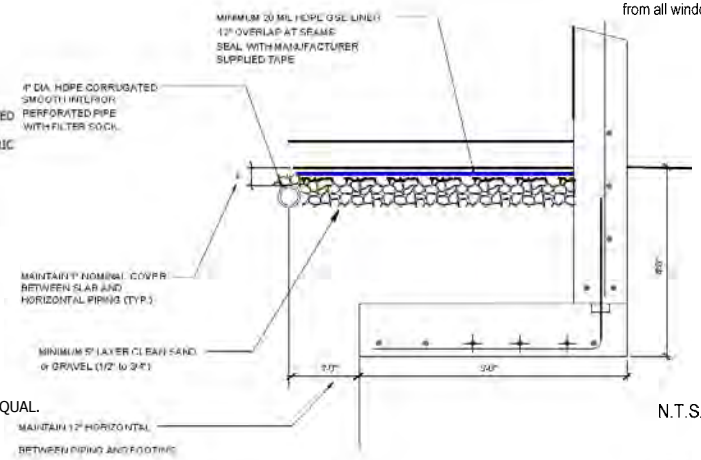
DATE: 10/1/15
PROJECT No:
DRAWING BY: AC
CHK BY:
DWG No:

FIGURE 7

CADD FILE No:

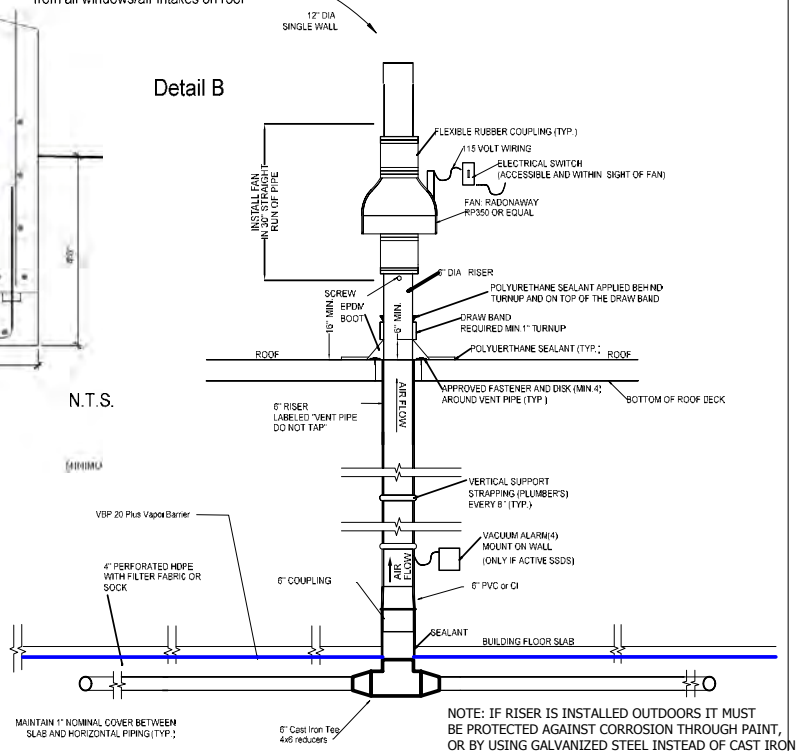


Detail A



Stack to be located at least 10ft from all windows/air intakes on roof

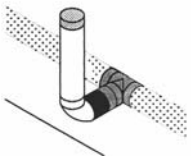
Detail B



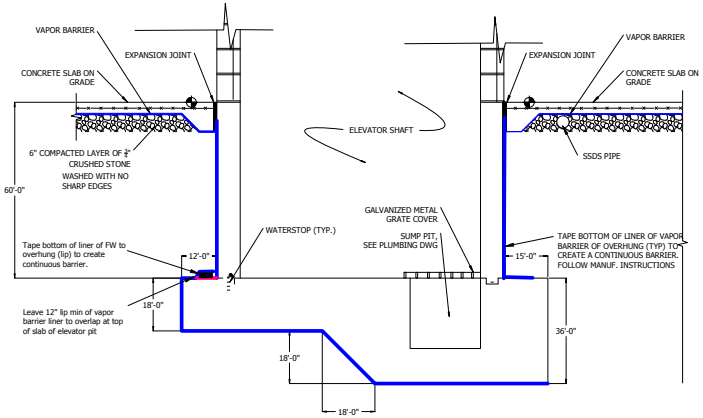
N.T.S.

NOTE: IF RISER IS INSTALLED OUTDOORS IT MUST BE PROTECTED AGAINST CORROSION THROUGH PAINT, OR BY USING GALVANIZED STEEL INSTEAD OF CAST IRON OR USING PVC SCH80 PIPE.

NOTES:
1. FAN TO BE RADONAWAY HIGH-FLOW IN-LINE FAN, MODEL RP 350, OR APPROVED EQUAL.
2. FAN AND ON/OFF SWITCH TO BE HARD-WIRED TOGETHER TO 115 VOLT CIRCUIT.
3. SECURE RUBBER COUPLING WITH SCREW TO PREVENT FAN ASSEMBLY FROM SLIPPING DOWN VERTICAL PIPE.
4. DWYER MAGNAHELIC DIAL TYPE VACUUM GAUGE MODEL 2002-M OR APPROVED EQUAL.
5. SEAL OPENING WITH ELASTOMERIC JOINT SEALANT AS DEFINED IN ASTM C920.
6. HIGH DENSITY POLYETHYLENE CORRUGATED PERFORATED PIPE WITH SMOOTH INTERIOR WATERWAY. ADS N-12 OR APPROVED EQUAL.
7. WRAP 4" HDPE PIPE WITH GEOTEXTILE FABRIC, GSE NW4 OR APPROVED EQUAL.
8. EBC MUST PRE-APPROVE ALL FILLMATERIAL BEFORE DELIVERY TO SITE
9. INSPECTIONS:
   a. DELIVERY OF MATERIALS
   b. INSTALLATION OF GPA AND SSD PIPE
   c. COMPLETION OF INSTALLATION OF GPA
   d. INSTALLATION OF VAPOR BARRIER
   e. INSTALLATION OF RISER AND COMPONENTS
   f. SYSTEM START UP

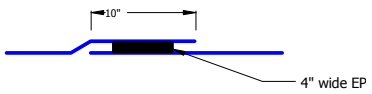


OFFSET VERTICAL SUCTION POINT-TRANSITION TO 6" CAST IRON.



DETAIL D

ELEVATOR PIT DETAIL



20 mil vapor barrier Overlap Detail

DETAIL C

AMC ENGINEERING PLLC
99 JERICHO TURNPIKE
JERICHO, NY 11753
516 987-1662

PROJECT

Former Driggs Plywood Site
11 Jackson Street,
Brooklyn, NY

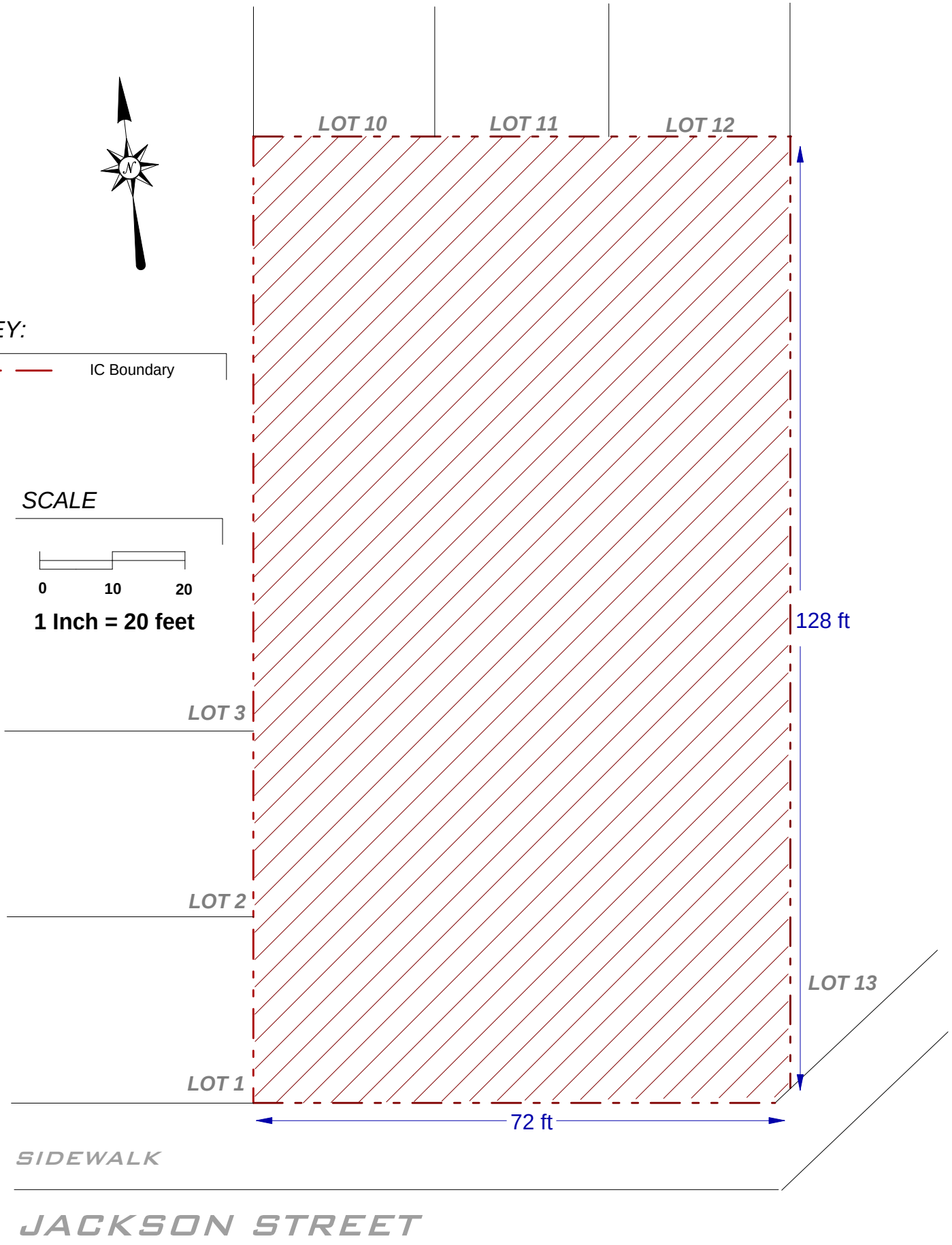
TITLE:

SUBSLAB DEPRESSURIZATION SYSTEM DETAILS: DETAILS

DATE: 9/30/15
PROJECT No:
DRAWING BY: AC
CHK BY:
DWG No:

FIGURE 8

CADO FILE No:



EBC
Environmental Business Consultants
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. 9

Site Name: Former Driggs Plywood Corp. Site - C224178
Site Address: 11 Jackson Street, Brooklyn, NY
Drawing Title: Institutional Control Boundary Map

APPENDIX - A

Metes and Bounds Description

LEGAL DESCRIPTION

All that certain Lot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the Borough of Brooklyn, County of Kings, City and State of New York, bounded and described as follows:

BEGINNING at a point on the northerly side of Jackson Street, distant 100 feet easterly from the corner formed by the intersection of the easterly side of Union Avenue with the northerly side of Jackson Street;

RUNNING THENCE northerly parallel with the easterly side of Union Avenue, 130 feet;

THENCE easterly again parallel with Jackson Street, 75 feet;

THENCE southerly again parallel with Union Avenue 128.27 feet (128 feet ¾ inches Tax Map) to the northwesterly side of Meeker Avenue a/k/a Brooklyn-Queens Connecting Highway;

THENCE southwesterly along Meeker Avenue a/k/a Brooklyn-Queens Connecting Highway 3.05 feet (3 feet 5 inches Tax Map) to the corner formed by the intersection of the northerly side of Jackson Street with the northwesterly side of Meeker Avenue a/k/a Brooklyn-Queens Connecting Highway;

THENCE westerly along the northerly side of Jackson Street, 72.49 feet (72 feet 2 1/8 inches Tax Map) to the point or place of BEGINNING.

NOTE: Being District , Section , Block 2741, **Lot(s)** 47, **Tax Map of the** Borough **of** Brooklyn, **County of** Kings.

NOTE: Lot and Block shown for informational purposes only.

11 Jackson Street

APPENDIX – B

Environmental Easement

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

This page is part of the instrument. The City Register will rely on the information provided by you on this page for purposes of indexing this instrument.The information on this page will control for indexing purposes in the event of any conflict with the rest of the document.

2015090300595001001E3472

RECORDING AND ENDORSEMENT COVER PAGE **PAGE 1 OF 10**

Document ID: 2015090300595001 Document Date: 08-24-2015 Preparation Date: 09-03-2015
Document Type: EASEMENT
Document Page Count: 9

PRESENTER:
RIVERSIDE ABSTRACT LLC
3839 FLATLANDS AVE #208 - RANY-16739
BROOKLYN, NY 11234
718-252-4200
REC@RSABSTRACT.COM

RETURN TO:
RIVERSIDE ABSTRACT LLC
3839 FLATLANDS AVE #208 - RANY-16739
BROOKLYN, NY 11234
718-252-4200
REC@RSABSTRACT.COM

PROPERTY DATA

Borough	Block	Lot	Unit	Address
BROOKLYN	2741	47	Entire Lot	11 JACKSON ST

Property Type: OTHER Easement

CROSS REFERENCE DATA

CRFN_____ *or* DocumentID_____ *or* _____ Year_____ Reel____ Page_____ *or* File Number_____

PARTIES

GRANTOR/SELLER:
JACKSON ESTATES II LLC
320 ROEBLING STREET, SUITE 316
BROOKLYN, NY 11211

GRANTEE/BUYER:
PEOPLE OF THE STATE OF NEW YORK
625 BROADWAY
ALBANY , NY 12233

FEES AND TAXES

Mortgage :

Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	82.00
Affidavit Fee:	$	0.00

Filing Fee: $ 100.00
NYC Real Property Transfer Tax: $ 0.00
NYS Real Estate Transfer Tax: $ 0.00

RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK
Recorded/Filed 09-14-2015 10:52
City Register File No.(CRFN): **2015000321328**

City Register Official Signature

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 24th day of August, 2015, between Owner(s) Jackson Estate II LLC, having an office at 320 Roebling Street, Suite 316, Brooklyn, New York 11211, County of Kings, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 11 Jackson Street in the City of New York, County of Kings and State of New York, known and designated on the tax map of the New York City Department of Finance as tax map parcel number: Block 2741 Lot 47, being the same as that property conveyed to Grantor by deed dated July 29, 2013 and recorded in the City Register of the City of New York as CRFN # 2013000320873. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.200 +/- acres, and is hereinafter more fully described in the Land Title Survey dated May 7, 2015 prepared by Vincent M. Teutonico of AAA Group, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C224178-10-13, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining

contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved b the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her 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

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against

the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C224178
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of

this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Jackson Estates II LLC:

By: _____

Print Name: Isaac Schwartz

Title: member Date: 8/11/15

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Kings)

On the 11th day of August, in the year 20 15, before me, the undersigned, personally appeared Isaac Schwartz, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

SHIA KOHN
NOTARY PUBLIC STATE OF NEW YORK
NO. 01K06170293
QUALIFIED IN KINGS COUNTY
COMMISSION EXPIRES JULY 7, 2019

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 24th day of August, in the year 2015 before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2019

SCHEDULE "A" PROPERTY DESCRIPTION

All that certain plot, piece or parcel of land situate, lying and being in the Borough of Brooklyn, County of Kings, City and State of New York, bounded and described as follows:

BEGINNING at a point on the northerly side of Jackson Street, distant 100 feet easterly from the corner formed by the intersection of the easterly side of Union Avenue with the northerly side of Jackson Street;

RUNNING THENCE northerly parallel with easterly side of Union Avenue, 130 feet;

THENCE easterly again parallel with Jackson Street, 75 feet;

THENCE southerly again parallel with Union Avenue 128.27 feet (128 feet ¾ inches Tax Map) to the northwesterly side of Meeker Avenue a/k/a Brooklyn-Queens Connecting Highway;

THENCE southwesterly along Meeker Avenue a/k/a Brooklyn-Queens Connecting Highway 3.05 feet (3 feet 5 inches Tax Map) to the corner formed by the intersection of the northerly side of Jackson Street with the northwesterly side of Meeker Avenue a/k/a Brooklyn-Queens Connecting Highway;

THENCE westerly along the northerly side of Jackson Street, 72.49 feet (72 feet 2 1/8 inches Tax Map) to the point or place of BEGINNING.

Containing approximately 0.200 acres more or less.

Note: Address, Block and Lot shown for informational purposes only

Designated as Block, Lot 47 and also known as 11 Jackson Street.

APPENDIX – C

List of Site Contacts

Emergency Contact List

General Contacts

General Emergencies	911
NYC Police	911
NYC Fire Department	911
NYC Department of Health	212-676-2400
Woodhull Medical Center	718-963-8000
Poison Control	800-222-1222
National Response Center	800-424-8802
NYSDEC Spills Hotline	800-457-7362

Project Contacts

NYSDEC Project Manager	Michael MacCabe	518-402-9768
NYSDEC Chief, Superfund and Brownfield Cleanup Section	Jane O'Connell	718-482-4599
NYSDOH Project Manager	Chris Doroski	518-408-7860
EBC BCP Program Manager	Charles Sosik	631-504-6000
Remedial Engineer	Ariel Czemerinski	516-987-1662
Owner's Representative	Yoel Schwimmer	718-887-9840

APPENDIX – D

Operation and Maintenance Manual

OPERATION AND MAINTENANCE PLAN

1.0 INTRODUCTION

This Operation and Maintenance Plan describes the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the site. This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the site to operate and maintain the SSDS system;
- Includes an operation and maintenance contingency plan; and,
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSD system is operated and maintained.

A copy of this Operation and Maintenance Plan will be kept at the site.

1.1 SSD System Scope

The SSD system at the site will operate 24/7 with no maintenance requirements. Periodic inspections will be performed to assure that the system is continuing to operate properly..

1.2 SSD System Start-Up and Testing

The start-up test procedure will first consist of a visual inspection to make sure all of the system components are installed properly. Following this, the system will be started and checked for leaks and adequate vacuum on the intake line and adequate pressure at the discharge stack. Power to the blower will then be cut to verify that the warning alarm is functioning properly. Vacuum readings will be taken from two locations within the building from beneath the slab using a digital manometer. Each of the sub-slab vacuum sampling locations will be created by drilling a hole through the concrete slab to allow access for a 3/8 inch diameter sampling tube which is sealed to the concrete slab. The tube will then connected to a digital manometer to provide a vacuum reading and demonstrate negative pressure. Following collection of the vacuum readings, each sampling port will be permanently sealed to prevent preferential pathway for vapor intrusion. If the system defaults and is required to be re-started, the sampling ports will be re-installed in the same location, sampled and sealed in the same manner.

The system testing described above will be conducted if, in the course of the SSD system lifetime, significant changes are made to the system, and the system restarted.

1.3 SSD System Operation: Non-Routine Equipment Maintenance

The SSD systems are maintenance free. The blower should only stop operating in the event of a power outage or a severe blockage. In the event that the system trips and shuts down, the owner or owner's representative should be contacted for repairs.

2.0 SSD SYSTEM PERFORMANCE MONITORING

An SSD system has been installed to remediate / mitigate CVOC vapors present at the Site.

2.1 SSD Monitoring Schedule

The components of the SSDS system will be inspected by a qualified environmental professional or technician on a periodic basis (as per the SMP) to assure that the system is functioning properly.

Unscheduled inspections and/or sampling may take place when a suspected failure of the SSD system has been reported or an emergency occurs that is deemed likely to affect the operation of the system.

2.2 SSD General Equipment Monitoring

A visual inspection of the complete system will be conducted during the monitoring event. SSD system components to be monitored include, but are not limited to, the following:

- Vacuum fan; and,
- General system piping.
- Vacuum gauges.
- Control switches and system alarms.

A complete list of components to be checked is provided in the Inspection Checklist (attached). If any equipment readings are not within their typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan are required immediately, and the SSD system restarted.

3.0 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS

Maintenance reports and any other information generated during regular operations at the site will be kept on-file.

3.1 Routine Maintenance Reports

Checklists or forms (attached) will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

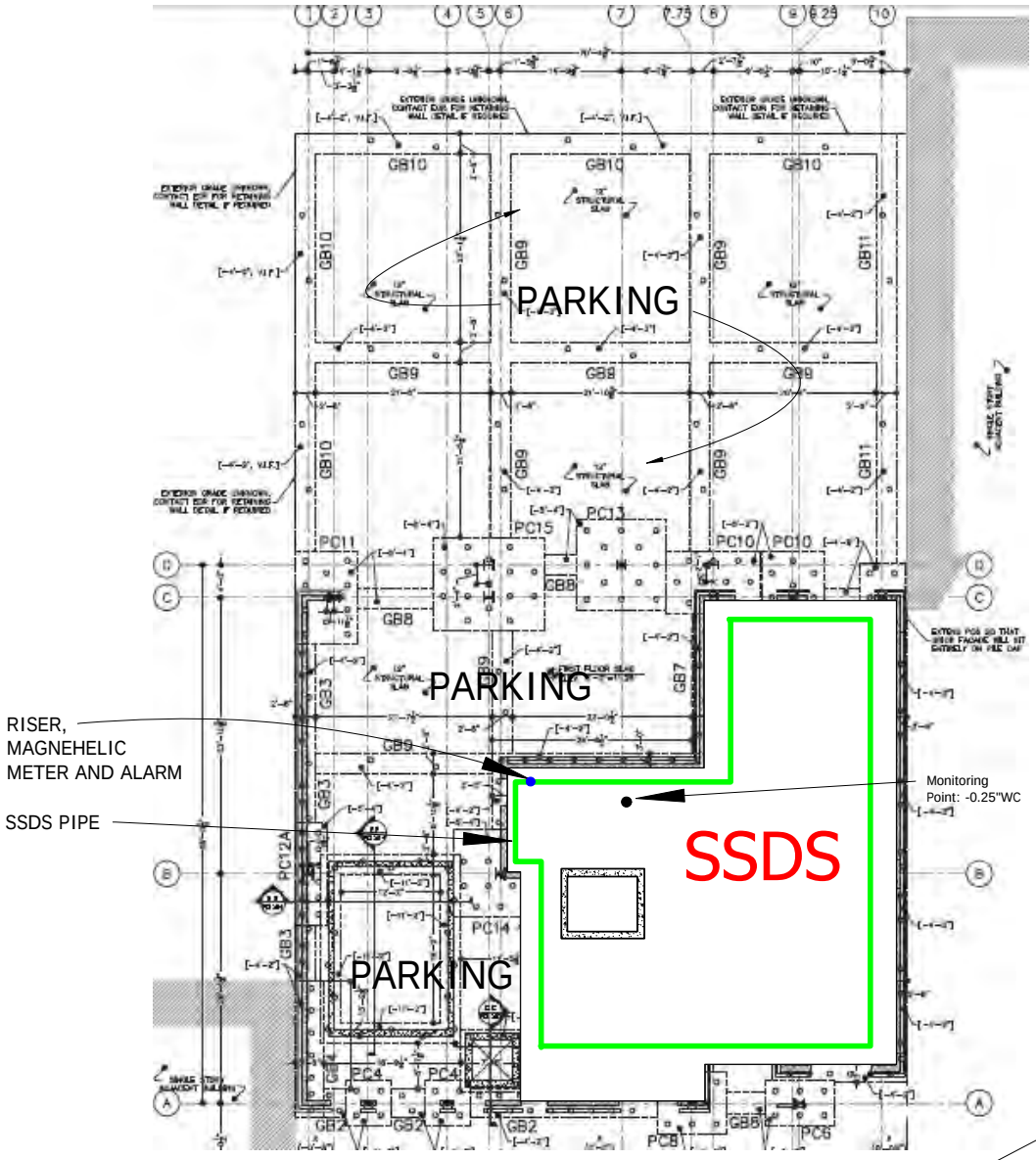
- Date;
- Name, company, and position of person(s) conducting maintenance activities;
- Maintenance activities conducted;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

3.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Presence of leaks;
- Date of leak repair;
- Other repairs or adjustments made to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and,

- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).



AMC ENGINEERING PLLC
99 JERICHO TURNPIKE
JERICHO, NY 11753
516 987-1662

PROJECT

Former Driggs Plywood Site
11 Jackson Street,
Brooklyn, NY

TITLE:

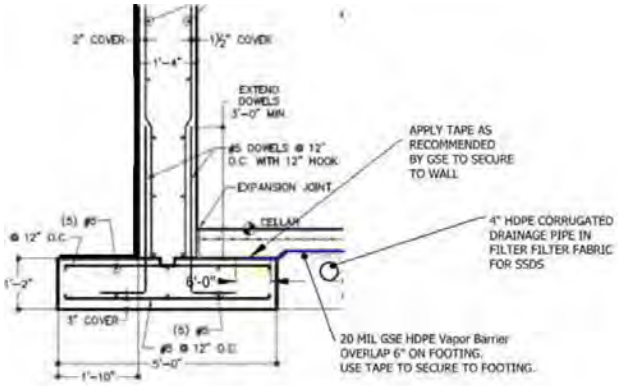
SUBSLAB DEPRESSURIZATION
SYSTEM DESIGN PLAN: As built

STATE OF NEW YORK
ARIEL CZEMERINSKI
LICENSED PROFESSIONAL ENGINEER
076508

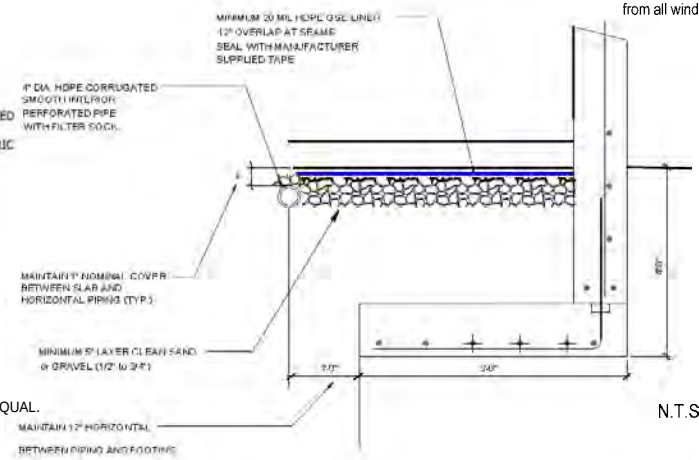
DATE: 10/1/15
PROJECT No:
DRAWING BY: AC
CHK BY:
DWG No:

FIGURE 1

CADD FILE No:

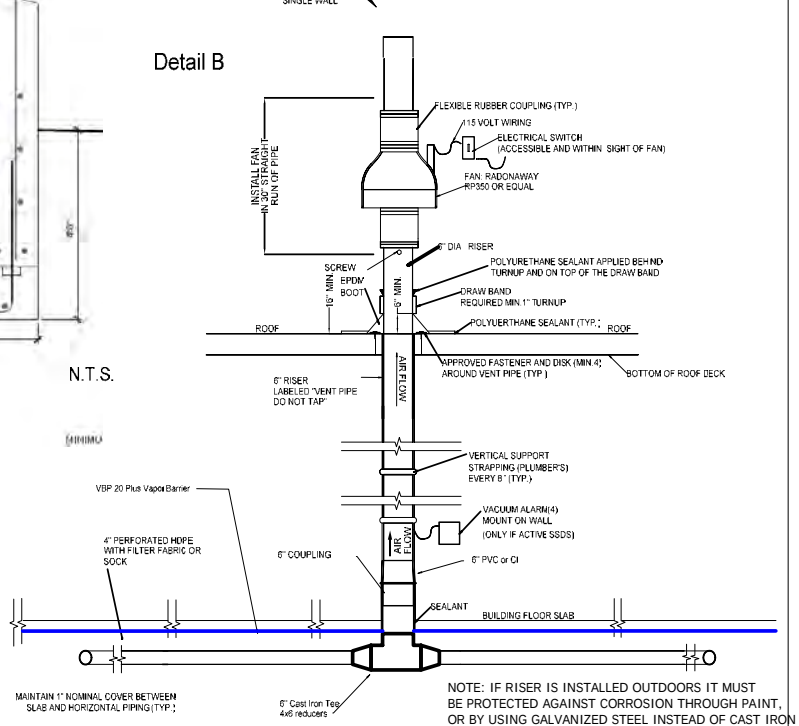


Detail A



Stack to be located at least 10ft from all windows/air intakes on roof

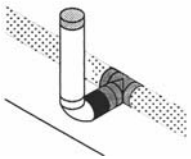
Detail B



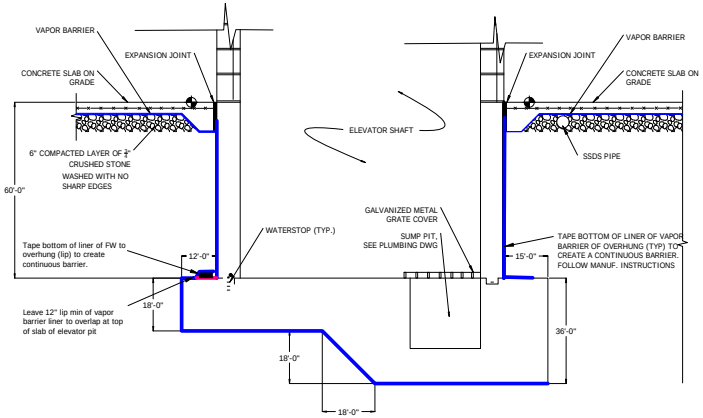
N.T.S.

NOTE: IF RISER IS INSTALLED OUTDOORS IT MUST BE PROTECTED AGAINST CORROSION THROUGH PAINT, OR BY USING GALVANIZED STEEL INSTEAD OF CAST IRON OR USING PVC SCH80 PIPE.

NOTES:
1. FAN TO BE RADONAWAY HIGH-FLOW IN-LINE FAN, MODEL RP 350, OR APPROVED EQUAL.
2. FAN AND ON/OFF SWITCH TO BE HARD-WIRED TOGETHER TO 115 VOLT CIRCUIT.
3. SECURE RUBBER COUPLING WITH SCREW TO PREVENT FAN ASSEMBLY FROM SLIPPING DOWN VERTICAL PIPE.
4. DWYER MAGNAHELIC DIAL TYPE VACUUM GAUGE MODEL 2002-M OR APPROVED EQUAL.
5. SEAL OPENING WITH ELASTOMERIC JOINT SEALANT AS DEFINED IN ASTM C920.
6. HIGH DENSITY POLYETHYLENE CORRUGATED PERFORATED PIPE WITH SMOOTH INTERIOR WATERWAY. ADS N-12 OR APPROVED EQUAL.
7. WRAP 4" HDPE PIPE WITH GEOTEXTILE FABRIC, GSE NW4 OR APPROVED EQUAL.
8. EBC MUST PRE-APPROVE ALL FILLMATERIAL BEFORE DELIVERY TO SITE
9. INSPECTIONS:
   a. DELIVERY OF MATERIALS
   b. INSTALLATION OF GPA AND SSD PIPE
   c. COMPLETION OF INSTALLATION OF GPA
   d. INSTALLATION OF VAPOR BARRIER
   e. INSTALLATION OF RISER AND COMPONENTS
   f. SYSTEM START UP

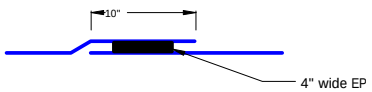


OFFSET VERTICAL SUCTION POINT-TRANSITION TO 6" CAST IRON.



DETAIL D

ELEVATOR PIT DETAIL



20 mil vapor barrier Overlap Detail

DETAIL C

AMC ENGINEERING PLLC
99 JERICHO TURNPIKE
JERICHO, NY 11753
516 987-1662

PROJECT

Former Driggs Plywood Site
11 Jackson Street,
Brooklyn, NY

TITLE:

SUBSLAB DEPRESSURIZATION SYSTEM DETAILS: AS BUILT

DATE: 9/30/15
PROJECT No:
DRAWING BY: AC
CHK BY:
DWG No:

FIGURE 2

CADO FILE No:

RadonAway™
The world's leading radon fan manufacturer

RP Series

Radon Mitigation Fan

All RadonAway™ fans are specifically designed for radon mitigation. RP Series Fans provide superb performance, run ultra-quiet and are attractive. They are ideal for most sub-slab radon mitigation systems.

Features

- Energy efficient
- Ultra-quiet operation
- Meets all electrical code requirements
- Water-hardened motorized impeller
- Seams sealed to inhibit radon leakage (RP140 & RP145 double snap sealed)
- RP140 and RP260 Energy Star® Rated
- ETL Listed - for indoor or outdoor use
- Thermally protected motor
- Rated for commercial and residential use

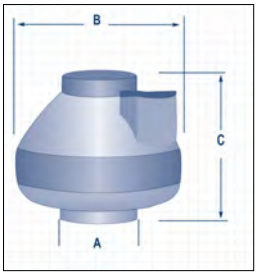
MODEL	P/N	FAN DUCT DIAMETER	WATTS	MAX. PRESSURE"WC	TYPICAL CFM vs. STATIC PRESSURE WC				
					0"	.5"	1.0"	1.5"	2.0"
RP140*	23029-1	4"	15-21	0.8	135	70	-	-	-
RP145	23030-1	4"	41-72	2.1	166	126	82	41	3
RP260*	23032-1	6"	50-75	1.6	272	176	89	13	-
RP265	23033-1	6"	91-129	2.3	334	247	176	116	52
RP380*	28208	8"	95-152	2.3	497	353	220	130	38

*Energy Star® Rated

Made in USA with US and imported parts

ETL Listed

All RadonAway inline radon fans are covered by our 5-year, hassle-free warranty



Model	A	B	C
RP140	4.5"	9.7"	8.5"
RP145	4.5"	9.7"	8.5"
RP260	6"	11.75"	8.6"
RP265	6"	11.75"	8.6"
RP380	8"	13.41"	10.53"

For Further Information Contact

9/12
P/N 02008

INSTALLATION & OPERATING INSTRUCTIONS
Instruction P/N IN015 Rev E
FOR *CHECKPOINT IIa*™ P/N 28001-2 & 28001-3
RADON SYSTEM ALARM

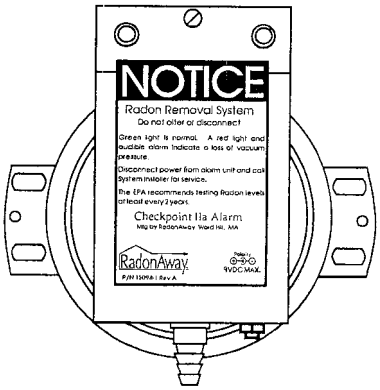
INSTALLATION INSTRUCTIONS
(WALL MOUNTING)

Select a suitable wall location near a vertical section of the suction pipe. The unit should be mounted about four or five feet above the floor and as close to the suction pipe as possible. Keep in mind that with the plug-in transformer provided, the unit must also be within six feet of a 120V receptacle. **NOTE: The Checkpoint IIa is calibrated for vertical mounting, horizontal mounting will affect switchpoint calibration.**

Drill two ¼" holes 4" apart horizontally where the unit is to be mounted.

Install the two ¼" wall anchors provided.

Hang the CHECKPOINT IIa from the two mouting holes located on the mounting bracket. Tighten the mounting screws so the unit fits snugly and securely against the wall.



Drill a 5/16" hole into the side of the vent pipe about 6" higher than the top of the unit.

Insert the vinyl tubing provided about 1" inside the suction pipe.

Cut a suitable length of vinyl tubing and attach it to the pressure switch connector on the CHECKPOINT IIa.

CALIBRATION AND OPERATION.

The CHECKPOINT IIa units are calibrated and sealed at the factory to alarm when the vacuum pressure falls below the factory setting and should not normally require field calibration. Factory Settings are:
28001-2 -.25" WC Vacuum
28001-3 -.10" WC Vacuum

To Verify Operation:

With the exhaust fan off or the pressure tubing disconnected and the CHECKPOINT IIa plugged in, both the red indicator light and the audible alarm should be on.

Turn the fan system on or connect the pressure tubing to the fan piping. The red light and the audible alarm should go off. The green light should come on.

Now turn the fan off. The red light and audible alarm should come on in about two or three seconds and the green light should go out.

WARRANTY INFORMATION

Subject to applicable consumer protection legislation, RadonAway warrants that the CHECKPOINT IIa will be free from defective material and workmanship for a period of (1) year from the date of purchase. Warranty is contingent on installation in accordance with the instructions provided. This warranty does not apply where repairs or alterations have been made or attempted by others; or the unit has been abused or misused. Warranty does not include damage in shipment unless the damage is due to the negligence of RadonAway. All other warranties, expressed or written, are not valid. To make a claim under these limited warranties, you must return the defective item to RadonAway with a copy of the purchase receipt. RadonAway is not responsible for installation or removal cost associated with this warranty. In no case is RadonAway liable beyond the repair or replacement of the defective product FOB RadonAway.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO WARRANTY OF MERCHANTIBILITY. ALL OTHER WARRANTIES, EXPRESSED OR WRITTEN, ARE NOT VALID.

For service under these warranties, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. **No returns can be accepted without an RMA.** If factory return is required, the customer assumes all shipping costs to and from factory.

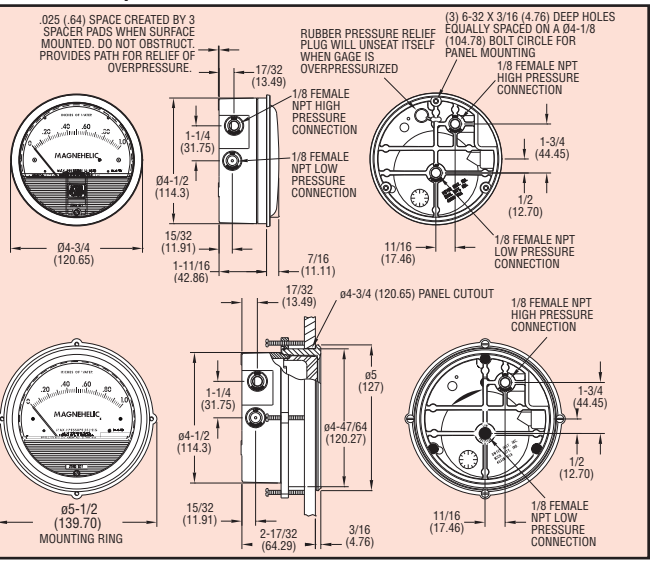
Manufactured by:
RadonAway
Ward Hill, MA
(978)-521-3703

Series 2000

Magnehelic® Differential Pressure Gages

Indicate Positive, Negative or Differential, Accurate within 2%

RoHS



Select the Dwyer® Magnehelic® gage for high accuracy – guaranteed within 2% of full-scale – and for the wide choice of 81 models available to suit your needs precisely. Using Dwyer's simple, frictionless Magnehelic® gage movement, it quickly indicates low air or non-corrosive gas pressures – either positive, negative (vacuum) or differential. The design resists shock, vibration and over-pressures. No manometer fluid to evaporate, freeze or cause toxic or leveling problems. It's inexpensive, too.

The Magnehelic® gage is the industry standard to measure fan and blower pressures, filter resistance, air velocity, furnace draft, pressure drop across orifice plates, liquid levels with bubbler systems and pressures in fluid amplifier or fluidic systems. It also checks gas-air ratio controls and automatic valves, and monitors blood and respiratory pressures in medical care equipment.

Mounting

A single case size is used for most models of Magnehelic® gages. They can be flush or surface mounted with standard hardware supplied. Although calibrated for vertical position, many ranges above 1″ may be used at any angle by simply re-zeroing. However, for maximum accuracy, they must be calibrated in the same position in which they are used. These characteristics make Magnehelic® gages ideal for both stationary and portable applications. A 4-9/16″ hole is required for flush panel mounting. Complete mounting and connection fittings, plus instructions, are furnished with each instrument. See page 7 for more information on mounting accessories.

Flush, Surface or Pipe Mounted

Enclosure Mounted

SPECIFICATIONS

Service: Air and non-combustible, compatible gases (natural gas option available).
Note: May be used with hydrogen. Order a Buna-N diaphragm. Pressures must be less than 35 psi.
Wetted Materials: Consult factory.
Housing: Die cast aluminum case and bezel, with acrylic cover. Exterior finish is coated gray to withstand 168 hour salt spray corrosion test.
Accuracy: ±2% of FS (±3% on - 0, -100 Pa, -125 Pa, 10MM and ±4% on - 00, -60 Pa, -6MM ranges), throughout range at 70°F (21.1°C).
Pressure Limits: -20 in Hg to 15 psig† (-0.677 to 1.034 bar); MP option: 35 psig (2.41 bar); HP option: 80 psig (5.52 bar).
Overpressure: Relief plug opens at approximately 25 psig (1.72 bar), standard gages only. See Overpressure Protection Note on next page.
Temperature Limits: 20 to 140°F* (-6.67 to 60°C). -20°F (-28°C) with low temperature option.
Size: 4″ (101.6 mm) diameter dial face.
Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.
Process Connections: 1/8″ female NPT duplicate high and low pressure taps - one pair side and one pair back.
Weight: 1 lb 2 oz (510 g), MP & HP 2 lb 2 oz (963 g).
Standard Accessories: Two 1/8″ NPT plugs for duplicate pressure taps, two 1/8″ pipe thread to rubber tubing adapter, and three flush mounting adapters with screws. (Mounting and snap ring retainer substituted for three adapters in MP & HP gage accessories.)
Agency Approval: RoHS. **Note:** -SP models not RoHS approved.
†For applications with high cycle rate within gage total pressure rating, next higher rating is recommended. See Medium and High pressure options at lower left.

ACCESSORIES

Model A-432 Portable Kit
Combine carrying case with any Magnehelic® gage of standard range, except high pressure connection. Includes 9 ft (2.7 m) of 3/16″ ID rubber tubing, standhang bracket and terminal tube with holder **$48.00**

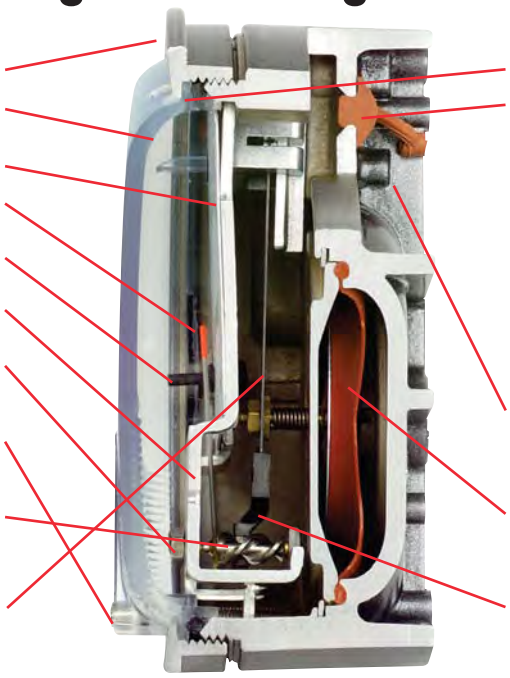
Model A-605 Air Filter Gage Accessory Kit
Adapts any standard Magnehelic® gage for use as an air filter gage. Includes aluminum surface mounting bracket with screws, two 5 ft (1.5 m) lengths of 1/4″ aluminum tubing two static pressure tips and two molded plastic vent valves, integral compression fittings on both tips and valves **35.00**

A-605B Air Filter Gage Accessory Kit, Air filter kit with two plastic open/close valves, two 4″ steel static tips, plastic tubing and mounting flange **26.00**

A-605C Air Filter Gage Accessory Kit, Air filter kit with two plastic open/close valves, two plastic static tips, plastic tubing and mounting flange **21.00**

Series 2000

Magnehelic® Gage Models & Ranges



Bezel provides flange for flush mounting in panel.

Clear plastic face is highly resistant to breakage. Provides undistorted viewing of pointer and scale.

Precision litho-printed scale is accurate and easy to read.

Red tipped pointer of heat treated aluminum tubing is easy to see. It is rigidly mounted on the helix shaft.

Pointer stops of molded rubber prevent pointer over-travel without damage.

"Wishbone" assembly provides mounting for helix, helix bearings and pointer shaft.

Jeweled bearings are shock-resistant mounted; provide virtually friction-free motion for helix. Motion damped with high viscosity silicone fluid.

Zero adjustment screw is conveniently located in the plastic cover, and is accessible without removing cover. O-ring seal provides pressure tightness.

Helix is precision made from an alloy of high magnetic permeability. Mounted in jeweled bearings, it turns freely, following the magnetic field to move the pointer across the scale.

Calibrated range spring is flat spring steel. Small amplitude of motion assures consistency and long life. It reacts to pressure on diaphragm. Live length adjustable for calibration.

O-ring seal for cover assures pressure integrity of case.

OVERPRESSURE PROTECTION
Blowout plug is comprised of a rubber plug on the rear which functions as a relief valve by unseating and venting the gage interior when over pressure reaches approximately 25 psig (1.7 bar). To provide a free path for pressure relief, there are four spacer pads which maintain 0.023″ clearance when gage is surface mounted. Do not obstruct the gap created by these pads. The blowout plug is not used on models above 180″ of water pressure, medium or high pressure models, or on gages which require an elastomer other than silicone for the diaphragm. The blowout plug should not be used as a system overpressure control. High supply pressures may still cause the gage to fail due to over pressurization, resulting in property damage or serious injury. Good engineering practices should be utilized to prevent your system from exceeding the ratings or any component.

Die cast aluminum case is precision made and iridite-dipped to withstand 168 hour salt spray corrosion test. Exterior finished in baked dark gray hammerloid. One case size is used for all standard pressure options, and for both surface and flush mounting.

Silicone rubber diaphragm with integrally molded O-ring is supported by front and rear plates. It is locked and sealed in position with a sealing plate and retaining ring. Diaphragm motion is restricted to prevent damage due to overpressures.

Samarium Cobalt magnet mounted at one end of range spring rotates helix without mechanical linkages.

Model	Range Inches of Water	Price
2000-00N†••	.05-0-.2	$77.45
2000-00†••	0-.25	73.00
2000-0†•	0-.50	63.50
2001	0-1.0	63.50
2002	0-2.0	63.50
2003	0-3.0	63.50
2004	0-4.0	63.50
2005	0-5.0	63.50
2006	0-6.0	63.50
2008	0-8.0	63.50
2010	0-10	63.50
2012	0-12	63.50
2015	0-15	63.50
2020	0-20	63.50
2025	0-25	63.50
2030	0-30	63.50
2040	0-40	63.50
2050	0-50	63.50
2060	0-60	63.50
2080	0-80	63.50
2100	0-100	63.50
2120	0-120	63.50
2150	0-150	63.50
2160	0-160	63.50
2180*	0-180	148.50
2250*	0-250	148.50
Zero Center Ranges		
2300-00†••	0.125-0-0.125	$74.00
2300-0†•	.25-0-.25	74.00
2301	.5-0-.5	74.00
2302	1-0-1	74.00
2304	2-0-2	74.00
2310	5-0-5	74.00
2320	10-0-10	74.00
2330	15-0-15	74.00

Model	Range PSI	Price
2201	0-1	$67.95
2202	0-2	67.95
2203	0-3	67.95
2204	0-4	67.95
2205	0-5	67.95
2210*	0-10	127.95
2215*	0-15	127.95
2220*	0-20	127.95
2230**	0-30	207.50

Model	Range, CM of Water	Price
2000-15CM	0-15	$63.50
2000-20CM	0-20	63.50
2000-25CM	0-25	63.50
2000-50CM	0-50	63.50
2000-80CM	0-80	63.50
2000-100CM	0-100	63.50
2000-150CM	0-150	67.95
2000-200CM	0-200	67.95
2000-250CM	0-250	67.95
2000-300CM	0-300	67.95
Zero Center Ranges		
2300-4CM	2-0-2	$78.45
2300-10CM	5-0-5	78.45
2300-30CM	15-0-15	78.45

†These ranges calibrated for vertical scale position.
• Accuracy +/-3%
• • Accuracy +/-4%
*MP option standard
**HP option standard

Model	Range MM of Water	Price
2000-6MM†••	0-6	$73.00
2000-10MM†•	0-10	63.50
2000-15MM	0-15	63.50
2000-25MM	0-25	63.50
2000-30MM	0-30	63.50
2000-50MM	0-50	63.50
2000-80MM	0-80	63.50
2000-100MM	0-100	63.50
2000-125MM	0-125	63.50
2000-150MM	0-150	63.50
2000-200MM	0-200	63.50
2000-250MM	0-250	63.50
2000-300MM	0-300	63.50
Zero Center Ranges		
2300-6MM†••	3-0-3	$99.00
2300-10MM†•	5-0-5	74.00
2300-20MM†•	10-0-10	74.00

Model	Range, Pa	Price
2000-60NPA†••	10-0-50	$77.45
2000-60PA†••	0-60	73.00
2000-100PA†•	0-100	63.50
2000-125PA†•	0-125	63.50
2000-250PA	0-250	63.50
2000-300PA	0-300	63.50
2000-500PA	0-500	63.50
2000-750PA	0-750	63.50
2000-1000PA	0-1000	63.50
Zero Center Ranges		
Model	Range, Pa	Price
2300-60PA†••	30-0-30	$74.00
2300-100PA†•	50-0-50	74.00
2300-120PA	60-0-60	74.00
2300-200PA	100-0-100	74.00
2300-250PA	125-0-125	74.00
2300-300PA	150-0-150	74.00
2300-500PA	250-0-250	74.00
2300-1000PA	500-0-500	74.00

Model	Range, kPa	Price
2000-0.5KPA	0-0.5	$63.50
2000-1KPA	0-1	63.50
2000-1.5KPA	0-1.5	63.50
2000-2KPA	0-2	63.50
2000-2.5KPA	0-2.5	63.50
2000-3KPA	0-3	63.50
2000-4KPA	0-4	63.50
2000-5KPA	0-5	63.50
2000-8KPA	0-8	63.50
2000-10KPA	0-10	63.50
2000-15KPA	0-15	63.50
2000-20KPA	0-20	63.50
2000-25KPA	0-25	63.50
2000-30KPA	0-30	63.50
Zero Center Ranges		
2300-1KPA	.5-0-.5	$74.00
2300-2KPA	1-0-1	74.00
2300-2.5KPA	1.25-0-1.25	74.00
2300-3KPA	1.5-0-1.5	74.00

Dual Scale Air Velocity Units
For use with pitot tube

Model	Range in W.C./ Velocity F.P.M.	Price
2000-00AV†••	0-.25/ 300-2000	$98.00
2000-0AV†•	0-.50/ 500-2800	88.50
2001AV	0-1.0/ 500-4000	67.95
2002AV	0-2.0/ 1000-5600	67.95
2005AV	0-5.0/ 2000-8800	67.95
2010AV	0-10/ 2000-12500	67.95

Dual Scale English/Metric Models

Model	Range, in w.c.	Range, Pa or kPa	Price
2000-00D†••	0-.25	0-62 Pa	$73.00
2000-0D†•	0-0.5	0-125 Pa	67.95
2001D	0-1.0	0-250 Pa	67.95
2002D	0-2.0	0-500 Pa	67.95
2003D	0-3.0	0-750 Pa	67.95
2004D	0-4.0	0-1.0 kPa	67.95
2005D	0-5.0	0-1.25 kPa	67.95
2006D	0-6.0	0-1.5 kPa	67.95
2008D	0-8.0	0-2.0 kPa	67.95
2010D	0-10	0-2.5 kPa	67.95
2015D	0-15	0-3.7 kPa	67.95
2020D	0-20	0-5 kPa	88.50
2025D	0-25	0-6.2 kPa	88.50
2050D	0-50	0-12.4 kPa	88.50
2060D	0-60	0-15 kPa	88.50

VELOCITY AND VOLUMETRIC FLOW UNITS
Scales are available on the Magnehelic® that read in velocity units (FPM, m/s) or volumetric flow units (SCFM, m^3/s, m^3/h). Stocked velocity units with dual range scales in inches w.c. and feet per minute are shown above. For other ranges contact the factory.
When ordering volumetric flow scales please specify the maximum flow rate and its corresponding pressure. Example: 0.5 in w.c. = 16,000 CFM.

ACCESSORIES

A-321, Safety Relief Valve **35.25**
A-448, 3-piece magnet kit for mounting Magnehelic® gage directly to magnetic surface **10.75**
A-135, Rubber gasket for panel mounting **1.50**
A-401, Plastic Carry Case **26.25**

A-310A 3-Way Vent Valves **$16.50**
In applications where pressure is continuous and the Magnehelic® gage is connected by metal or plastic tubing which cannot be easily removed, we suggest using Dwyer A-310A vent valves to connect gage. Pressure can then be removed to check or re-zero the gage.

APPENDIX – E

Site Management Forms

SITE INSPECTION CHECKLIST

SSDS - System Inspection Checklist
11 Jackson Street
Brooklyn, NY

Date: _____ Time: _____

Inspector Name/Organization: _____

Physical Inspection of Fan- Check seal w/vent line, unusual noises and general condition of unit.

Fan 1 :	**yes**	**no**	Fan Model No. Manufacturer:
Operational?			
Observed Leaks at Seals?			
Air Flow at Exhaust Stack?			Other Comments / Observations
Vacuum Reading:	"H2O		
Alarm Test:			
Alarm sound when fan off?			
Indicator lights when fan off?			

Repairs Needed and / or Maintenance at this time?

Signature: _____ Date: _____