C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.

12 Raymond Avenue, Poughkeepsie NY 12603
845.454.4400 www.ctmale.com

August 22, 2024 ***VIA EMAIL***

Mr. Ryan Richard, Assistant Geologist
New York State Department of Environmental Conservation, Region 3
Division of Environmental Remediation
21 South Putt Corners Road
New Paltz, NY 12561-1620

RE: Interim Remedial Measures Work Plan, Sub-Slab Depressurization System Installation
Former Mobile Media Inc. Site, NYSDEC Site No: C336093
175 Kelly Avenue
Hamlet of Pine Bush, Town of Crawford, Orange County
C.T. Male Project No: 19.9347

Dear Mr. Richard:

C.T. Male Associates Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C. (C.T. Male) submits this Interim Remedial Measure Work Plan (IRMWP) on behalf of Mobile Media, Inc. for the property located at 175 Kelly Avenue in the Hamlet of Pine Bush, Town of Crawford, Orange County, New York (herein "the Site"). The Site is identified as New York State Department of Environmental Conservation (NYSDEC) Site No. C336093. This IRMWP has been prepared in advance of a Supplemental Remedial Investigation Work Plan that will be submitted to the NYSDEC. Furthermore, this IRWWP has been reviewed by a Professional Engineer and the appropriate certification is provided in later sections of this work plan.

Background

The Site consists of one tax parcel which encompasses approximately 0.48 acres of land known in the Orange County, Town of Crawford Tax Map as S.B.L. 6-8-3. The Site contains one (1) single-story wooden structure where Mobile Media Inc. previously operated a small commercial manufacturing facility that produced specialty high density plastic shelving for the retail industry. Mobile Media Inc. has since relocated its operations to a facility in Ellenville, NY.

The Site building is currently used as a tire storage warehouse with a few small rooms utilized as office space. An approximately three-foot high crawl space is present beneath the western two-thirds of the building. The eastern third of the building is slab-on-grade construction. Two (2) small partial basements are in the western portion of the building.

Southwest and directly across Kelly Avenue from the Site, is a small parcel owned by Mobile Media Inc. This parcel, which is not included in the BCP Site, is improved by an asphalt paved parking lot and is sparsely wooded with trees along the outer perimeter. Although not part of the BCP, investigative work has been conducted on this parcel to assess off-site impact. The location of the Site and the approximate parcels boundaries are depicted on Figure 1 - Site Location Map and Figure 2 – Area Tax Parcel Map, respectively.

Groundwater sampling by C.T. Male in 2015, 2016, and 2023 identified a chlorinated volatile organic compound (cVOC) groundwater plume within the eastern portion of the Site and on adjacent parcels. Concentrations of tetrachloroethene (PCE) and trichloroethene (TCE) above groundwater ambient water quality standards were documented in the 2023 sampling event. The highest concentrations of PCE and TCE in groundwater were detected on adjacent parcels east, northeast, and southeast of the Site building. Refer to Figure 10, cVOC Groundwater Plume Gradient Modeling (2023 Data) in Appendix A.

Soil Vapor Intrusion

Soil vapor sampling performed by C.T. Male is January 2023 identified elevated concentrations of PCE and TCE in soil vapor immediately north, northeast and south of the Site building. Refer to Figure 5, SCG Exceedances in Soil Vapor (2023 Data) in Appendix B. Sub-slab vapor and indoor ambient air sampling performed by C.T. Male in 2021 identified elevated TCE concentrations in sub-slab soil vapor and interior ambient air within the eastern partial basement and the eastern end of first-floor warehouse space. The concentrations of TCE documented require mitigation measures in accordance with the New York State Department of Health (NYSDOH) Final Soil Vapor Intrusion (SVI) Soil Vapor/Indoor Air Matrices dated October 2006 (last revised February 2024).

This IRMWP describes the scope of work proposed to install a sub-slab depressurization system (SSDS) within the Site building to mitigate elevated sub-slab soil vapor and indoor ambient air volatile organic compound (VOCs) concentrations detected during the Remedial Investigation. This SSDS system has been designed to mitigate soil vapor beneath the first-floor slab, beneath the east partial basement floor slab, and from within the crawl space beneath the western two-thirds of the building.

Diagnostics and SSDS Design

Mitigation Diagnostics and System Design: OBAR Systems Inc. of South Newfoundland, NJ (OBAR) was contracted by C.T. Male to perform a diagnostic survey at the site and provide a design for the installation of a SSDS. The OBAR Report was reviewed by C.T. Male's Professional Engineer to ensure proper design and consistency with standard SVI mitigation practices. Upon review, it was determined that the proposed mitigation system is adequate and will achieve the proposed negative pressure of 0.004 inches of water column (WC).

The field diagnostics performed by OBAR included a field survey to determine potential points of entry of soil gas into the structure, and pressure field extension (PFE) testing to determine the vacuum requirements of the proposed system based on the air flow characteristics (permeability) of Site soils. These field diagnostics were completed on June 7, 2024, under C.T. Male observation. At the conclusion of diagnostic testing, OBAR assessed field data and prepared a site-specific SSDS design. The design objective for the SSDS is to mitigate potential SVI into the building target areas by maintaining a negative pressure of at least 0.004 inches water column (WC) throughout the affected sub-slab areas at all times, regardless of heating, ventilation, and air conditioning (HVAC), or variations in barometric pressure. Refer to Appendix C for the Diagnostic Report & Vapor Intrusion Mitigation System Design Plan by OBAR Systems, Inc. of South Newfoundland, NJ.

SSDS Construction

The proposed SSDS will be comprised of two (2) sub-systems as described on page 6 of OBARS's report within the System Design section, and as depicted on drawing SSD-3. Sub-system 1 will be installed in the slab-on-grade eastern ~1/3 of the building (~3,600 square feet) and in the east partial basement (~260 square feet). This system consists of four (4) suction points, three (3) suction points installed in the first-floor floor slab (SP 1-

1 through SP 1-3) and one (1) suction point installed in the east basement floor slab (SP 1-4). These suction points are connected via 3-inch diameter polyvinyl chloride (PVC) conveyance piping to roof-top fan unit GBR 89. The area of vacuum pressure field influence will be confirmed once the SSDS is installed and operational. The system is designed to provide a minimum sub-slab vacuum of -0.004 inches of water column.

Sub-system 2 includes one (1) suction point installed in the north foundation wall of the crawl space and will ventilate the slab-over-crawl space western ~2/3 of the building (4,200) square feet. This suction point is connected via PVC conveyance piping to in-line blower fan RN4. This blower is designed to complete one (1) air change per hour within the crawl space. Two (2) slot vents will be installed in the crawl space south foundation wall that is opposite the fan to promote airflow through the crawlspace.

The discharge point of exhaust piping for both systems will be a minimum of twelve inches above the building roofline. To avoid entry of extracted subsurface vapors into the building, the vent pipe's exhaust will be above the eave of the roof (preferably, above the highest eave of the building at least 12 inches above the surface of the roof), at least 10 feet above ground level, at least 10 feet away from any opening that is less than 2 feet below the exhaust point, and 10 feet from any adjoining or adjacent buildings, or HVAC intakes or supply registers. Final pipe routing will be determined in the field based on-site conditions.

Soil excavated from beneath building floor slabs to construct sub-slab suction points will be containerized in a labeled drum for future characterization and off-site disposal, as warranted.

Radius of Influence Testing

To confirm and quantify the efficacy of the SSDS, the radius of influence (ROI) will be tested upon system installation and activation. Sub-slab test ports will be installed on both the first floor and east partial basement. These ports can be used in the future for sub-slab vapor sampling as required by the NYSDEC/NYSDOH.

Monitoring
Each system will be equipped with a vacuum gauge with built-in audible/visual alarms that will alert in the event of a system failure. An OBAR remote telemetry system will also be installed for real time system monitoring.

Proposed Air Sampling

Effluent Sampling
One (1) effluent air sample will be collected from each of the two (2) effluent discharge pipes within 24-hours of the SSDS becoming operational, to quantify initial effluent VOC concentrations. The air samples will be collected over a 24-hour duration and submitted for TO-15 analysis. The initial effluent VOC concentrations will be assessed to determine the need for a State or municipal air discharge permit and/or effluent treatment, as applicable.

Indoor & Outdoor Ambient Air Sampling
Initial Sampling
Ambient air sampling for VOC analysis (TO-15) will be completed on or about November 15, 2024. This sampling date will be following activation of the SSDS and falls within the 2024/2025 heating season. Samples will be collected at the following locations: two (2) samples will be collected from within the first-floor warehouse, and one sample will be collected within the east partial basement. One outdoor ambient air sample will be collected concurrently. All four (4) air samples will be collected for an 8-hour duration and submitted for TO-15 analysis. No sub-slab soil vapor samples will be collected at that time since the SSDS will be operational. Sampling will be completed in accordance with the Quality Assurance Project Plan (QAPP), included as Appendix B of the January 2021 Remedial Investigation Work Plan. Air sample data will be sent to a third-party data validator for validation. No quality assurance samples will be collected during this air sampling event, as they are not required for this media.

Reporting

A Construction Closure Report (CCR) will be submitted to NYSDEC and NYSDOH for review within sixty days of SSDS operation. This report will provide details of the SSDS installation and will report the results of the SSDS effluent sampling and ambient air sampling data from the November sampling event. The CCR will also include an

Operation and Maintenance Plan (OMP) for the SSDS that will specify SSDS component labeling requirements and define a means of educating tenants on system operation.

Health and Safety

All sampling work completed at the Site by C.T. Male personnel will be in accordance with the Health and Safety Plan (HASP) prepared for the previous Remedial Investigation performed at the Site, included as Appendix D. All SSDS construction related work by a subcontractor(s) will be in accordance with their own HASP.

CAMP

The Community Air Monitoring Program (CAMP) plan included as Appendix D of the January 2021 Remedial Investigation Work Plan, will be implemented during the installation of the SSDS. The intent of the CAMP is to provide a measure of protection for the downwind community (i.e., site workers, schools, neighboring residences, and off-site receptors) from potential airborne contaminant releases as a direct result of the SSDS installation. Implementation of CAMP activities during the ground intrusive portion of SSDS installation will be limited to periodic monitoring of VOCs only. Particulate monitoring will not be performed since soil will be excavated via hand tools to only ~6" below the floor slab, a quantity of ~ 0.5 cubic feet per suction point location. Excavated soil will be containerized in a drum for future characterization and disposal.

Proposed Schedule

The proposed schedule for this IRM and the Supplemental Site Investigation for this project is presented below.

Proposed Schedule **Interim Remedial Action / Remedial Investigation Deliverables and Field Activities**	
Submittal / Activity	**Proposed Date (on or about)**
IRM Activities	
Draft Interim Remedial Measure Work Plan – SSDS at 175 Kelly Avenue Submittal	June 18, 2024
DEC/DOH Comments on Draft Interim Remedial Measure Work Plan – SSDS at 175 Kelly Avenue Received	August 2, 2024

Proposed Schedule **Interim Remedial Action / Remedial Investigation Deliverables and Field Activities**	
Submittal / Activity	**Proposed Date (on or about)**
Respond to DEC/DOH Comments on Draft IRM SSDS WP, Submit Final SSDS WP	August 22, 2024
Anticipated Acceptance of SSDS WP by DEC/DOH	September 6, 2024
Installation of SSDS Construction	September 16-20, 2024
Submittal of Draft Construction Closure Report	October 30, 2024
Supplemental Remedial Investigation Activities	
Draft Supplemental Remedial Investigation Work Plan (SRI WP) Submittal	September 20, 2024
Anticipated DEC/DOH Comments on Draft SRI WP	October 21, 2024
Respond to DEC/DOH Comments on Draft SRI WP, Revise and Submit Final SRI WP	November 29, 2024
SRI Field Activities Commence	December 2, 2024
Draft SRI Report Submittal	March 30, 2025

CERTIFICATION
Former Mobile Media Property, 24 Center Street, Hamlet of Pine Bush, New York
Interim Remedial Measure for Installation of Sub-Slab Depressurization Plan

I, Rosaura Andújar-McNeil, P.E., certify that I am a NYS registered professional engineer and that this Interim Remedial Measure Work 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) dated May 3, 2010, and Green Remediation (DER-31), dated August 11, 2010.

097844	9/4/2024	
NYS Professional Engineer #	Date	Signature

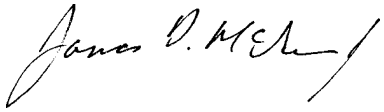
Please contact me with any questions or if further information is needed. You can reach me at: (845) 454-4400, ext. 103 or e.white@ctmale.com.

Respectfully Submitted,

C.T. MALE ASSOCIATES

Eric White
Environmental Scientist IV

Reviewed and Approved by



James D. McIver Jr., P.G.
Managing Geologist/Regional Office Manager

Attachments:

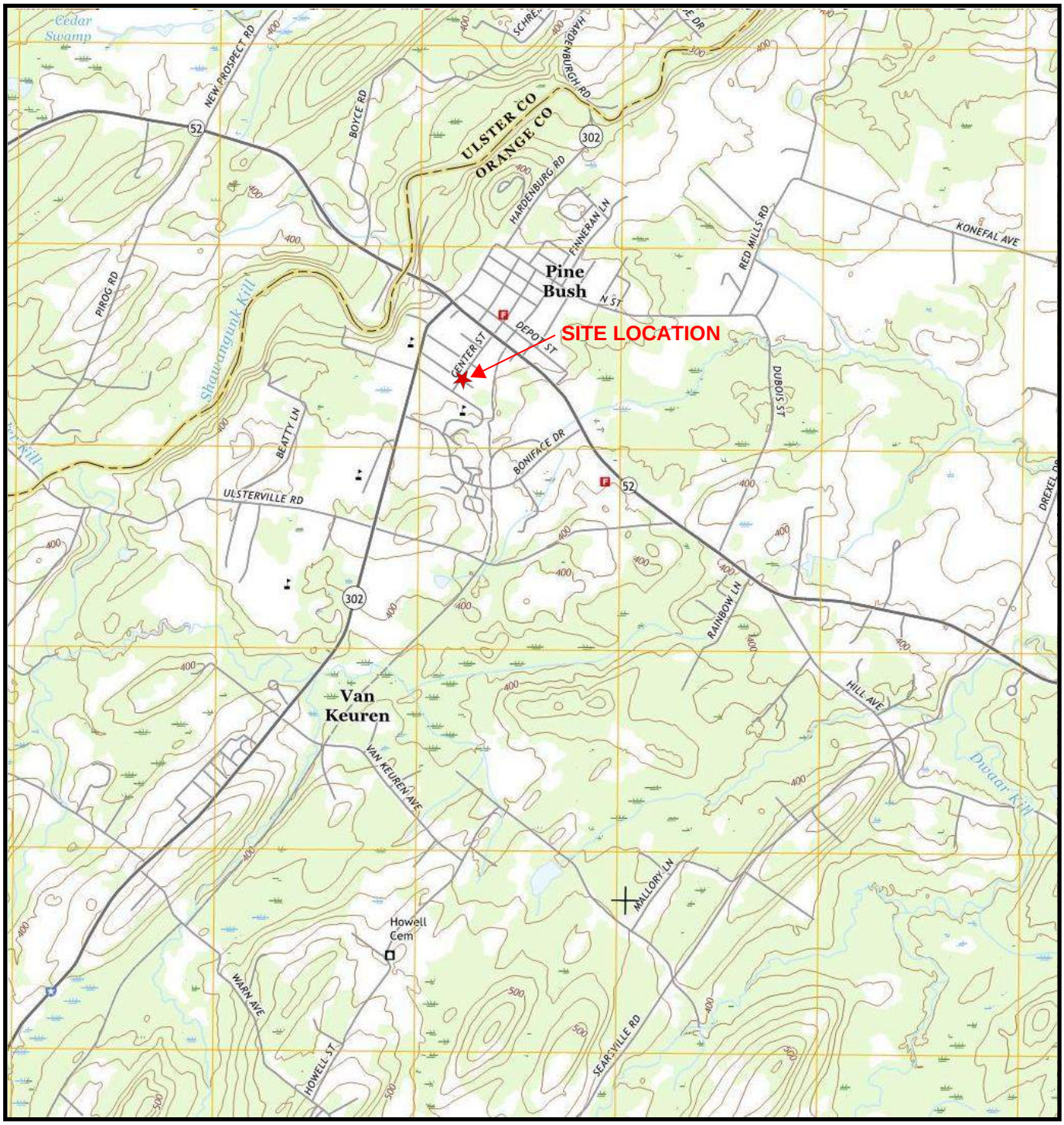
Figures
Figure 1 – Site Location Map
Figure 2 – Area Tax Parcel Map

Appendices
Appendix A – Figure 10 cVOC Groundwater Plume Gradient Modeling (2023 Data)
Appendix B – Figure 5 SCG Exceedances in Soil Vapor (2023 Data)
Appendix C – Diagnostic Report & Vapor Intrusion Mitigation System Design Plan by OBAR Systems Inc. of South Newfoundland, NJ
Appendix D – Site Specific Health & Safety Plan, Mobile Media Inc. Site

ec: L. Pennington, Mobile Media Inc. (lpenn777@gmail.com)
K. Thompson, DEC (kiera.thompson@dec.ny.gov)
S. Lawrence, NYSDOH (Stephen.lawrence@health.ny.gov)
L. Spagnola, The Environmental Gorup (lois@theenvironmentalgroup.net)
R. Andujar-McNeil, CT Male Associates (r.andujar-mcneil@ctmale.com)

Figures

Figure 1
Site Location map



MAP REFERENCE
United States Geological Survey
7.5 Minute Series Topographic Map
Quadrangle: Pine Bush, New York
Date: 2016

N

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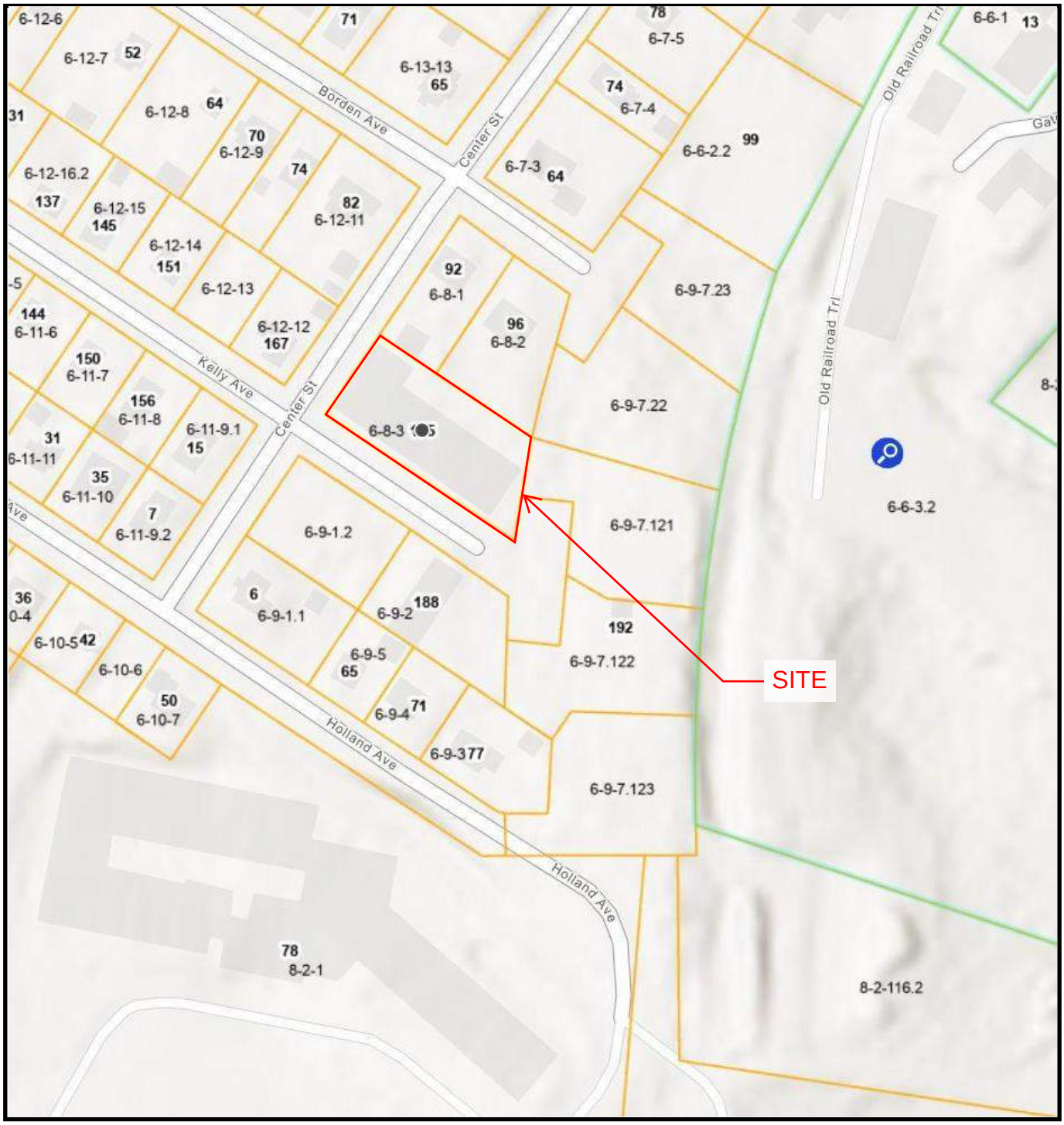
ENGINEERING, SURVEYING, ARCHITECTURE
LANDSCAPE ARCHITECTURE & GEOLOGY, D.P.C.

12 RAYMOND AVENUE
POUGHKEEPSIE, NY 12603

Figure 1 - Site Location Map
Mobile Media Site

Town of Pine Bush	Orange County, New York
SCALE: 1:24,000	The locations and features depicted on this map are approximate and do not represent an actual survey.
DRAFTER: DC	
PROJECT No: 19.9347	

Figure 2
Area Tax Parcel Map



MAP REFERENCE

Esri Community Maps Contributors, Orange County, NY, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, OCGIS

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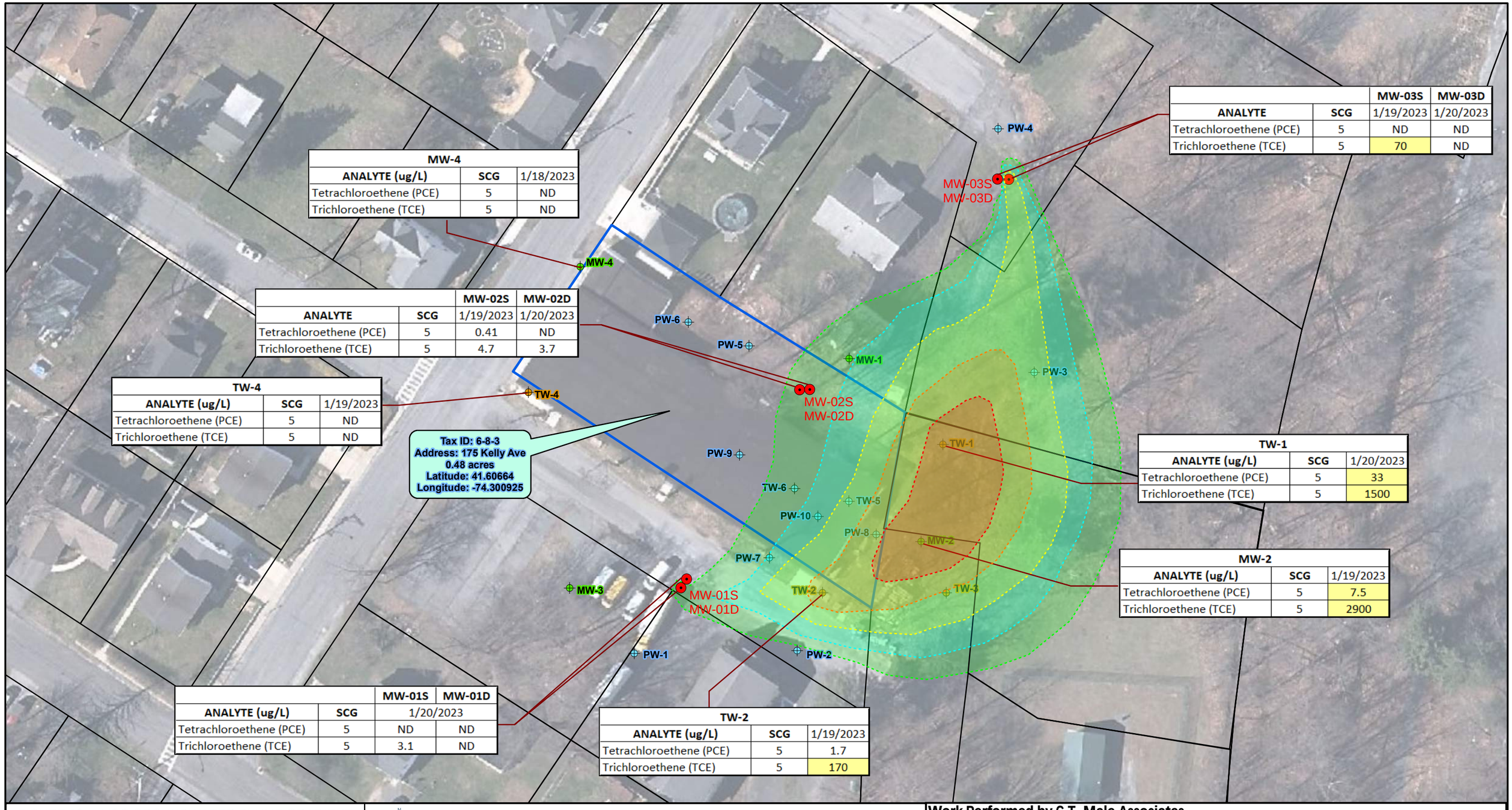
50 CENTURY HILL DRIVE
LATHAM, NY 12110

FIGURE 2 - AREA TAX PARCEL MAP
MOBILE MEDIA SITE

TOWN OF CRAWFORD	ORANGE COUNTY, NY
SCALE: NOT TO SCALE	The locations and features depicted on this map are approximate and do not represent an actual survey.
DRAFTER: ML	
PROJECT No.: 19.9347	

Appendices

Appendix A
Figure 10, cVOC Groundwater Plume Gradient Modeling (2023 Data)



MW-4		
ANALYTE (ug/L)	SCG	1/18/2023
Tetrachloroethene (PCE)	5	ND
Trichloroethene (TCE)	5	ND

		MW-03S	MW-03D
ANALYTE	SCG	1/19/2023	1/20/2023
Tetrachloroethene (PCE)	5	ND	ND
Trichloroethene (TCE)	5	70	ND

		MW-02S	MW-02D
ANALYTE	SCG	1/19/2023	1/20/2023
Tetrachloroethene (PCE)	5	0.41	ND
Trichloroethene (TCE)	5	4.7	3.7

TW-4		
ANALYTE (ug/L)	SCG	1/19/2023
Tetrachloroethene (PCE)	5	ND
Trichloroethene (TCE)	5	ND

TW-1		
ANALYTE (ug/L)	SCG	1/20/2023
Tetrachloroethene (PCE)	5	33
Trichloroethene (TCE)	5	1500

MW-2		
ANALYTE (ug/L)	SCG	1/19/2023
Tetrachloroethene (PCE)	5	7.5
Trichloroethene (TCE)	5	2900

		MW-01S	MW-01D
ANALYTE (ug/L)	SCG	1/20/2023	
Tetrachloroethene (PCE)	5	ND	ND
Trichloroethene (TCE)	5	3.1	ND

TW-2		
ANALYTE (ug/L)	SCG	1/19/2023
Tetrachloroethene (PCE)	5	1.7
Trichloroethene (TCE)	5	170

FIGURE 10 - cVOC GROUNDWATER PLUME GRADIENT MODELING (2023 DATA)

Mobile Media Site
175 Kelly Avenue, Pine Bush — **Orange County, NY**

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299

N W E S

0 25 50 100 FT

1 inch = 50 feet

Map Note: The locations and features depicted on this map are approximate and do not represent a field survey.

Project Number: 19.9347
Data Source: NYSGIS Clearinghouse
Projection: State Plane NAD83 NYE (Feet)
Date: December 16, 2020
File: KellyAve_MWMap_11x17.mxd
GIS: D Landreville

Legend

Company Name
- WGA 2015
- C2G 2015
- SEBI 2016

Parcel of Interest (Approx.)
Orange County Tax Parcels 2018 (Approx.)

Work Performed by C.T. Male Associates

Monitoring well couplets installed October 6-7, 2022 by Core Down Drilling, LLC

NOTES
SCG - Standards, criteria, and Guidance values.
Conc. - Concentration
*All SCGs and Conc. are shown in ug/L.
*Samples highlighted in yellow are in exceedance of NYSDEC TOGS 1.1.1 guidance values.
*ND denotes non-detect values.
*Sampling locations with no data denote ND values for analytes.

Contour intervals	
Conc. (ug/l)	Color
0-5	green
5 to 50	blue
50 to 100	yellow
100 to 500	orange
>1000	red

Appendix B
Figure 5, SCG Exceedances in Soil Vapor (2023 Data)

SAMPLE ID:					SVI-04-20230117
COLLECTION DATE:					1/17/2023
SAMPLE MATRIX:	Matrix A		Matrix B		SOIL_VAPOR
VOLATILE ORGANICS IN AIR (ug/m3)	Indoor Air	Sub-Slab	Indoor Air	Sub-Slab	Conc
Tetrachloroethene (PCE)	NS	NS	3	100	11.1
Trichloroethene (TCE)	0.2	6	NS	NS	6.66

SAMPLE ID:			SVI-05-20230117
COLLECTION DATE:			1/17/2023
SAMPLE MATRIX:	Matrix A	Matrix B	SOIL_VAPOR
VOLATILE ORGANICS IN AIR (ug/m3)	Indoor Air / Sub-Slab	Indoor Air / Sub-Slab	Conc
Tetrachloroethene (PCE)	NS / NS	3 / 100	4.56
Trichloroethene (TCE)	0.2 / 6	NS / NS	21.7

SAMPLE ID:			SVI-03-20230117
COLLECTION DATE:			1/17/2023
SAMPLE MATRIX:	Matrix A		SOIL_VAPOR
VOLATILE ORGANICS IN AIR (ug/m3)	Indoor Air	Sub-Slab	Conc
Tetrachloroethene (PCE)	NS	NS	ND
Trichloroethene (TCE)	0.2	6	9.3

SAMPLE ID:			SVI-06-20230117
COLLECTION DATE:			1/17/2023
SAMPLE MATRIX:	Matrix B		SOIL_VAPOR
VOLATILE ORGANICS IN AIR (ug/m3)	Indoor Air	Sub-Slab	Conc
Tetrachloroethene (PCE)	3	100	8.27
Trichloroethene (TCE)	NS	NS	ND

Tax ID: 6-8-3
Address: 175 Kelly Ave
0.48 acres
Latitude: 41.60664
Longitude: -74.300925

SVI-01
SVI-02
SVI-03
SVI-04
SVI-05
SVI-06
SVI-07
OA-01

FIGURE 5 - SCG EXCEEDANCES IN SOIL VAPOR (2023 DATA)

Mobile Media Site
175 Kelly Avenue, Pine Bush
Orange County, NY

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299

N W E S

0 25 50 100 FT

1 inch = 50 feet

Map Note: The locations and features depicted on this map are approximate and do not represent a field survey.

Project Number: 19.9347
Data Source: NYSGIS Clearinghouse
Projection: State Plane NAD83 NYE (Feet)
Date: December 16, 2020
File: KellyAve_ParcelMap_11x17.mxd
GIS: D Landreville

Legend
- Parcel of Interest (Approx.)
- Orange County Tax Parcels 2018 (Approx.)

Work Performed by C.T. Male Associates

- Soil vapor (SV) monitoring wells installed October 6-7, 2022 by Core Down Drilling, LLC
- Temporary SV point installed on January 17, 2023, removed at the conclusion of sampling
- Outdoor Ambient Air sampling location, sampled on January 17, 2023

NOTES
SCG - Standards, criteria, and Guidance values.
Conc. - Concentration
*All SCGs and Conc. are shown in mg/m3.
*Samples highlighted in yellow are in exceedance of NYSDOH Air guidance values for Matrix A and/or Matrix B.
* Samples highlighted in gray denote the method detection limit was at or exceeded its guidance value for that analyte.
*ND denotes non-detect values.
*NS denotes no standard guidance values for that analyte.
*Sampling locations with no data denote ND values for analytes.

Appendix C

Diagnostic Report & Vapor Intrusion Mitigation System Design Plan by OBAR Systems, Inc. of South Newfoundland, NJ

DIAGNOSTIC REPORT &
VAPOR INTRUSION MITIGATION SYSTEM DESIGN PLAN

Site Address:

175 Kelly Avenue

Pine Bush, NY 12566

Prepared for:

Mr. Eric White

Environmental Scientist IV

C.T. Male Associates

12 Raymond Avenue

Poughkeepsie, New York 12603

Prepared by:

Mr. Daniel Nuzzetti

Senior Project Engineer

OBAR Systems, Inc.

2969 Route 23

Newfoundland, NJ 07435

June 11, 2024

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Attached Tables

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Table 2 – Suction Point 2
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SSD#3 – System Design
SSD#4 – System Details
SSD#5 – System Details 2

Attachments

Attachment 1 – Mitigation Blowers
Attachment 2 – Pipe, Supports, and Hangers
Attachment 3 – Test Ports
Attachment 4 – Gauges and Alarms

1. Background

Obar Systems was contacted by CT Male Associates to provide a design for a vapor intrusion mitigation system for the building located at 175 Kelly Avenue in Pine Bush, New York. In accordance with the Obar Systems Diagnostic and Design Proposal dated May 22, 2024, diagnostics were completed on June 7, 2024.

2. General Building Information

This report and its appendices apply to an area of the building measuring approximately 8,100 square feet. The area of concern features three building types, a cellar measuring approximately 260 square feet, a slab on grade area measuring approximately 3,600 square feet, and a slab built over a crawl space measuring approximately 4,200 square feet.

3. Mitigation Concepts

Volatile Organic Compounds (VOCs) located in the soil are drawn into the building by the negative pressure of the building relative to the surrounding soil. As a gas, the VOCs enter the structure through cracks and openings and can migrate through the concrete floor and walls. Common remedies to reverse the intrusion process include Sub Slab Depressurization Systems (SSDS), which are systems that depressurize the soil under the slab and active air exchange systems for mitigation of inaccessible crawl spaces. The concept is that by creating a vacuum beneath the slab or exchanging air in a void space below the slab, the soil gases will be drawn into the system where they can be discharged to a safe location.

4. Diagnostic Method

The method used for diagnostic measurement and system design involved coring 2 ½" suction holes in the concrete floor and 5/16" test holes at various distances from the suction hole. A specialized Sub Slab Diagnostic Vacuum (SSDV), capable of up to 120 cfm and a vacuum of 50 inches of water column ("w.c.) was used with a variable speed controller to define the flow and vacuum characteristics of the soil beneath the slab. The data obtained during the diagnostic investigation has been provided in the attached tables. The range of applied vacuum and flow rate used for each suction point was determined by evaluating the baseline data taken in the maximum flow and vacuum test performed at the beginning of each sampling series. The number of test point locations at each suction point was determined based on the results of the first sampling series at that location. The data collected at each suction point series includes; maximum vacuum and airflow at the suction point, vacuum 1 foot away from the suction point (SSP1), vacuum at each test point at multiple vacuum speeds or flow rates, and the distance each test point is from the suction point.

5. Data Analysis

The information obtained from each suction point was examined independently to identify the associated area of influence (AOI) and estimated radius of influence (ROI) for that location during the applied test conditions. The test data from all the suction points was examined collectively to

determine the number of full-scale SSD system suction points required to address the area of concern within the building. The test data was then used to determine the type and number of blowers required to effectively operate all of the full-scale SSD system suction points.

5.1. Analysis of data Series

For locations of all suction points and test points see attached drawing sheet (SSD-1); for full test results see the attached data tables. The proposed ROI is visually illustrated on drawing sheet (SSD-2).

5.1.1. Suction Point 1

Suction Point 1 (S1) was located in the eastern cellar of the building, see drawing sheet 1 for suction point locations. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area. The sub slab material encountered was loose sandy soils. The suction point revealed an ROI of 15 feet at an applied vacuum of 7 inches of water column ("w.c.) with a resulting airflow yield of approximately 25 cubic feet per minute (cfm). It is anticipated that this airflow yield will be reduced once concrete restoration is done in the cellar. For full results see Data Table 1.

5.1.2. Suction Point 2

Suction Point 2 (S2) was located in the slab on grade area on the eastern end of the building. See drawing sheet 1 for suction point locations. The purpose of this suction point was to evaluate the ROI produced from full-scale suction points in this building area. The sub slab material was moderately compacted sandy soils. The suction point revealed an ROI of 30 feet at an applied vacuum of 9 "w.c. with a resulting airflow yield of approximately 35 cfm. For full results see Data Table 2.

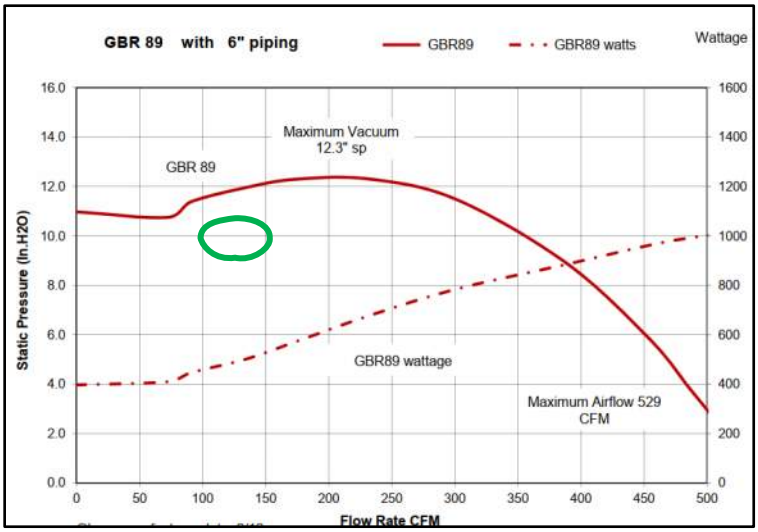
5.1.3. Suction Point 3

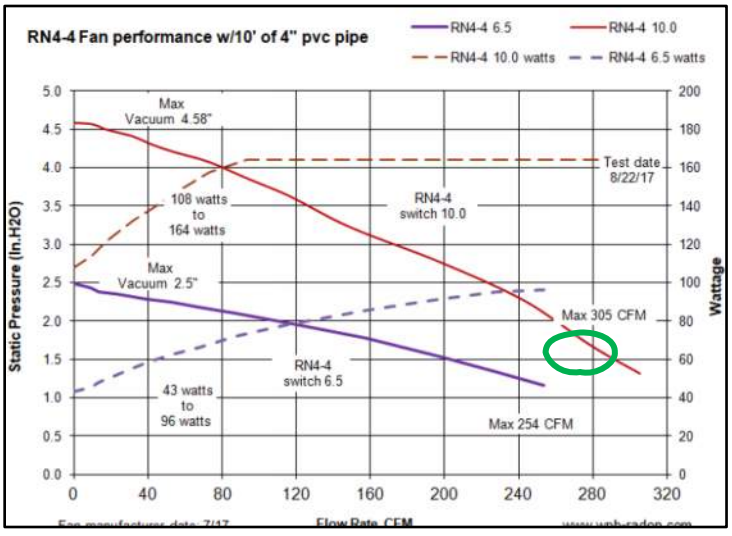
Suction Point 3 (S3) was located over the crawl space in the main warehouse area, see drawing sheet 1 for suction point locations. The original purpose of this suction point was to confirm the data observed at S2 but instead it led to the discovery of an inaccessible crawlspace. Test holes were installed throughout this building area to confirm the extent of the crawlspace and a 3-inch observation hole was installed through the foundation wall in the rear of the building to further confirm the presence of a crawlspace. The crawlspace was confirmed to be approximately 4-feet tall and approximately 4,200 square feet.

The full-scale SSDS design was developed by using the diagnostic test results to produce a map that projects the estimated ROIs around suction points installed in locations that cover the area of concern. The SSDS suction point ROI was estimated by examining the vacuum data measured during the diagnostic survey at nearby test points. The required system operating vacuums were determined by using values measured at the diagnostic head and the SSPs, along with performance tables for the Sub Slab Diagnostic Vacuum.

6. System Design

One Sub Slab Depressurization System (SSDS) will be installed to depressurize the slab on grade and eastern cellar areas of the building. The system will feature 4 suction points paired with an Obar GBR89 roof mounted mitigation blower and 3-inch interior conveyance piping. A second system featuring a Fantech RN4 mitigation blower designed to induce active air exchanges in the crawlspace will be installed in the rear of the building. The system is designed to produce 1 air exchange per hour. Two slot vents will be installed opposite the active system to promote airflow through the crawlspace. The blower curves for the systems (shown below) indicate the projected applied vacuum and airflow yield.





7. Mitigation System Components

7.1. System Blower

The SSDS GBR89 mitigation blower will be installed on the roof of the building approximately where indicated on drawing sheet SSD-3. The blower will be installed on an aluminum roof mount with pipe pier foam blocks. The exhaust will terminate 1 foot above the roofline and 10 feet from any intake it is not at least two feet above. The fantech RN4 will be installed on the rear exterior wall of the building and will be designed to facilitate at least 1 air exchange per hour. The blower locations and installation details are shown on the attached drawings, locations are approximate and should be verified prior to final mounting. Final roof flashing should be performed by a certified roofing professional.

7.2. Vertical Suction Points

The suction points will be installed by coring 3 ½ inch holes through the slab and hand excavating approximately 0.5 cubic feet of sub slab material to a depth of 6 inches below the slab. Suction holes will be backfilled with crushed stone (AASHTO #57) following clean out and sealed upon completion. The vertical risers will be installed and sealed directly into the suction holes. Each suction point will have a ball valve for balancing airflow. See details for suction point details.

7.3. System Piping

All system piping and fittings within the building will be 3-inch schedule 40 PVC; refer to Attachment 2 for pipe specifications. Overhead piping will be installed in the locations shown on the attached drawing. All overhead piping will be installed as high as possible within the building and without the possibility of water traps. All overhead piping must have 1 inch of pitch per 10 feet of horizontal pipe in order to drain condensation. The suction points will have a vertical riser pipe that connects into the overhead piping. The vertical riser pipes will be secured to a wall or column and concreted into the slab. Cut sheets for the pipe and fittings are attached.

7.4. Pipe Hangers

All pipes will be supported according to local code requirements. Overhead pipe will be secured with threaded rod, mechanical wood anchors, and swivel loop hangers. Vertical pipes will be secured to the walls or columns with galvanized unistrut, and unistrut pipe straps. Refer to Attachment 2 for pipe hanger specifications and details.

7.5. Test Ports

Sub Slab test ports will be installed within the systems' radius of influence to confirm sub slab vacuum. Suggested test port locations are shown on drawing sheet 3. GBR sub slab test ports will be installed by drilling a 20mm hole and hammering in the port. Riser test ports will be installed in each riser pipe for vacuum and airflow sampling. Riser ports will consist of a ½ inch well nut with a brass insert and 1/4 -20 stainless steel hex head bolt.

7.6. Electrical

All electrical work should be performed by a licensed electrician. All work is to be done in accordance with all state and local codes. The fans will require 120 volts and should be on a dedicated breaker(s).

7.7. Monitoring

Each system will feature a GBR25T vacuum gauge with built in audible/visual alarms that will alert in the event of a system failure. An Obar EDG remote telemetry system can be installed for real time system monitoring.

7.8. System Labels

All exposed system piping will be labeled with a sticker indicating that the system is a vapor intrusion mitigation system. A sticker with the contact information of the installer will be located on the alarm panels.

7.9. Misc. Tasks

Two slot vents will be installed in the foundation wall of the crawlspace on the front of the building opposite the active air exchange system. An area of the cellar requires concrete repair where indicated on the drawing. The deteriorated area will be cleaned and prepped, and a new rat slab will be poured to the adjacent slab elevation to cover the exposed soil.

8. Post Installation

8.1. As Built Drawings

As-built drawings will be provided that show system locations, the monitoring and alarm location, and sub-slab vacuum monitoring test port locations after installation.

8.2. System Start Up and Commissioning

Upon system start up the mitigation fans will be tuned for optimal efficiency. The system's applied vacuum and airflow will be measured and reported. The sub slab pressure differentials at the permanent test ports will be measured and reported. A commissioning report that includes commissioning data, operations and maintenance procedures, as-built drawings, and all other requirements in accordance with guidance documents will be prepared and submitted.

9. Logistics

9.1. Permits

All required municipal permits will be filed for prior to installing the SSDS.

9.2. Confirmation of Locations

All equipment, pipe, and suction point locations should be verified by the installation contractor to be in accordance with local and national vapor intrusion standards prior to installation.

9.3. Guarantee

If the system designed herein is installed by Obar Systems or installed by other licensed professionals with Obar Systems oversight, we guarantee a sub slab vacuum level of -0.004 inches of water column for 1 year from the installation date. If major building alterations are performed this guarantee may be voided.

9.4. Cost

System installation cost including labor and material:	**$27,300.00**
Additional cost for Obar EDG remote monitoring system:	**$1,600.00**

System cost excludes licensed roofer, and electrician

LEGEND:

DIAGNOSTICS

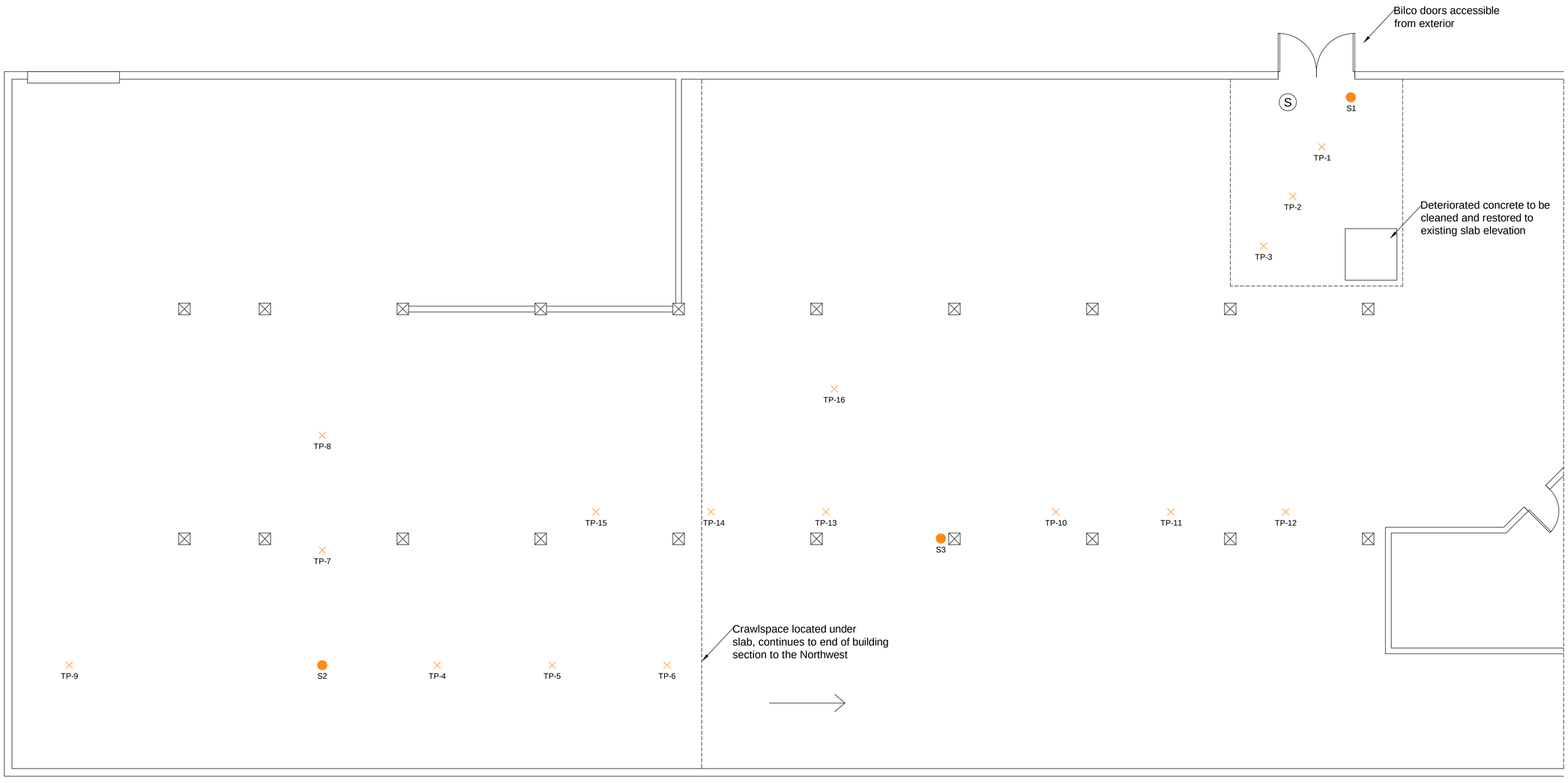
- SUCTION POINT
- TEST POINT
- INTERIOR COLUMN
- SUMP PUMP

Scale: 1" = 4'

0 4' 16'

2' 8'

Site: 175 Kelly Avenue, Pine Bush, NY
System Diagnostic Map



Notes:

NOTES

REV:	DESCRIPTION:	BY:	DATE:
STATUS:			

OBAR SYSTEMS, INC.
2989 NJ 23, Newfoundland, NJ, 07435

OBAR SYSTEMS, INC.

SITE: 175 Kelly Avenue, Pine Bush, NY 12566

DATE:	DRAWN:
6/10/24	TN

SHEET #:	SHEET NAME:	SHEET SIZE:
SSD-1	Diagnostic Map	ARCH E1

LEGEND:

INSTALLATION

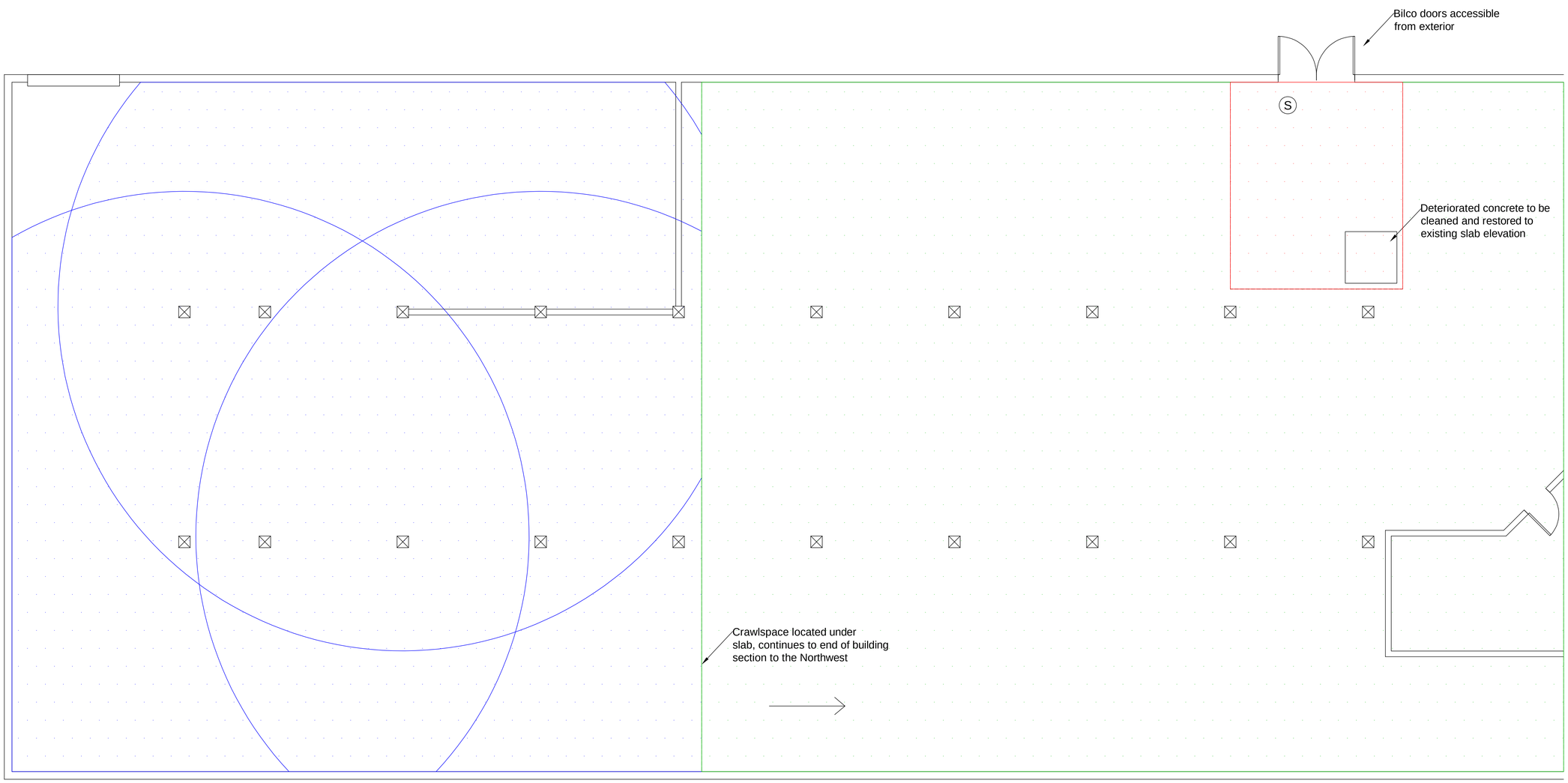
- RADIUS OF INFLUENCE (SLAB ON GRADE)
- RADIUS OF INFLUENCE (BASEMENT)
- RADIUS OF INFLUENCE (CRAWLSPACE)
- INTERIOR COLUMN
- (S) SUMP PUMP

Scale: 1" = 4'

0 4' 16'

2' 8'

Site: 175 Kelly Avenue, Pine Bush, NY System Mapped ROIs



Notes:

NOTES

REV:	DESCRIPTION:	BY:	DATE:
STATUS:			

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OBAR SYSTEMS, INC.

SITE: 175 Kelly Avenue, Pine Bush, NY 12566

DATE:	DRAWN:
6/10/24	TN

SHEET #:	SHEET NAME:	SHEET SIZE:
SSD-2	Mapped ROIs	ARCH E1

LEGEND:

INSTALLATION

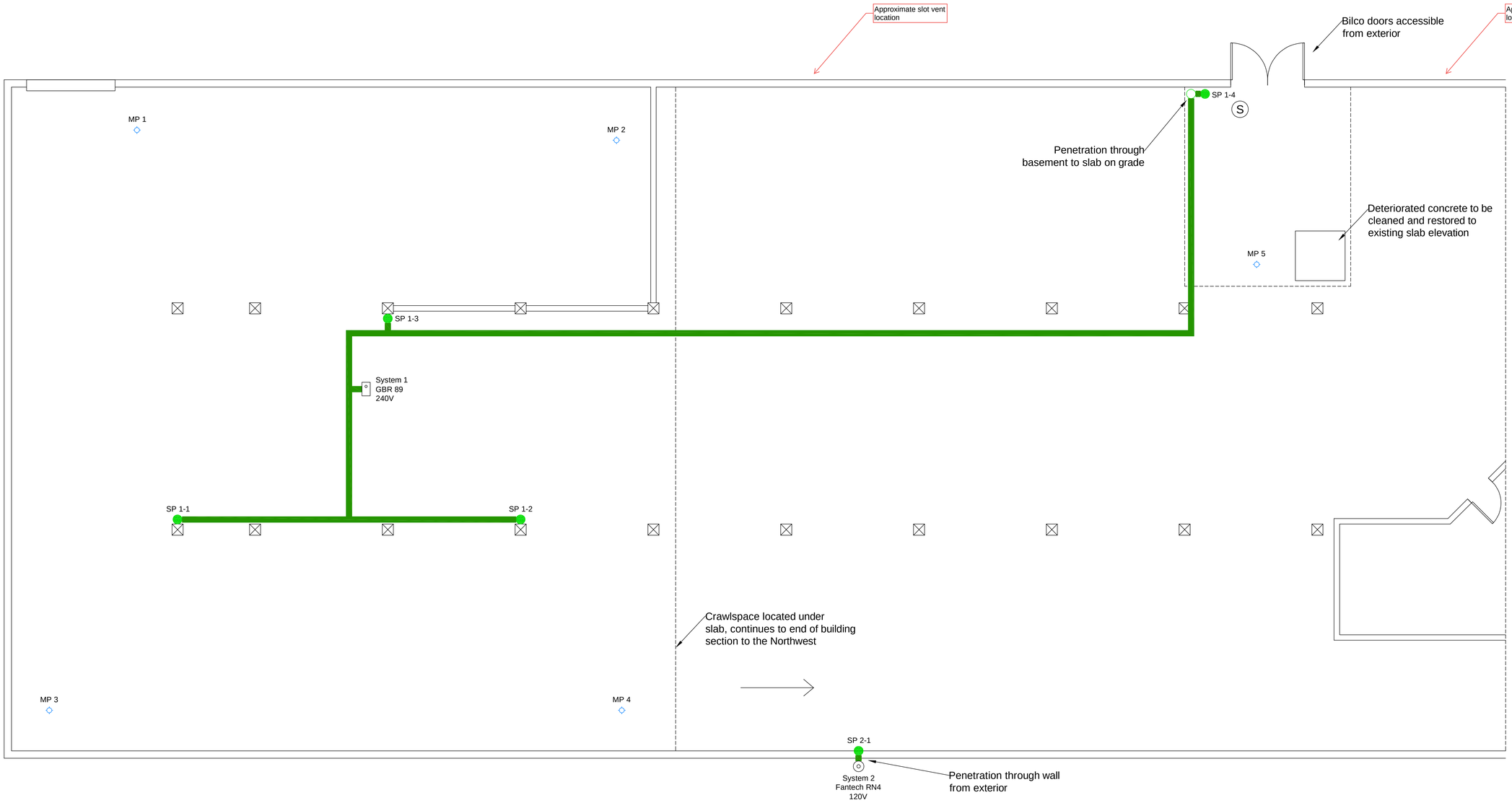
- SUCTION POINT
- OVERHEAD 3" PIPE
- MITIGATION FAN
- MONITORING TEST PORT
- INTERIOR COLUMN
- SUMP PUMP

Scale: 1" = 4'

0 4' 16'

2' 8'

Site: 175 Kelly Avenue, Pine Bush, NY System Design



Notes:

NOTES

REV:	DESCRIPTION:	BY:	DATE:
STATUS:			

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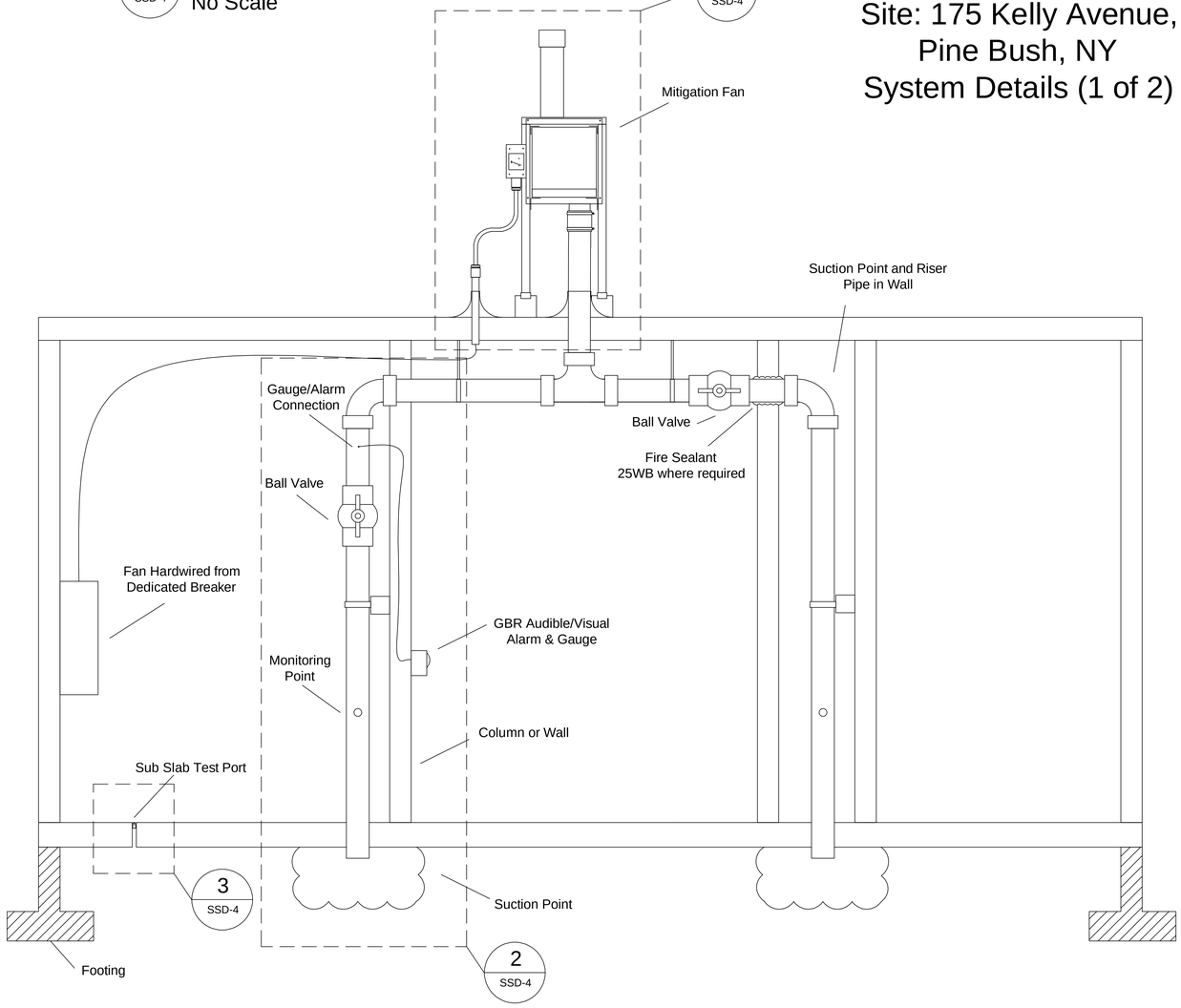
OBAR SYSTEMS, INC.

SITE: 175 Kelly Avenue, Pine Bush, NY 12566

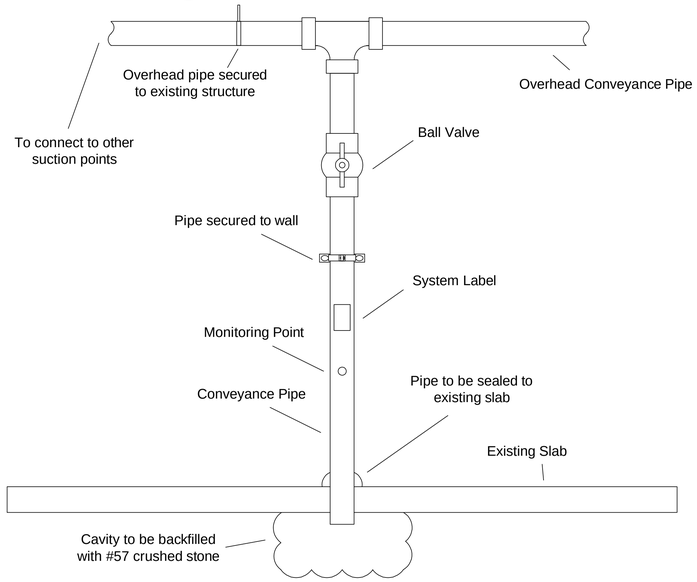
DATE:	DRAWN:	
6/10/24	TN	
SHEET #: SSD-3	SHEET NAME: System Design	SHEET SIZE: ARCH E1

Site: 175 Kelly Avenue, Pine Bush, NY
System Details (1 of 2)

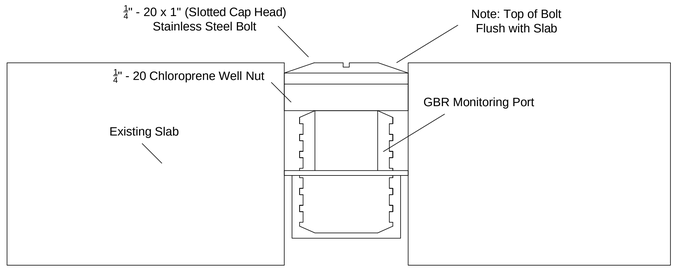
1 SSD-4 System Section View
No Scale



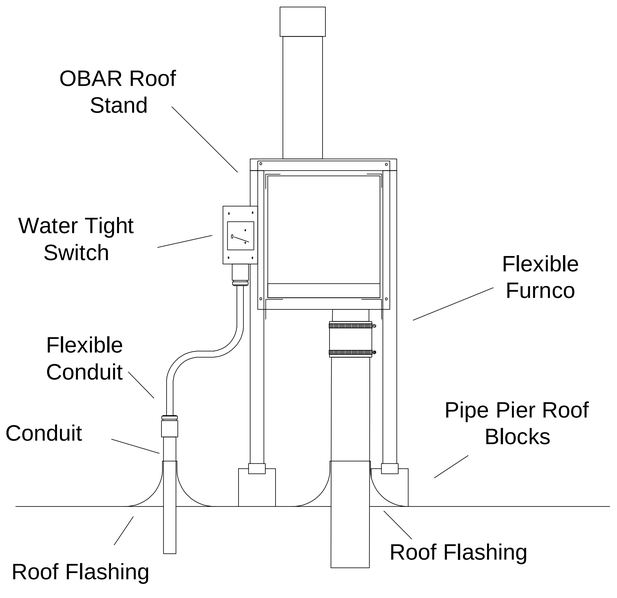
2 SSD-4 Suction Point and Riser
No Scale



3 SSD-4 GBR Monitoring Port
No Scale



4 SSD-4 GBR Fan on Roof
No Scale



Notes:

NOTES

1. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE NEW YORK BUILDING CODE
2. ALL HORIZONTAL PIPE RUNS (ABOVE GROUND AND UNDERGROUND) MUST BE PITCHED A MINIMUM OD 1/8-INCH VERTICAL PER FOOT HORIZONTAL (1% SLOPE) TOWARDS SSDS SUCTION PIT/PIPE. THE SYSTEM SHALL BE INSTALLED SUCH THAT NO PORTION WILL ALLOW EXCESS ACCUMULATION OF CONDENSATION.
3. RISERS AND EXHAUST STACKS SHALL BE SECURELY ANCHORED WITH ADEQUATE STRUCTURAL SUPPORTS.
4. ELECTRICAL WORK TO BE COMPLETED BY LICENSED ELECTRICIAN IN ACCORDANCE TO CODE.
5. SYSTEM INSTALLATION SHALL ADHERE TO APPLICABLE LOCAL AND NATIONAL VAPOR INTRUSION TECHNICAL GUIDANCE DOCUMENTS
6. CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EQUIPMENT PIPING AND SUCTION POINTS ARE IN COMPLIANCE PRIOR TO INSTALLATION
7. THE WORK IN THE BUILDING SHALL BE DONE WHEN AND AS DIRECTED, AND IN A MANNER SATISFACTORY TO THE OWNER. THE WORK SHALL BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE PRESENT OCCUPANTS.
8. PIPING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS. DROPS AND RISES OF RUNS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ARCHITECT. COORDINATION WITH EXISTING SERVICES, INCLUDING OF OTHER TRADES IS REQUIRED.
9. SUPPORT ALL PIPING FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OR SUPPORTS FROM EQUIPMENT FURNISHED ADDITIONAL FRAMING.
10. PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OF PIPES.
11. WHERE PENETRATIONS THROUGH FIRED RATED WALLS ARE NOT FIRE PROOFED THIS CONTRACTOR SHALL BE RESPONSIBLE TO SEAL SAME TO MAINTAIN THE RATED INTEGRITY.

REV:	DESCRIPTION:	BY:	DATE:
STATUS:			

OBAR SYSTEMS, INC.
2969 NJ 23, Newfoundland, NJ, 07435

..\Admin\Logo\OBAR Logo.png

SITE: 175 Kelly Avenue, Pine Bush NY 12566

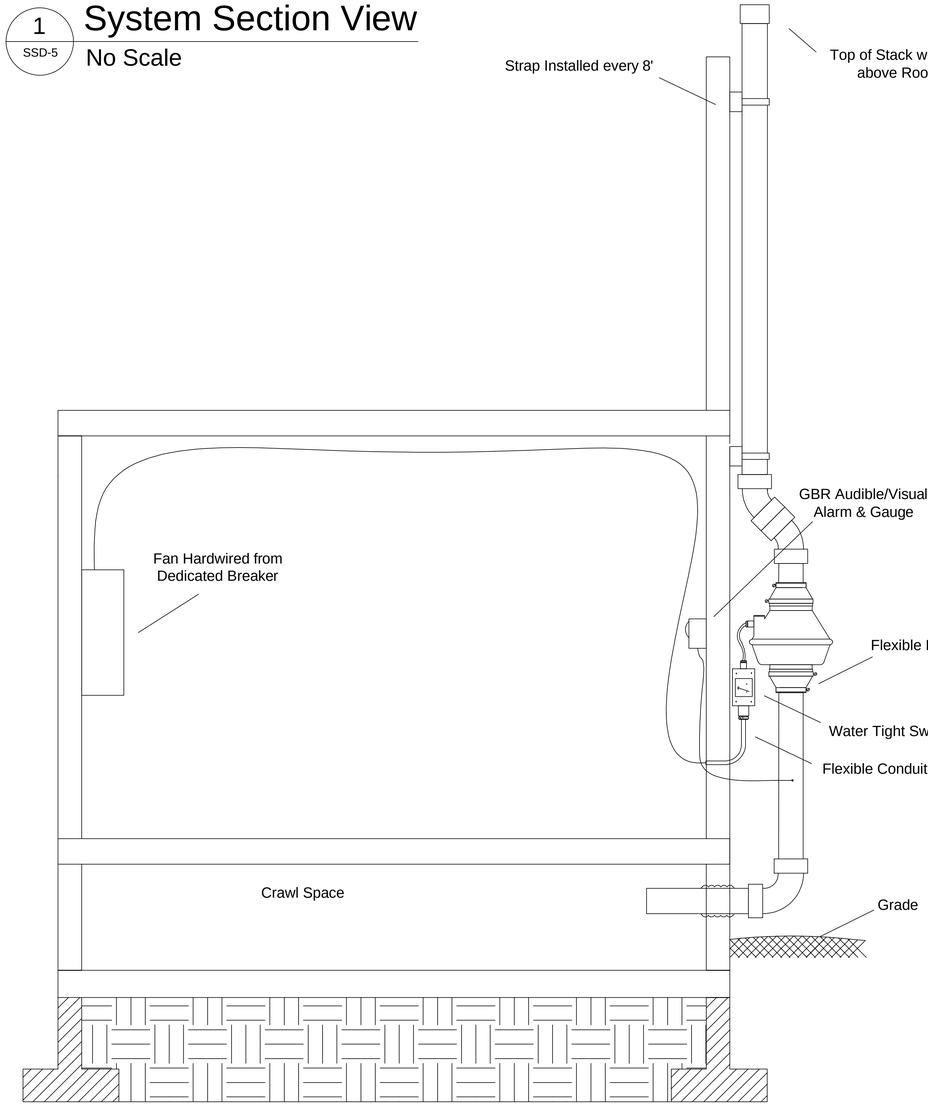
DATE:	DRAWN:
6/10/24	TN

SHEET NO:	SHEET NAME:	REVISION:
SSD-4	System Details	ARCH E1

1
SSD-5

System Section View

No Scale



Site: 175 Kelly Avenue, Pine Bush, NY
System Details (2 of 2)

Notes:

NOTES

1. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE NEW YORK BUILDING CODE
2. ALL HORIZONTAL PIPE RUNS (ABOVE GROUND AND UNDERGROUND) MUST BE PITCHED A MINIMUM OD 1/8-INCH VERTICAL PER FOOT HORIZONTAL (1% SLOPE) TOWARDS SSDS SUCTION PIT/PIPE. THE SYSTEM SHALL BE INSTALLED SUCH THAT NO PORTION WILL ALLOW EXCESS ACCUMULATION OF CONDENSATION.
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11. WHERE PENETRATIONS THROUGH FIRED RATED WALLS ARE NOT FIRE PROOFED THIS CONTRACTOR SHALL BE RESPONSIBLE TO SEAL SAME TO MAINTAIN THE RATED INTEGRITY.

REV:	DESCRIPTION:	BY:	DATE:

STATUS:

OBAR SYSTEMS, INC.
2969 NJ 23, Newfoundland, NJ, 07435

OBAR SYSTEMS, INC.

SITE: 175 Kelly Avenue, Pine Bush NY 12566

DATE:	DRAWN:
6/10/24	TN

SHEET NO:	SHEET NAME:	REVISION:
SSD-5	System Details	ARCH E1

Table: 1

Suction Point # :	S1				
Location / Description :	East Cellar				
Soil Description	Sandy soils				
Temperature :	70°F				
Weather :	Sunny				
Background ΔP :	+0.0003				
	Distance (ft.)	**Series 1**	**Series 2**	**Series 2**	**Max**
Airflow Yield (cfm)		31	26	21	38
Applied Vacuum (''w.c.)		10	7	4.1	17.2
SSP-1 (1' from applied)		1.5	0.98	0.49	3.1
TP-1	5	0.327	0.216	0.111	
TP-2	10	0.031	0.014	0.004	
TP-3	15	0.008	0.006	0.002	

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background

Table: 2

Suction Point # :	S2			
Location / Description :	Slab on grade warehouse			
Soil Description	Moderately compacted sandy soils			
Temperature :	71°F			
Weather :	Sunny			
Background ΔP :	-0.0005			
	Distance (ft.)	**Series 1**	**Series 2**	**Max**
Airflow Yield (cfm)		45	70	50
Applied Vacuum (''w.c.)		18	9	20
SSP-2 (1' from applied)		0.43	0.66	0.47
TP-4	10	0.308	0.179	
TP-5	20	0.055	0.035	
TP-6	30	0.011	0.009	
TP-7	10	0.032	0.018	
TP-8	20	0.028	0.013	
TP-9	22	0.015	0.008	

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background

Table: 3

Suction Point # :	S3			
Location / Description :	Over crawlspace			
Soil Description	N/A			
Temperature :	74°F			
Weather :	Sunny			
Background ΔP :	N/A			
	Distance (ft.)	**Series 1**	**Series 2**	**Max**
Airflow Yield (cfm)		crawlspace		N/A
Applied Vacuum (''w.c.)				N/A
SSP-3 (1' from applied)				N/A
TP-10	10			
TP-11	20			
TP-12	30			
TP-13	10			
TP-14	20			
TP-15	30			

Test Point data is reported in inches of water column.
All pressure values negative unless indicated otherwise.
BG: Background

Rn 4EC-4 Inline Radon Fan

Item #: 99923

Variant : 120V 1~ 60Hz

Description

- Use for **High Suction, High Airflow** applications
- Equipped with EC Motor
- Speed Control Included
- LDVI™ Couplings Included
- Airtight Housing Guaranteed
- Large Electrical Box
- Zero Leakage

Active radon mitigation systems employ specialized fans to exhaust radioactive radon gas from underneath building structures via a sealed pipe system. These systems are designed to remove radon gas before it migrates into the building envelope.

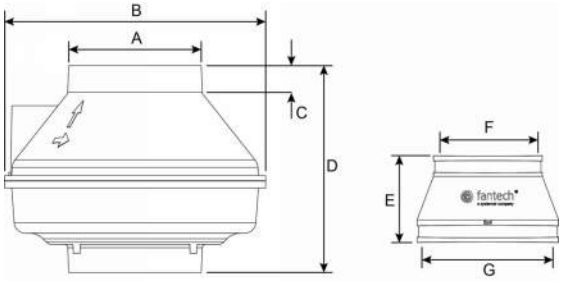
As the most powerful model in Fantech's family of Radon Mitigation fans, the **Rn4EC** can create 4.3" of suction while moving 20 cfm, as well as move 490...

Find more details in our online catalogue

Technical parameters

Norminal data		
Voltage (nominal)	120	V
Frequency	60	Hz
Phase(s)	1~	
Input power	169	W
Input current	2.1	A
Impeller speed	4,084	r.p.m.
Air flow	max 555.0	cfm
Protection/Classification		
Enclosure class, motor	IP54	
Insulation class	B	
Certificate	HVI, cULus	
Dimensions and weights		
Weight	7.3	lb

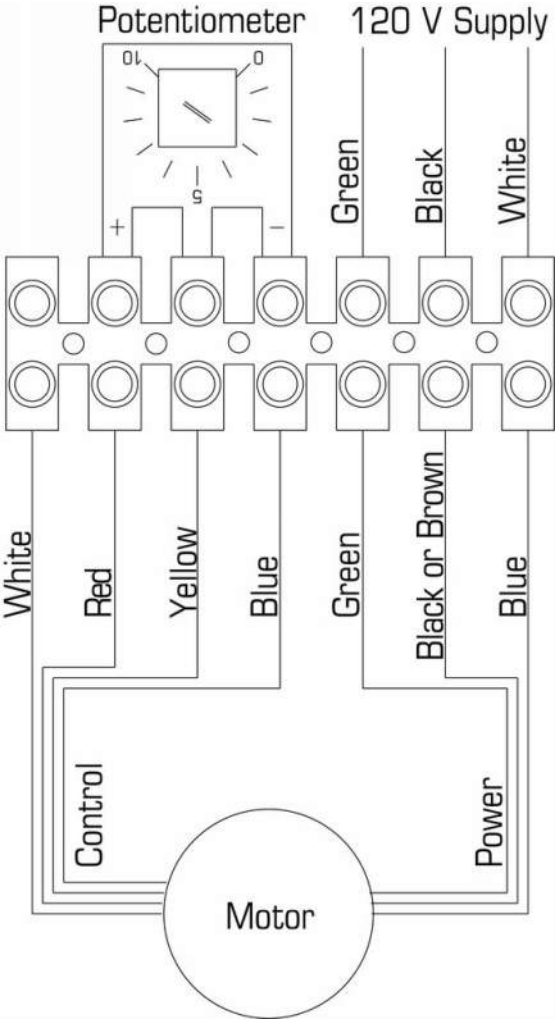
Dimensions



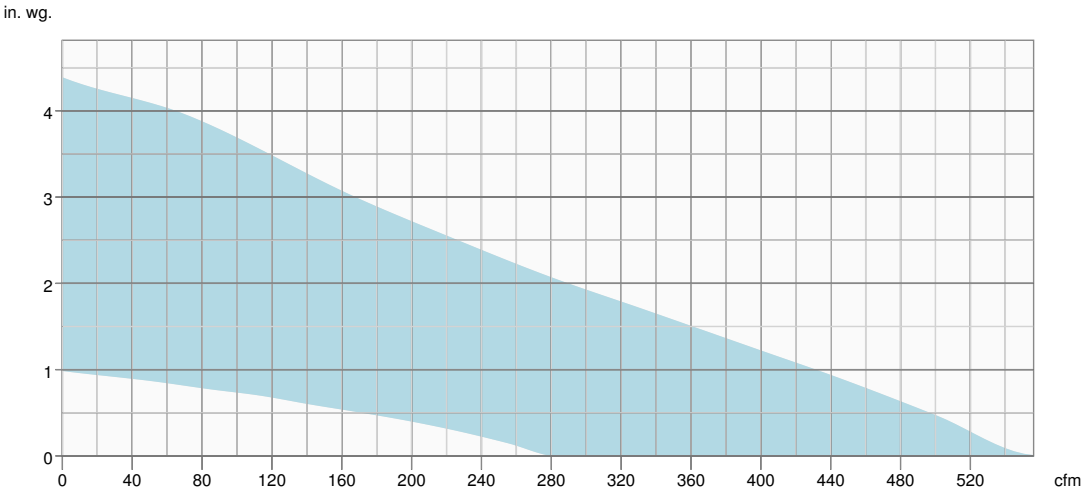
Model	A	B	C	D	E	F	G
Rn2EC	4 15/32 (114)	10 (254)	1 1/4 (32)	9 1/4 (235)	-	-	-
Rn4EC-3	5 7/8 (149)	11 1/2 (292)	1 1/4 (32)	9 1/4 (235)	4 (102)	3 1/2 (89)	6 (152)
Rn4EC-4	5 7/8 (149)	11 1/2 (292)	1 1/4 (32)	9 1/4 (235)	4 (102)	4 1/2 (114)	6 (152)

Dimensions in inches (mm).

Wiring


Potentiometer
120 V Supply
10
0
5
+
−
Green
Black
White
White
Red
Yellow
Blue
Green
Black or Brown
Blue
Control
Power
Motor

Performance curve



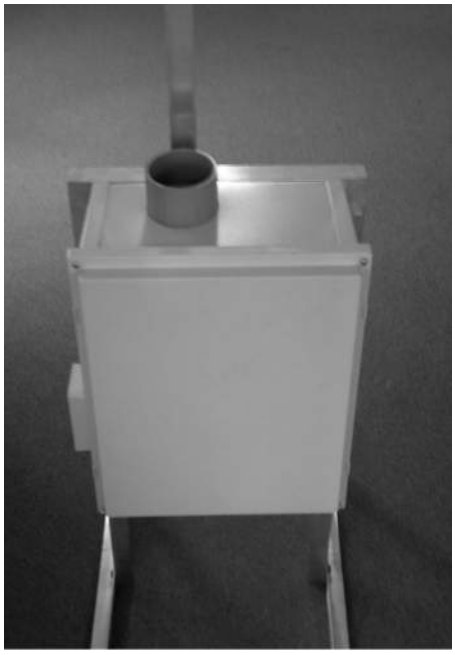
Hydraulic data	
Required air flow	-
Required static pressure	-
Working air flow	-
Working static pressure	-
Air density	0.075 lb/ft³
Power	-
Fan control - RPM	-
Current	-
SFP	-
Control voltage	-
Supply voltage	-

Documents

142001 Rn2EC-Rn4-EC OIPM EN FR.PDF

THE OBAR GBR89
COMPACT RADIAL BLOWER

Based on 25 years of experience and 2 years of research and development, the patent pending GBR series of compact radial blowers provide the perfect combination of performance and design.



GBR89 WITH ROOF MOUNT

PERFORMANCE

- GBR89 HA 14" WC at 100CFM max flow 500 CFM.
- Built in speed control to customize performance.
- Condensate bypass built in.
- 12 month warranty 40,000 hr sealed bearings.

DESIGN

- Our modular design means the blower and manifold assembly can be removed and replaced as a unit. This makes repairs cost effective and easy and allows contractors to upgrade systems simply by swapping assemblies.
- The GBR series is based on a bypass blower designed to handle combustible materials.
- The housing is not required to be air tight so you can add gauges and alarms without compromising the system.
- Built in condensate bypass.
- Built in speed control.
- Quick disconnect electrical harness.
- All UL listed components including UL listed enclosure for outside use.
- Wall fastening lugs included.
- GBR series roof and wall mounts available to quickly configure the blowers for your installation while providing a custom built look.
- Compact design 18"x 16"x 10" weighing only 26 lbs.
- 4" schedule 40 inlet and 6" schedule 40 exhaust.

Enclosure Specifications
Rating:

Ingress Protection (EN 60529): 66/67

Electrical insulation: Totally insulated

Halogen free (DIN/VDE 0472, Part 815): yes

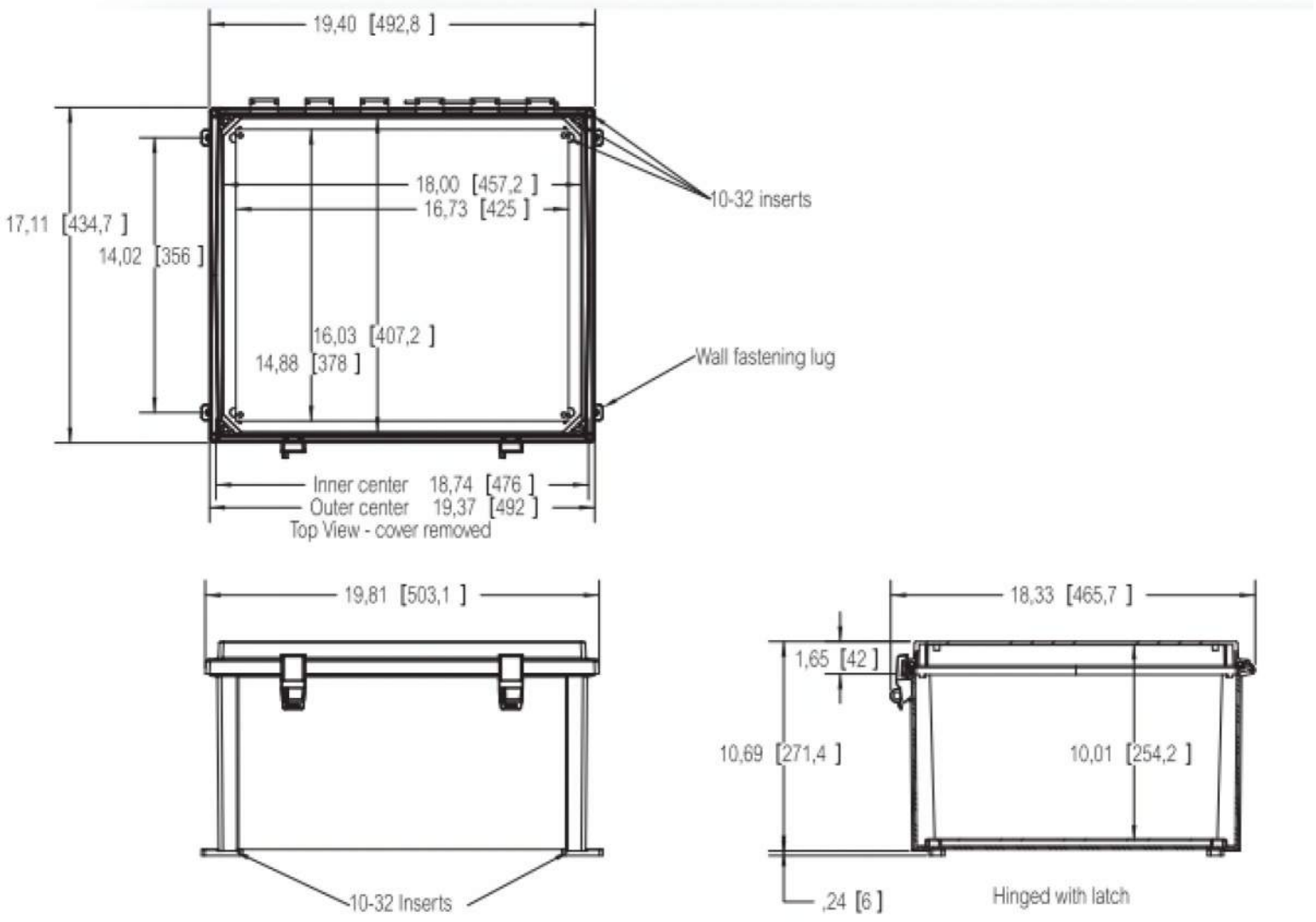
UV resistance: UL 508

Flammability Rating (UL 746 C 5): complies with UL 508

Glow Wire Test (IEC 695-2-1) °C: 960

NEMA Class: UL Type 4, 4X, 6, 6P, 12 and 13

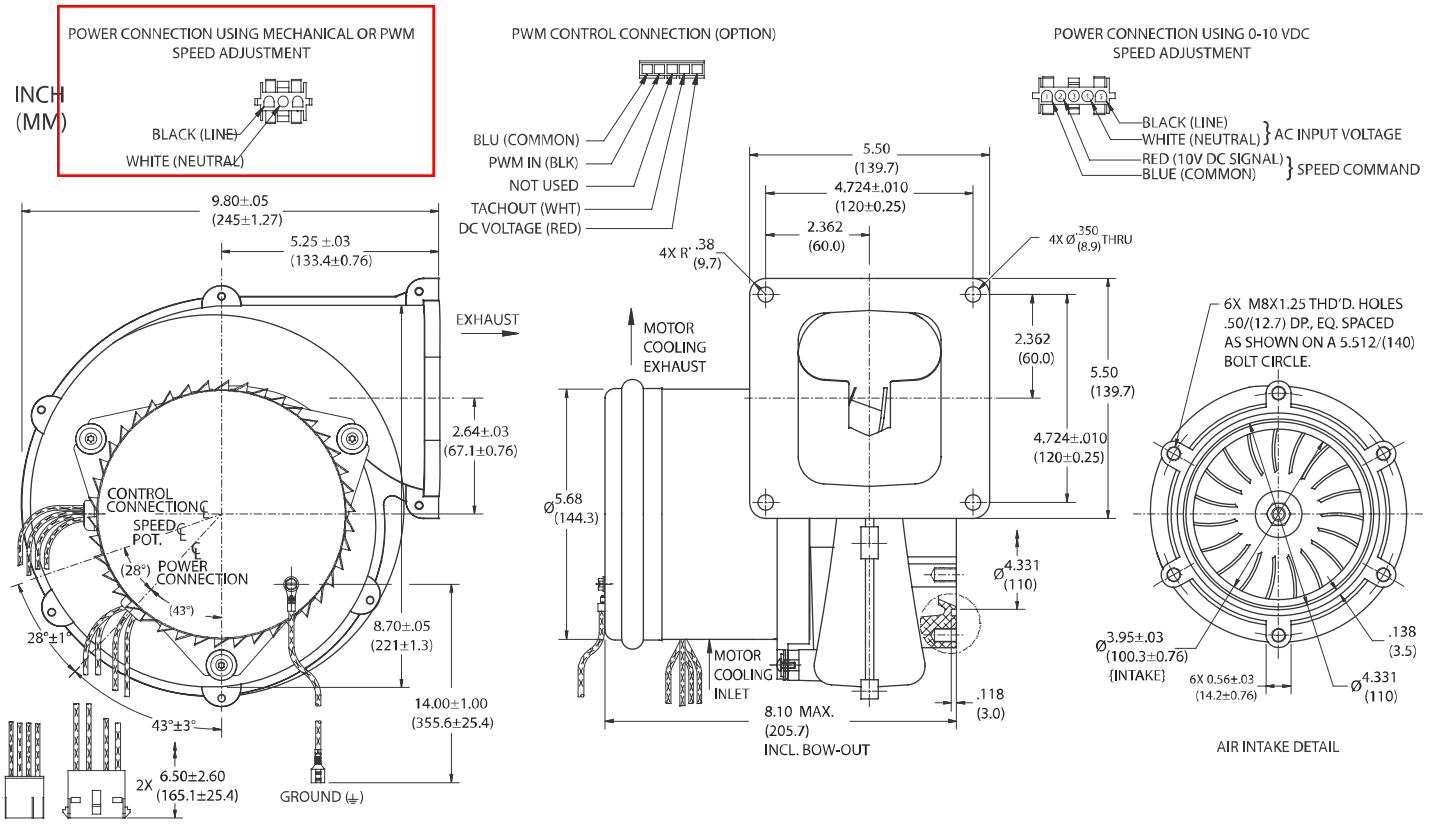
Certificates: Underwriters Laboratories



High Voltage Brushless DC Blowers

Nautilair (TM) 8.9" (226mm) Variable Speed Blower

240 Volt AC Input, Single Phase, High Output



		Part/ Model Number		
Specification	Units	150240	150241	150242
Speed Control	-	Mechanical	0-10 VDC	PWM

Notes:

- **Input Voltage Range:** 216 - 264 Volts AC RMS, 50/60 Hz, single phase.
- **Input Current:** 10 amps AC RMS
- **Operating Temperature (Ambient Air and Working Air):** 0°C to 50°C
- **Storage Temperature:** -40°C to 85°C
- **Dielectric Testing:** 1800 Volts AC RMS 60 Hz applied for one second between input pins and ground, 3mA leakage maximum.
- **Speed Control Methods:** PWM (Pulse Width Modulation). Speed control input signal of 15 - 45 VDC @ 500 Hz - 10 kHz, and tachometer output (2 Pulses / Revolution).
  Optional tachometer output (3 Pulses / Revolution).
  0 to 10 VDC with a speed control input current of 5 mA to 20 mA at 10 VDC Input with multi-turn potentiometer set to minimum resistance (fully clockwise).
  Mechanical: A potentiometer is available for speed control of the blower. The potentiometer can be preset for a specific speed. Access for speed adjustment located in motor housing.
  4-20mA speed control available.
- **Approximate Weight:** 9.3 Lbs. / 4.2 Kg.
- **Option Card available for Customization**
- **Regulatory Agency Certification:** Underwriters Laboratories Inc. UL507 Recognized under File E94403 and CSA C22.2#133 under File LR43448
- **Design Features:** Designed to provide variable airflow for low NOx & CO emission in high efficiency gas fired combustion systems. Built with non-sparking materials. Blower housing assembly constructed of die cast aluminum. Impeller constructed from hardened aluminum. Rubber isolation mounts built into blower construction to dampen vibration within the motor. Two piece blower housing assembly sealed with O-ring gasket for combustion applications. Customer is responsible to check for any leakage once the blower is installed into the final application.
- **Miscellaneous:** Blower inlet, discharge, and all motor cooling inlet and discharge vents must not be obstructed. Motor ventilation air to be free of oils and other foreign particles, (i.e. breathing quality air). Blower is to be mounted so ventilation air cannot be re-circulated.
  POWER CONNECTION (3 CAVITY): Blower connector, AMP Universal MATE-N-LOK, part no. 1-480701-0.
  POWER CONNECTION (5 CAVITY): Blower connector, AMP Universal MATE-N-LOK, part no. 350810-1.
  SPEED CONNECTION (5 CAVITY): Blower connector, Molex Mini-Fit Jr., part no. 39-01-4057.
  Mating harnesses available upon request.

AMETEK TECHNICAL & INDUSTRIAL PRODUCTS
627 Lake Street, Kent OH 44240
USA: +1 215-256-6601 - Europe: +44 (0) 845 366 9664 - Asia: +86 21 5763 1258
www.ametektip.com

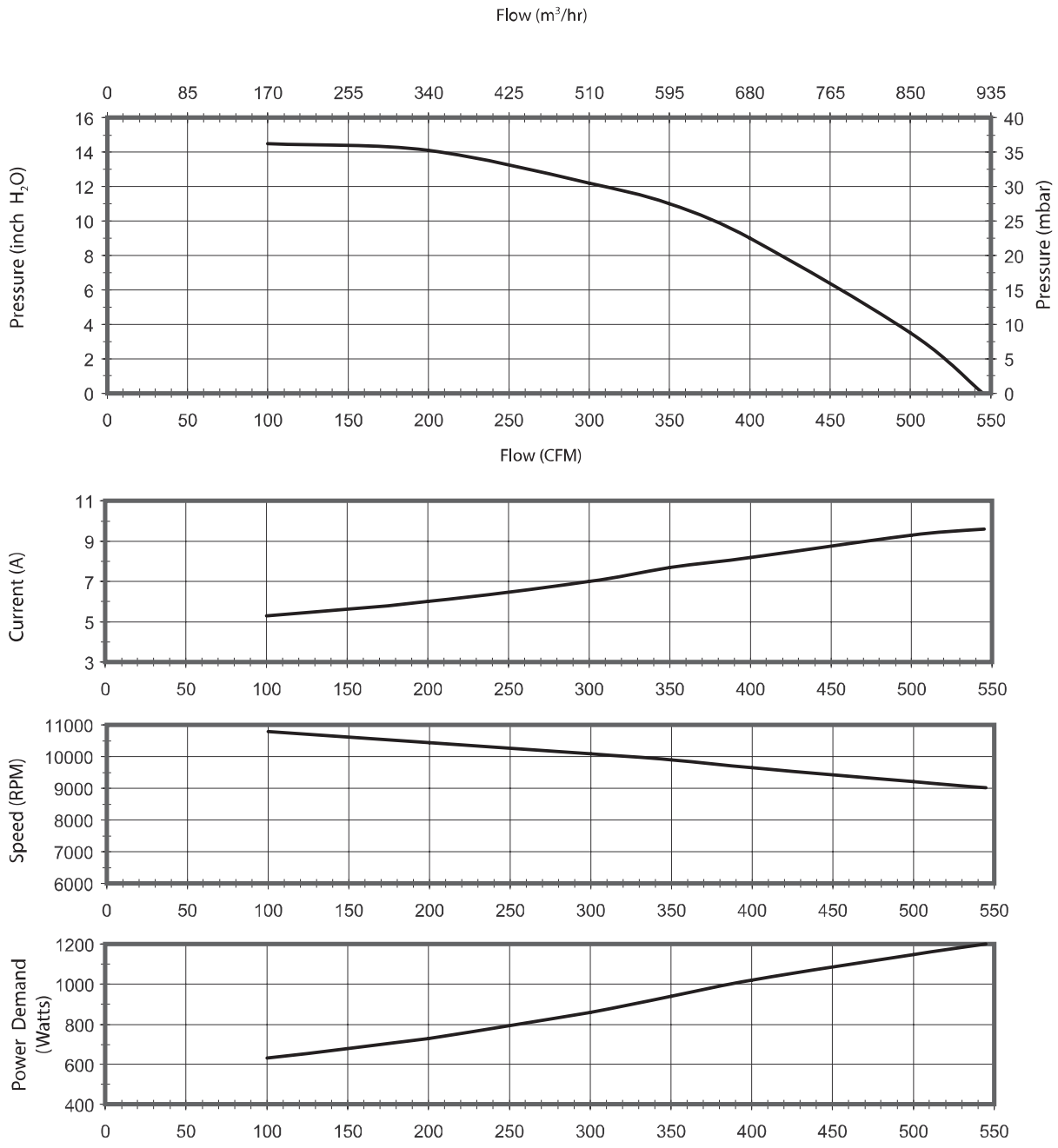
AMETEK
PRECISION MOTION CONTROL

Nautilair (TM) 8.9" (226mm) Variable Speed Blower

Nautilair

240 Volt AC Input, Single Phase, High Output

Typical Performance



Data presented represents blower performance at STANDARD AIR DENSITY, .075 lb/ft³ (29.92" Hg, Sea Level, 68° F)
Vacuum performance available upon request.

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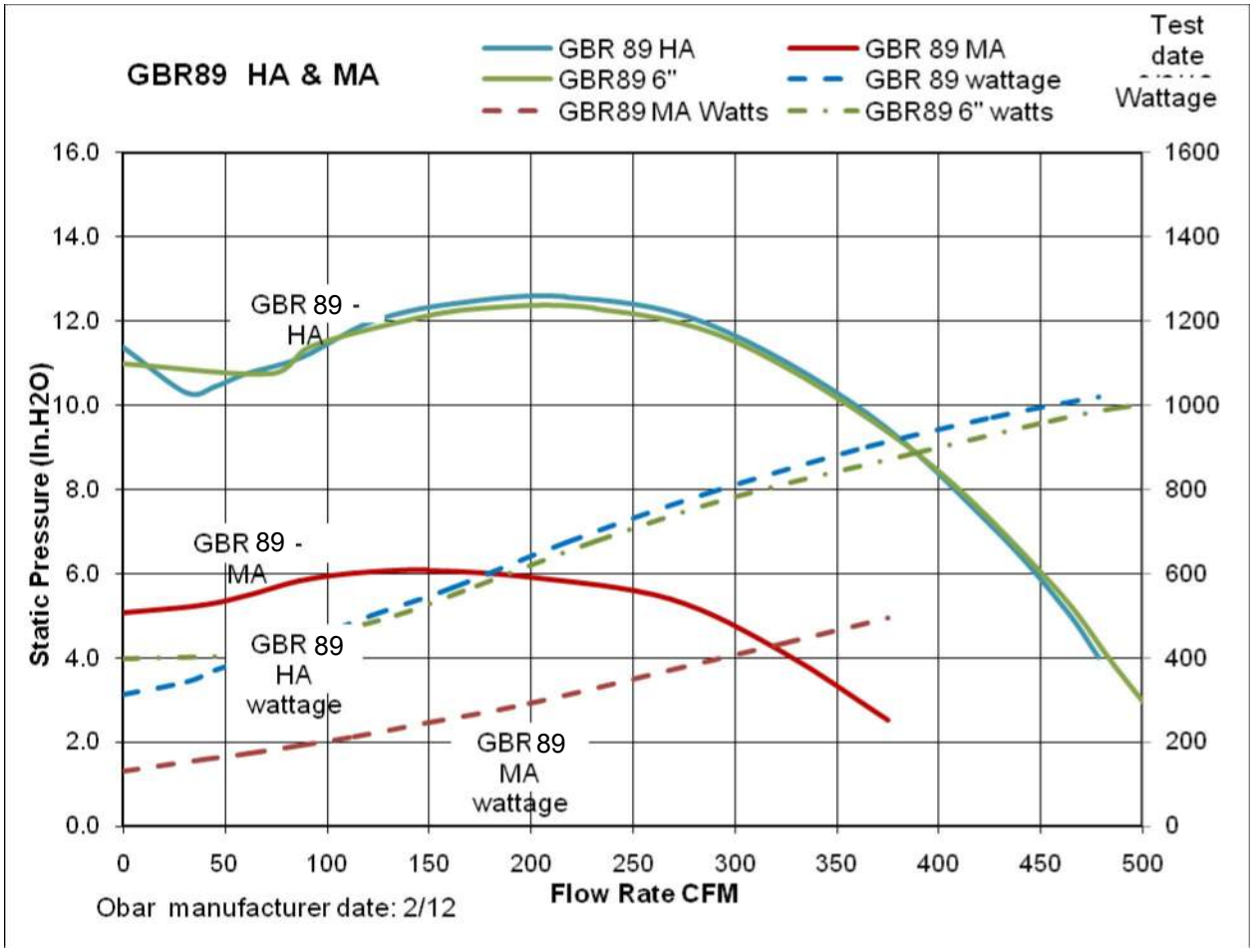
AMETEK
PRECISION MOTION CONTROL

GBR89 HA tested at full voltage with 8 feet of 4" inlet (Blue Lines) and 6" Inlet (Green lines)

Maximum airflow with no exhaust piping and 8' of 6" piping is 529 CFM

GBR89 MA tested with speed control set to half the wattage consumption (Red Line)*

*GBR89 MA = GBR89 HA blower tuned to 50% speed.



CHARLOTTE PIPE AND FOUNDRY COMPANY®

SUBMITTAL FOR CHARLOTTE PIPE®
ABS CELLULAR (FOAM CORE) PIPE AND ABS DWV FITTING SYSTEM

Date: _____

Job Name: _____ Location: _____

Engineer: _____ Contractor: _____

Scope:
This specification covers ABS cellular core (foam core) pipe and ABS DWV fittings used in sanitary drain, waste and vent (DWV), sewer, and storm drainage applications. This system is intended for use in non-pressure applications where the operating temperature will not exceed 140° F.

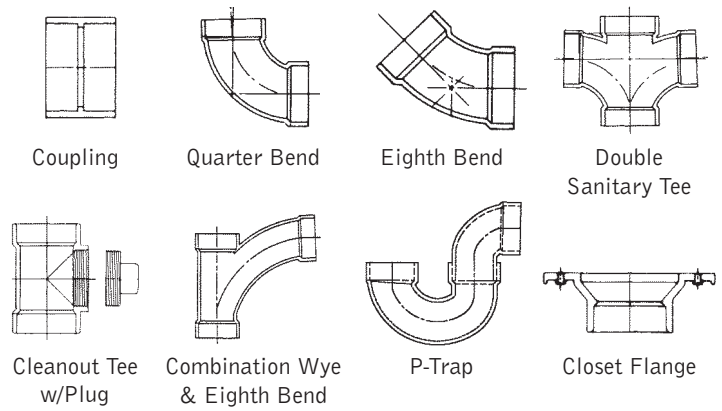
Specification:
Pipe shall be manufactured from virgin rigid ABS (acrylonitrile-butadiene-styrene) compounds with a cell class of 42222 as identified in ASTM D 3965. Fittings shall be manufactured from virgin rigid ABS compounds with a cell class of 32222 as identified in ASTM D 3965.

ABS cellular core pipe shall be Iron Pipe Size (IPS) conforming to ASTM F 628. Injection molded ABS DWV fittings shall conform to ASTM D 2661. All systems shall utilize a separate waste and vent system. All pipe and fittings shall be manufactured in the United States. Pipe and fittings shall conform to NSF International Standard 14.

Installation:
Installation shall comply with the latest installation instructions published by Charlotte Pipe and Foundry and shall conform to all applicable plumbing, fire, and building code requirements. Buried pipe shall be installed in accordance with ASTM D 2321 and ASTM F 1668. Solvent cement joints shall be made with a solvent cement conforming to ASTM D 2235. The system shall be protected from chemical agents, fire-stopping materials, thread sealant, plasticized-vinyl products or other aggressive chemical agents not compatible with ABS compounds. The system shall be hydrostatically tested after installation. **WARNING!** Never test with or transport/store compressed air or gas in ABS pipe or fittings. Doing so can result in explosive failures and cause severe injury or death.

Referenced Standards:

ASTM D 3965:	Rigid ABS Compounds
ASTM F 628:	Co-extruded ABS Pipe with Cellular Core
ASTM D 2661:	ABS Drain, Waste and Vent Fittings
ASTM D 2235:	Solvent Cements for ABS Pipe and Fittings
ASTM D 2321:	Underground Installation of Thermoplastic Pipe (non-pressure applications)
ASTM F 1668:	Procedures for Buried Plastic Pipe
NSF Standard 14:	Plastic Piping Components and Related Materials



Not all fitting patterns shown

MADE IN USA

ABS Foam Core Pipe

ABS Schedule 40 DWV Pipe (For Non-Pressure Applications)

NSF

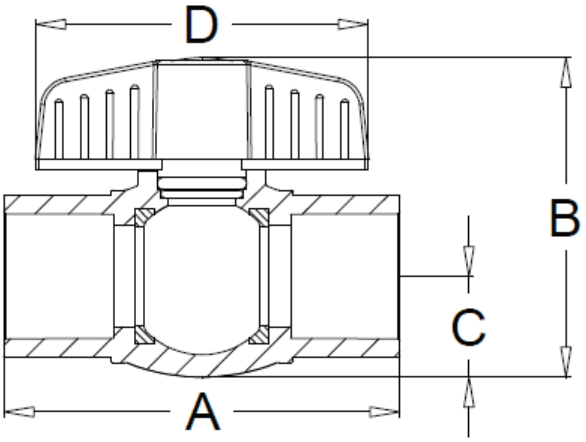
ABS SCHEDULE 40 FOAM CORE (BLACK)			PLAIN END			ASTM F 628
PART NO.	NOM. SIZE	UPC # 611942-	QTY. PER SKID	AVG. OD (IN.)	MIN. WALL (IN.)	WT. PER 100 FT. (LBS.)
ABS 3112	1½″ x 10′	03132	2590′	1.900	0.145	27.1
ABS 3112	1½″ x 20′	03133	5180′	1.900	0.145	27.1
ABS 3200	2″ x 10′	03134	1670′	2.375	0.154	37.7
ABS 3200	2″ x 20′	03135	3340′	2.375	0.154	37.7
ABS 3300	3″ x 10′	03136	750′	3.500	0.216	74.5
ABS 3300	3″ x 20′	03137	1500′	3.500	0.216	74.5
ABS 3400	4″ x 10′	03138	480′	4.500	0.237	107.1
ABS 3400	4″ x 20′	03139	960′	4.500	0.237	107.1
ABS 3600	6″ x 10′	03140	200′	6.625	0.280	187.8
ABS 3600	6″ x 20′	03141	400′	6.625	0.280	187.8

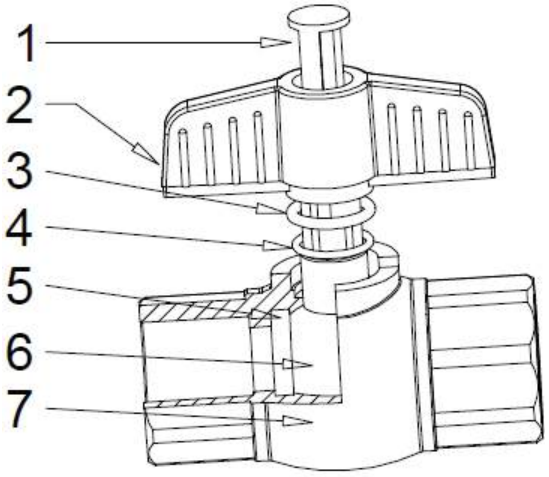
770 White PVC Ball Valve • Spec Sheet

Sizes 1/2” - 2”

FEATURES & BENEFITS

- ISO 9002
- 150 PSI @ 73 Deg. F.
- White Color
- NSF Approved
- Fits Sch. 40 & Sch. 80 Pipe
- Threaded or Solvent Ends
- Threaded Ends Comply With ANSI B1.20.1
- Solvent Ends Comply With ASTM D2466





DIMENSIONS

Part # Threaded	Part # Solvent	Size	A	B	C	D
770T03	770S03	1/2”	3.16	2.46	0.71	2.74
770T04	770S04	3/4”	3.61	2.98	0.87	3.01
770T05	770S05	1”	4.19	3.39	1.06	3.53
770T06	770S06	1-1/4”	4.76	3.80	1.21	3.54
770T07	770S07	1-1/2”	5.13	4.32	1.46	4.42
770T08	770S08	2”	5.93	5.36	1.83	5.53

MATERIAL SPECIFICATIONS

No.	Part	Material
1	Cap	ABS
2	Handle	ABS
3	O-Ring	EPDM
4	O-Ring	EPDM
5	Seat (2)	PTFE
6	Ball	PC + ABS
7	Body	PVC

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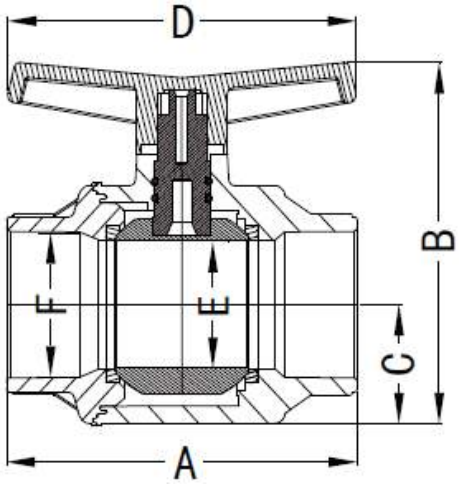
NEW YORK PO Box 27, Rt. 22, Brewster NY 10509 • Toll Free: 800-431-2082 • Fax: 845-278-9056
WEB: **www.matco-norca.com** EMAIL: **mail@matco-norca.com**

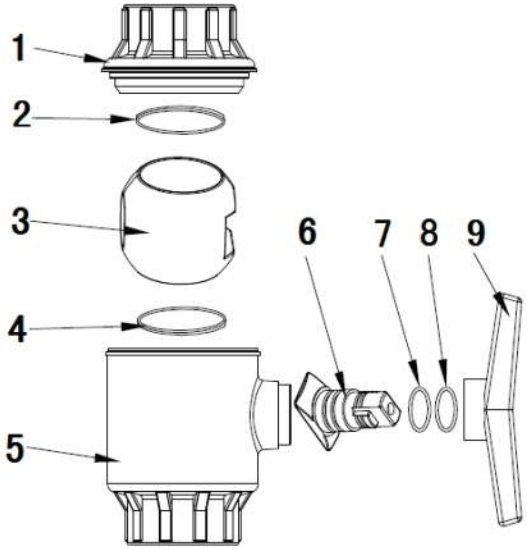
770 White PVC Ball Valve • Spec Sheet

Sizes 2-1/2" - 4"

FEATURES & BENEFITS

- ISO 9002
- 150 PSI @ 73 Deg. F.
- White Color
- NSF Approved
- Fits Sch. 40 & Sch. 80 Pipe
- Threaded or Solvent Ends
- Threaded Ends Comply With ANSI B1.20.1
- Solvent Ends Comply With ASTM D2466





DIMENSIONS

Part # Threaded	Part # Solvent	Size	A	B	C	D	E	F
770T09	770S09	2-1/2"	7.48	7.68	2.26	7.09	2.62	2.87
770T10	770S10	3"	8.66	8.86	2.66	9.05	3.06	3.49
770T11	770S11	4"	10.24	10.24	3.35	10.04	4.03	4.49

MATERIAL SPECIFICATIONS

No.	Part	Material
1	Nut	PVC
2, 4	Seat (2)	PTFE
3	Ball	PVC
5	Body	PVC
6	Stem	PVC
7, 8	O-Ring (2)	EPDM
9	Handle	ABS

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ITW Buildex

SAMMYS®

2012 PRODUCT CATALOG

www.itwbuildex.com 800-BUILDEX

TABLE OF CONTENTS

Warranty • Disclaimer of Warranty

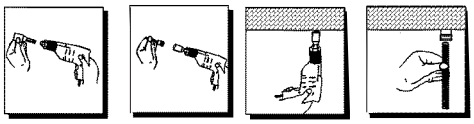
Proper fastener connection design takes in to account where and how fasteners are used. Allowance for special characteristics in materials, differences in materials, differences in types of materials being joined, unique or unusual environmental service or installation conditions and the safety factors required by anticipating normal or short term loading conditions must be considered. Due to possible differences in specifications, applications, and interpretation of results, purchasers and specifiers must make their own evaluation of the products, to determine the suitability of these products for intended use. All warranties of Buildex products, expressed or implied, including the warranties of merchantabilty and fitness for particular purposes are specifically excluded except for the following: Buildex will repair or replace any product which, within twelve months after sale by Buildex or its distributors, is found by Buildex to be defective in material or workmanship - normal wear and tear accepted. This is the sole warranty of Buildex and the sole remedy available to distributor or buyer. Buildex shall not be liable for any injury, loss or damage, direct, indirect, or consequential, arising out of the use of, or the inability to use, any Buildex product.

INSTALLATION INSTRUCTIONS FOR WOOD & STEEL

INSTALLATION STEPS - VERTICAL INTO WOOD & STEEL:

1. *Insert the appropriate nut driver into a 3/8" or 1/2" portable drill.*
2. *Insert the SAMMYS® into the #14 (black) nut driver (p/n 8113910). Drill should be in a vertical position.*
3. *Push the face of the nut driver tight to the member. Begin installation when the nut driver spins freely on the SAMMYS, stop drill and remove.*
4. *The SAMMYS is now ready to receive 1/4", 3/8", 1/2" or metric all thread rod, bolt stock. (The 1/2" requires the #14SW red nut driver)*

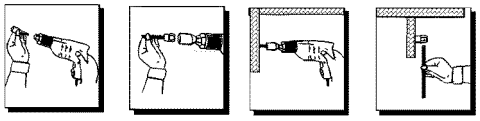
Note: *When installing DSTR, follow the above instructions, then add retainer nut and torque to 20 foot lbs. for maximumpullout in purlin steel.*



INSTALLATION STEPS - HORIZONTAL INTO WOOD & STEEL:

1. *Insert the appropriate nut driver into a 3/8" or 1/2" portable drill.*
2. *Insert the SAMMYS into the #14SW (red) nut driver (p/n 8114910). With drill unit in a horizontal position and at a right angle to the structural member, begin installation.*
3. *When the nut driver spins freely on the SAMMYS, stop the drill and remove.*
4. *The unit is now ready to receive 1/4", 3/8", M10, M8 or metric all thread rod or bolt stock.*

Note: *When installing SWDR, follow the above instructions, then add retainer nut and torque to 20 foot lbs. for maximum pullout in purlin steel.*



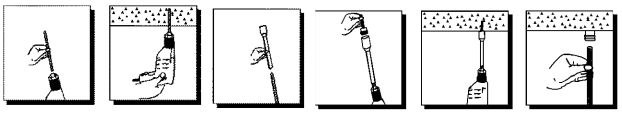
INSTALLATION INSTRUCTIONS FOR CONCRETE

INSTALLATION STEPS - VERTICAL INTO CONCRETE:

1. *Using an SDS 250 carbide tip bit or a HEX RECEIVER with a #250 carbide tip bit, pre-drill the concrete member to a depth of 2" with a hammer/rotary hammer drill set on impact mode.*
2. *After pre-drilling has been completed, install the SLEEVE TOOL over the bit (the bit should remain in the drill), and insert the #14 (black) nut driver (p/n 8113910) into the opposite end (see Vertical Installation note above).*
3. *Insert the CST screw into the nut driver.*
4. *Place tip of screw into the pre-drilled hole, turn impact/drill unit to drill mode and begin insertion. When the nut driver spins freely on the CST screw, installation is complete. Stop and remove drill.*
5. *The concrete screw is ready to receive 1/4", 3/8", 1/2", or metric all thread rod or bolt stock. (#14SW red nut driver used with 1/2" screw)*

Note: *Use a 1200 maximum RPM drill for installation.*

Note: *Do not install concrete screws while the drill unit is in impact mode — doing so will destroy the pullout factor of the screw.*

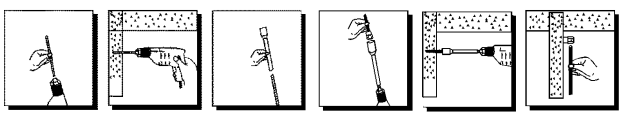


INSTALLATION STEPS - HORIZONTAL INTO CONCRETE:

1. *Using an SDS 250 carbide tip bit or a HEX RECEIVER with a #250 carbide tip bit, pre-drill the concrete member to a depth of 2" with a hammer/rotary hammer drill set on impact mode.*
2. *After pre-drilling has been completed, install the SLEEVE TOOL over the bit (the bit should remain in the drill), and insert the #14SW (red) nut driver (p/n 8114910) into the opposite end.*
3. *Insert the SWC screw into the nut driver.*
4. *Place tip of screw into the pre-drilled hole, turn impact/drill unit to drill mode and begin insertion. When the nut driver spins free on the SWC screw, installation is complete. Stop and remove drill.*
5. *The SWC screw is ready to receive 1/4", 3/8" or metric all thread rod or bolt stock.*

Note: *Use a 1200 maximum RPM drill for installation.*

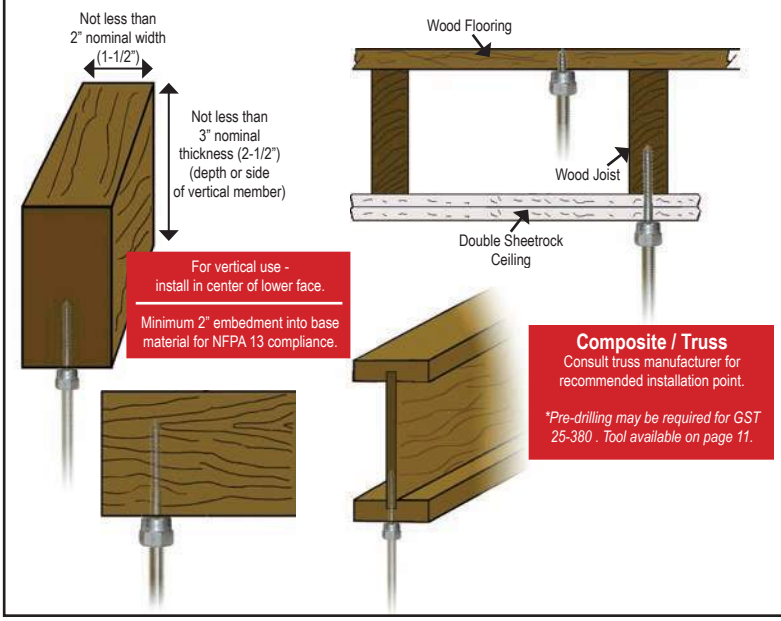
Note: *Do not install concrete screws while the drill unit is in impact mode — doing so will destroy the pullout factor of the fastener.*



SPECIAL NUT DRIVER SYSTEM: The nut drivers were designed with a unique spin-off feature which provides a fast and safe installation each time. When the face of the driver comes into contact with the material you are installing into, continue drilling until nut driver spins free. Installation is then complete. Warranty requires the use of the appropriate nut driver for installations.

SAMMYS® FOR WOOD - Vertical Application

Application



Product Features

- No pre-drilling required.
- Quick to install using the Sammy Nut Driver with an 18V cordless drill/driver.
- Saves time from traditional methods.
- Reduces installation costs.
- Manufactured in the U.S.A.

Watch a video demonstration at www.itwbuildex.com

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Box Qty	Case Qty
VERTICAL MOUNT									
	1/4"	8002957	GST 100	1/4 x 1"	210 (7/16" OSB) 670 (3/4" Ply)			25	125
	1/4"	8003957	GST 200	1/4 x 2"	1760 (Fir)			25	125
UL	3/8"	8007957	GST 10	1/4 x 1"	210 (7/16" OSB) 670 (3/4" Ply)	300		25	125
UL FM	3/8"	8008957	GST 20	1/4 x 2"	1760 (Fir)	850	1475	25	125
UL	3/8"	8068925	GST 20-SS	1/4 x 2"	1760 (Fir)	850		25	125
UL	3/8"	8009925	GST 25-380	3/8 x 2-1/2"	2113 (Fir)	1500		25	125
UL FM	3/8"	8010957	GST 30	1/4 x 3"	2060 (Fir)	1500	1475	25	125
	3/8"	8069925	GST 30-SS	1/4 x 3"	2060 (Fir)			25	125
	1/2"	8013925	GST 2	1/4 x 2"	1760 (Fir)			25	125
	1/2"	8015925	GST 3	1/4 x 3"	2275 (Fir)			25	125

#14 Black Nut Driver Part # 8113910

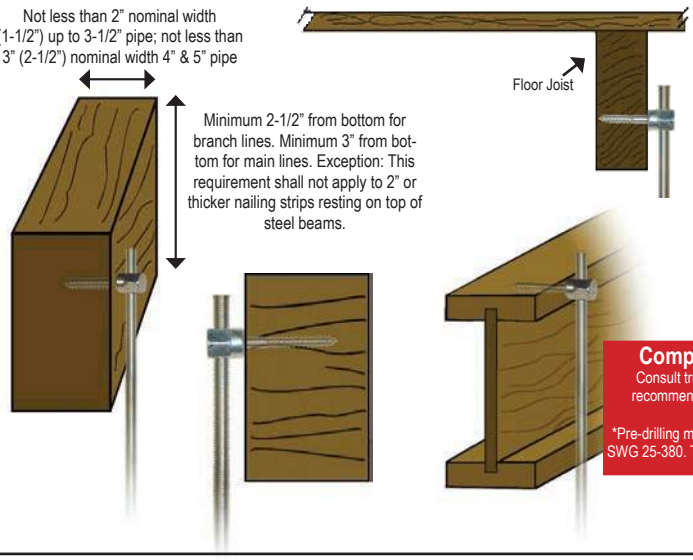
#14 SW Red Nut Driver Part # 8114910

MANUFACTURED U.S.A.

SPECIAL NUT DRIVER SYSTEM: The nut drivers were designed with a unique spin-off feature which provides a fast and safe installation each time. When the face of the driver comes into contact with the material you are installing into, continue drilling until nut driver spins free. Installation is then complete. Warranty requires the use of the appropriate nut driver for installations.

SIDEWINDER® FOR WOOD - Horizontal Application

Application



Composite / Truss
Consult truss manufacturer for recommended installation point.

*Pre-drilling may be required for Model SWG 25-380. Tool available on page 11.

Product Features

- No pre-drilling required.
- Quick to install using the Sammy Nut Driver with an 18V cordless drill/driver.
- Saves time from traditional methods.
- Reduces installation costs.
- Manufactured in the U.S.A.

Watch a video demonstration at www.itwbuildex.com

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	Box Qty	Case Qty
HORIZONTAL MOUNT								
	1/4"	8019957	SWG 200	1/4 x 2"	1725 (Fir)		25	125
	3/8"	8020957	SWG 10	1/4 x 1"	622 (Fir)	300	25	125
	3/8"	8021957	SWG 20	1/4 x 2"	1725 (Fir)	1050	25	125
	3/8"	8073925	SWG 20-SS	1/4 x 2"	1725 (Fir)	850	25	125
	3/8"*	8022925	SWG 25-380	3/8 x 2-1/2"	2249 (Fir)	1500	25	125
	3/8"	8023925	SWG 30	1/4 x 3"	1884 (Fir)		25	125

#14 SW Red Nut Driver Part # 8114910

* May require pre-drilling; consult joist manufacturer.

SAMMYS SWIVEL HEAD™ FOR WOOD - Swivel Application

Application

Product Features

- Eliminates distortion of threaded rod.
- Accommodates up to 3 ½" x 12 pitch roof.
- Allows 17° deflection from vertical.
- Saves time from traditional methods.
- Reduces installation costs.
- Manufactured in the U.S.A.

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Min Thickness	Box Qty	Case Qty
SWIVEL MOUNT										
	3/8"	8139957	SH-GST 20	1/4 x 2"	1257 (Fir)	1050	1475		25	125
	3/8"*	8269957	SH-GST/CST 20	5/16 x 1-3/4"	1903 Dim. Lumber 1406 @ 45°off vertical Dim. Lumber	1500 850 @ 45°			25	125
	1/2"	8303957	SH-GST/CST 2.0	5/16 x 1-3/4"	903 Dim. Lumber 1406 @ 45°off vertical Dim. Lumber				25	125

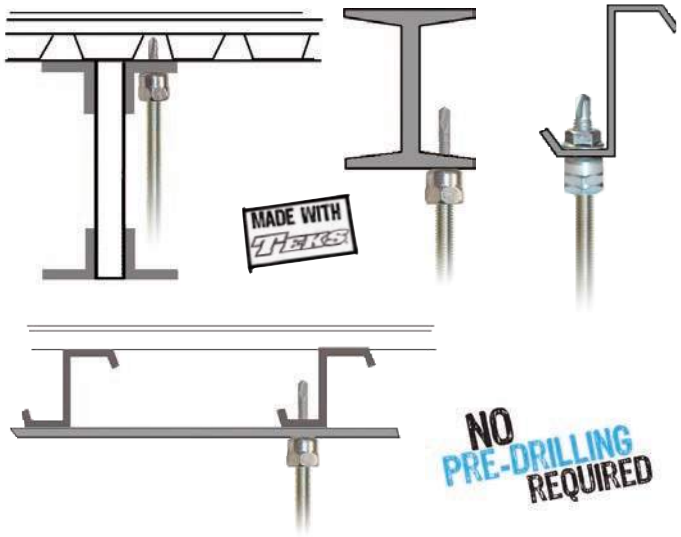
#14 Black Nut Driver Part # 8113910

#14 SH Orange Nut Driver Part # 8273910

* May require pre-drilling; consult joist manufacturer.

SAMMYS® FOR STEEL - Vertical Application

Application



Product Features

- Made with Teks® self-drilling fasteners - no pre-drilling required.
- Installs into steel range from 20 gauge – 1/2" thicknesses.
- Saves time from traditional methods.
- Reduces installation costs.
- Quick to install using the Sammys Nut Driver with an 18V cordless drill/driver.
- A standard screwgun with a depth sensitive nosepiece should be used to install Teks. For optimal fastener performance, the screwgun should be a minimum of 6 amps and have an RPM range of 0-2500.
- Manufactured in the U.S.A.

Watch a video demonstration at www.itwbuildex.com

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Min Thick	Max Thick	Box Qty	Case Qty
VERTICAL MOUNT											
	1/4"	8024957	DSTR 100 *	1/4-20 x 1" TEKS 3	1510 (20 ga.)			.036"-20 ga	3/16"	25	125
	1/4"	8025957	DST 100	1/4-14 x 1" TEKS 3	446 (20 ga.)			.036"-20 ga	3/16"	25	125
	1/4"	8026957	DST 150	1/4-14 x 1-1/2" TEKS 3	970 (16 ga.)			.036"-20 ga	3/16"	25	125
	1/4"	8027957	DST 200	1/4-14 x 2" TEKS 3	446 (20 ga.)			.036"-20 ga	3/16"	25	125
	1/4"	8030957	TEK 500	12-24 x 1-1/2" TEKS 5	3125 (3/16")			.188"-3/16"	1/2"	25	125
UL FM	3/8"	8038957	DSTR 1 *	1/4-20 x 1" TEKS 3	1510 (20 ga.)	1500	1475	.036"-20 ga	3/16"	25	125
UL FM	3/8"	8037957	DSTR 1-1/2 *	12-24 x 1-1/2" TEKS 5	1510 (3/16")	1500	1475	.060"-16 ga.	1/2"	25	125
UL FM	3/8"	8039957	DSTR 516 *	5/16-18 x 1-1/4" TEKS 3	2200 (20 ga.)	1500	1475	.036"-20 ga	3/16"	25	125
	3/8"	8040957	DST 10	1/4-14 x 1" TEKS 3	446 (20 ga.) 970 (16 ga.)			.036"-20 ga	3/16"	25	125
	3/8"	8077925	DST 10-SS	1/4-14 x 1" TEKS 3	446 (20 ga.) 970 (16 ga.)			.036"-20 ga	3/16"	25	125
	3/8"	8041957	DST 15	1/4-14 x 1-1/2" TEKS 3	446 (20 ga.) 970 (16 ga.)			.036"-20 ga	3/16"	25	125
	3/8"	8078925	DST 15-SS	1/4-14 x 1-1/2" TEKS 3	446 (20 ga.) 970 (16 ga.)			.036"-20 ga	3/16"	25	125
	3/8"	8042957	DST 20	1/4-14 x 2" TEKS 3	446 (20 ga.) 970 (16 ga.)			.036"-20 ga	3/16"	25	125
	3/8"	8044957	DST 30	1/4-14 x 3" TEKS 3	446 (20 ga.) 970 (16 ga.)			.036"-20 ga	3/16"	25	125
UL FM	3/8"	8045957	DST 516	5/16-18 x 1-1/4" TEKS 3	1500 (3/16")	1500	1475	.125"-1/8"	3/16"	25	125
UL FM	3/8"	8046957	TEK 50	12-24 x 1-1/2" TEKS 5	3125 (3/16")	1500	1475	.250"-1/4"	1/2"	25	125
	1/2"	8031925	DST 2.0	1/4-14 x 2" TEKS 3	446 (20 ga.) 970 (16 ga.)			.188"-3/16"	1/4"	25	125
	1/2"	8033925	DSTR 1.0 *	1/4-20 x 1" TEKS 3	1510 (20 ga.)			.036"-20 ga	3/16"	25	125
	1/2"	8034925	DSTR 5.16 *	5/16-18 x 1-1/4" TEKS 3	2220 (20 ga.)			.036"-20 ga	3/16"	25	125
	1/2"	8035925	DST 5.16	5/16-18 x 1-1/4" TEKS 3	1500 (3/16")			.125"-1/8"	3/16"	25	125
	1/2"	8036925	TEK 5.0	12-24 x 1-1/2" TEKS 5	3125 (3/16")			.188"-3/16"	1/2"	25	125

*Includes retaining nut

#14 Black Nut Driver Part # 8113910

#14 SW Red Nut Driver Part # 8114910

MANUFACTURED U.S.A.

RoHS Compliant

SPECIAL NUT DRIVER SYSTEM: The nut drivers were designed with a unique spin-off feature which provides a fast and safe installation each time. When the face of the driver comes into contact with the material you are installing into, continue drilling until nut driver spins free. Installation is then complete. Warranty requires the use of the appropriate nut driver for installations.

SIDEWINDER® FOR STEEL - Horizontal Application

Application

Product Features

- Made with Teks® self-drilling fasteners - no pre-drilling required.
- Installs into steel range from 20 gauge – 1/2" thicknesses.
- A standard screwgun with a depth sensitive nosepiece should be used to install Teks. For optimal fastener performance, the screwgun should be a minimum of 6 amps and have an RPM range of 0-2500.
- Saves time from traditional methods.
- Reduces installation costs.
- Quick to install using the Sammys Nut Driver with an 18V cordless drill/driver.
- Manufactured in the U.S.A.

Watch a video demonstration at www.itwbuildex.com

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Min Thickness	Max Thickness	Box Qty	Case Qty
HORIZONTAL MOUNT											
	1/4"	8047957	SWD 100	1/4-14 x 1" TEKS 3	1477 (16 ga.)			.060"-16 ga	3/16"	25	125
	1/4"	8049957	SWDR 100 *	1/4-20 x 1" TEKS 3	1900 (20 ga.)			.036"-20 ga	3/16"	25	125
	3/8"	8050957	SWD 10	1/4-14 x 1" TEKS 3	1477 (16 ga.)			.060"-16 ga	3/16"	25	125
	3/8"	8080925	SWD 10-SS	1/4-14 x 1" TEKS 3	1477 (16 ga.)			.060"-16 ga	3/16"	25	125
	3/8"	8052957	SWD 20	1/4-14 x 2" TEKS 3	1477 (16 ga.)			.060"-16 ga	3/16"	25	125
UL FM	3/8"	8055957	SWDR 1 *	1/4-20 x 1" TEKS 3	1900 (20 ga.)	1500	1475	.036"-20 ga	3/16"	25	125
UL FM	3/8"	8054957	SWDR 1-1/2 *	12-24 x 1-1/2" TEKS 5	2375 (3/16")	1500	1475	.188"-3/16"	1/2"	25	125
UL FM	3/8"	8056957	SWDR 516 *	5/16-18 x 1-1/4" TEKS 3	2480 (20 ga.)	1500	1475	.036"-20 g	3/16"	25	125
	3/8"	8057957	SWT 15	12-24 x 1-1/2" TEKS 5	2375 (3/16")			.188"-3/16"	1/2"	25	125

#14 SW Red Nut Driver Part # 8114910

*Includes retaining nut

SAMMYS SWIVEL HEAD™ FOR STEEL - Swivel Application

Application

Product Features

- Eliminates distortion of threaded rod in sloped roof applications.
- Accommodates 3-1/2 x 12 pitch.
- Installs into angled z-purlin; allows threaded rod to hang plumb.
- Allows 17° deflection from vertical.
- Manufactured in the U.S.A.

Watch a video demonstration at www.itwbuildex.com

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Min Thick	Max Thick	Box Qty	Case Qty
SWIVEL MOUNT											
UL FM	3/8"	8137957	SH-DSTR 1*	1/4-20 X 1" TEKS 3	3220 (3/16")	1500	1475	.035"	3/16"	25	125
UL	3/8"	8268957	SH-TEK 50	12-24 x 1-3/4" TEKS 5	2368 (1/2" steel Vertical) 1306 (45° off Vertical) 2281 (3/16" HSS) 1585 (3/16" HSS 45° off Vertical)	1500 (Vertical) 850 (45° off Vertical)	4" 2-1/2"	3/16"	1/2"	25	125
	1/2"	8270957	SH-TEK 5.0	12-24 x 1-3/4" TEKS 5	2368 (1/2" steel Vertical) 1306 (45° off Vertical) 2281 (3/16" HSS) 1585 (3/16" HSS 45° off Vertical)			3/16"	1/2"	25	125

#14 Black Nut Driver Part # 8113910

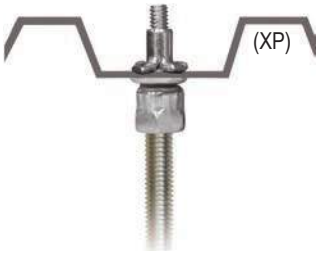
#14 SH Orange Nut Driver Part # 8273910

*Does not comply with ROHS requirements / Includes retaining nut

SAMMY X-PRESS® *Installs into Metal Deck, Purlin, or Tubular Steel*

SAMMY X-PRESS® - Vertical Application

Application

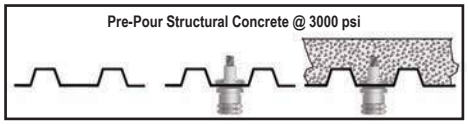


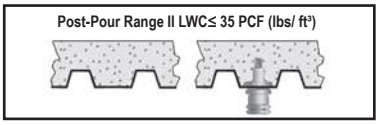
Product Features

- The ***Sammy X-Press*** expands to provide direct vertical attachment in:
  - light gauge steel deck or purlin (22 ga. - 1/8").
- Installs in seconds with Sammy X-Press It® Tool, saving time & installation costs.
- Use in applications where access to the back of the installed fastener is prohibited. ie. metal roof deck, tubular steel, or vapor barrier fabric.
- Less jobsite material needed.
- No retaining nut required.
- Provides design flexibility.
- Manufactured in the U.S.A.

Watch a video demonstration at www.itwbuildex.com

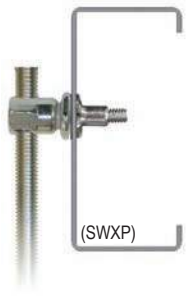
Approvals	Rod Size	Part Number	Model	Description	Ultimate Pullout (lbs)	UL Test Load (lbs)	UL Min Thick	FM Test Load (lbs)	FM Min Thick	Max Thick	Box Qty	Case Qty	Application
VERTICAL MOUNT													
UL	1/4"	8181922	XP 200	Sammy X-Press 200	1146 (22 ga)	185 (Luminaire) 250 (Luminaire)	.027" .056"			.125"	25	125	Metal Deck
UL FM	3/8"	8150922	XP 20	Sammy X-Press 20	1146 (22 ga)	850 (2½" Pipe) 185 (Luminaire) 250 (Luminaire) 283 (Conduit & Cable)	.027" .027" .056" .029"	940 (2" Pipe) 1475 (4" Pipe)	.029" .104"	.125"	25	125	Metal Deck
UL FM	3/8"	8153922	XP 35	Sammy X-Press 35	1783 (16 ga)	1500 (4" Pipe) 185 (Luminaire) 250 (Luminaire) 416 (Conduit & Cable)	.060" .029" .056" .059"	940 (2" Pipe) 1475 (4" Pipe)	.029" .104"	.125"	25	125	Purlin
UL	3/8"	8150922	XP 20	Sammy X-Press 20	1146 (22 ga)	850 (2½ Pipe)		Pre-Pour Structural Concrete@ 3000 psi Post-Pour Range II LWC≤ 35 PCF (lbs/ft³)			25	125	Metal Deck (Pre-Pour) Metal Deck (Post-Pour)





SAMMY X-PRESS SIDEWINDER™ - Horizontal Application

Application



Product Features

- The ***Sammy X-Press Sidewinder*** expands to provide horizontal attachment in:
  - 16 ga - 3/16" steel - purlin, tubular steel.
- Installs in seconds with Sammy X-Press It® Tool, saving time & installation costs.
- Use in applications where access to the back of the installed fastener is prohibited; ie. metal roof deck, tubular steel, or vapor barrier fabric.
- Less jobsite material needed.
- No retaining nut required.
- Provides design flexibility.
- Manufactured in the U.S.A.

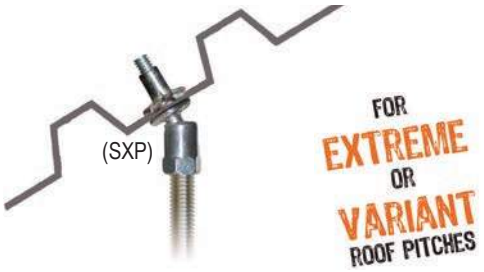
Watch a video demonstration at www.itwbuildex.com

Approvals	Rod Size	Part Number	Model	Description	Ultimate Pullout (lbs)	UL Test Load (lbs)	UL Min Thick	FM Test Load (lbs)	Max Thick	Box Qty	Case Qty	Application
HORIZONTAL MOUNT												
UL	3/8"	8293957	SWXP 35	Sidewinder X-Press 35	1798 (16 ga)	1250 (3½" Pipe) 80 (Luminaire) 416 (Conduit & Cable)	.059"		.125"	25	125	Purlin

MANUFACTURED U.S.A.

SAMMY X-PRESS SWIVEL™ - Swivel Application

Application



Product Features

- The ***Sammy X-Press Swivel*** allows you to hang plumb in extreme roof pitches:
  - 89° in z-purlin
  - 45° in metal deck for 12/12 pitch
- Installs in seconds with Sammy X-Press It® Tool, saving time & installation costs.
- Use in applications where access to the back of the installed fastener is prohibited. ie. metal roof deck, tubular steel, or vapor barrier fabric.
- Less jobsite material needed.
- No retaining nut required.
- Provides design flexibility.
- Manufactured in the U.S.A.

Watch a video demonstration at www.itwbuildex.com

Approvals	Rod Size	Part Number	Model	Description	Ultimate Pullout (lbs)	UL Test Load (lbs)	UL Min Thick	FM Test Load (lbs)	FM Min Thick	Max Thick	Box Qty	Case Qty	Application
SWIVEL MOUNT													
UL FM	3/8"	8294922	SXP 20	Swivel X-Press 20	1061 (22 ga Vert) 829 (45° Off Vert)	750 (2" Pipe) 170 Vertical (Luminaire) 80 @ 45° (Luminaire) 283 Vertical (Conduit & Cable) 233 @ 45° (Conduit & Cable)	.029"	635 (2" Pipe)	.029"	.125"	25	125	Metal Deck
UL FM	3/8"	8295922	SXP 35	Swivel X-Press 35	1675 (16 ga Vert) 1558 (89° Off Vert)	1250 (3-1/2" Pipe) 250 Vertical (Luminaire) 80 @ 90° (Luminaire) 500 Vertical (Conduit & Cable) 333 @ 89° (Conduit & Cable)	.059"	635 (2" Pipe)	.029"	.125"	25	125	Purlin
	1/2"	8272957	SXP 2.0	Swivel X-Press 2.0	1061 (22 ga Vert) 829 (45° Off Vert)		.027"	.125"			25	125	Metal Deck
	1/2"	8271957	SXP 3.5	Swivel X-Press 3.5	1675 (16 ga Vert) 1558 (89° Off Vert)		.060"	.125"			25	125	Purlin

SAMMY X-PRESS IT® Installation Tool

Application

Product Features

- The ***Sammy X-Press*** expands to provide direct vertical attachment in:
  - metal deck (22-16 gauge)
  - z-purlin (18-16 gauge)
- Manufactured in the U.S.A.

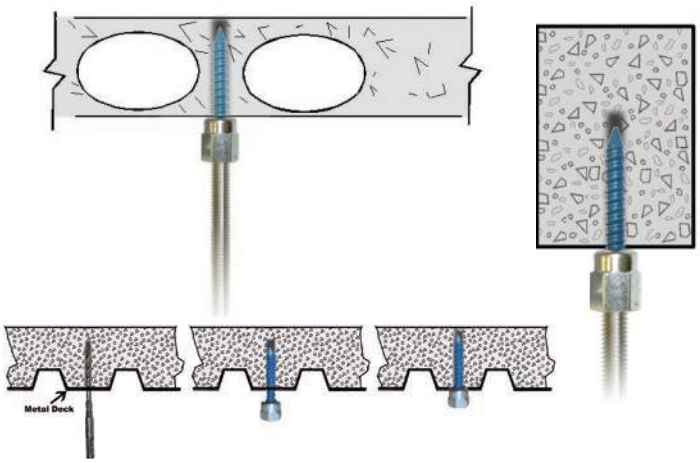
Watch a video demonstration at www.itwbuildex.com

Part Number	Model	Description	Qty
8194910	UXPIT*	Universal X-Press It Tool	1
8152910	XPDB	25/64" Drill Bit	1

*Tool Includes: Sleeve, Bit Receiver, Hex Wrench, and 25/64" Drill Bit.

SAMMYS® FOR CONCRETE - Vertical Application

Application



Product Features

- Easy two step process (Drill hole & drive Sammys concrete anchor).
- ¼" pre-drilled pilot hole required.
- Concrete Installation Tool available for a one tool installation process.
- Manufactured in the U.S.A.

Watch a video demonstration at www.itwbuildex.com

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)*	FM Test Load (lbs)	Box Qty	Case Qty
VERTICAL MOUNT								
	1/4"	8058957	CST 200	5/16 x 1-3/4"	2400		25	125
FM	3/8"	8059957	CST 20	5/16 x 1-3/4"	2400	1475	25	125
	3/8"	8145925	CST 20-SS	5/16 x 1-3/4"	2400		25	125
	1/2"	8060925	CST 2	5/16 x 1-3/4"	2400		25	125

#14 Black Nut Driver Part # 8113910

#14SW Red Nut Driver Part # 8114910

* Tested in 3000 PSI concrete

SIDEWINDER® FOR CONCRETE - Horizontal Application

Application

Product Features

- Easy two step process (Drill hole & drive Sammys concrete anchor).
- ¼" pre-drilled pilot hole required.
- Concrete Installation Tool available for a one tool installation process.
- Manufactured in the U.S.A.

Watch a video demonstration at www.itwbuildex.com

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)*	FM Test Load (lbs)	Box Qty	Case Qty
HORIZONTAL MOUNT								
	1/4"	8062957	SWC 200	5/16 x 1-3/4"	2450		25	125
FM	3/8"	8061957	SWC 20	5/16 x 1-3/4"	2450	1475	25	125

#14SW Red Nut Driver Part # 8114910

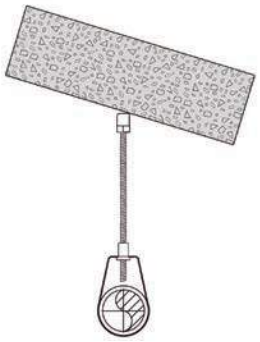
* Tested in 3000 PSI concrete

MANUFACTURED U.S.A.

SPECIAL NUT DRIVER SYSTEM: The nut drivers were designed with a unique spin-off feature which provides a fast and safe installation each time. When the face of the driver comes into contact with the material you are installing into, continue drilling until nut driver spins free. Installation is then complete. Warranty requires the use of the appropriate nut driver for installations.

SAMMYS SWIVEL HEAD™ FOR CONCRETE - Swivel Application

Application



Product Features

- Installs vertically and swivels up to 89° in wood & concrete structures.
- Eliminates distortion of threaded rod.
- 1/4" pre-drilled pilot hole required.
- Concrete installation tool available for a one piece installation process.
- Manufactured in the U.S.A.

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)*	Box Qty	Case Qty
SWIVEL MOUNT							
	3/8"	8269957	SH-GST/CST 20	5/16 x 1-3/4"	2537 in 3000 psi concrete 1459 @ 45°off vertical in 3000 psi concrete 2852 in 6000 psi concrete 1636 @ 45°off vertical in 6000 psi concrete	25	125
	1/2"	8303957	SH-GST/CST 2.0	5/16 x 1-3/4"	2537 in 3000 psi concrete 1459 @ 45°off vertical in 3000 psi concrete 2852 in 6000 psi concrete 1636 @ 45°off vertical in 6000 psi concrete	25	125

#14 SH Orange Nut Driver Part # 8273910

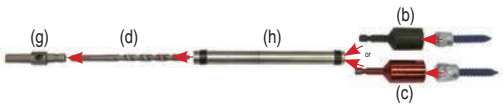
Note: UL Listed for wood - see page 5

* Tested in 3000 PSI concrete

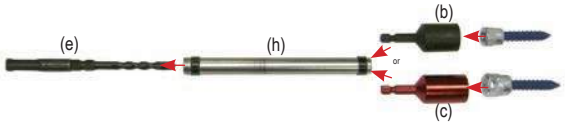
CONCRETE / WOOD INSTALLATION KIT

Application

Rotary Hammer Drill into concrete



Hammer Drill into concrete



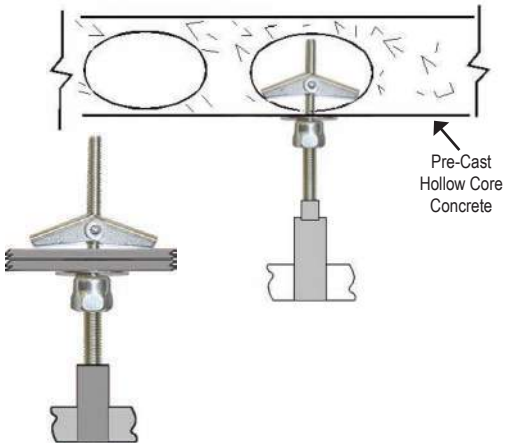
Part Number	Description	Each Qty
8122910	**Concrete Installation Kit (a)**	
	Kit includes the following items:	
8113910	#14 Black Nut Driver (b)	1
8114910	#14 SW Red Nut Driver (c)	1
8116910	#250 Bit (1/4") (d)	1
8117910	SDS Bit (1/4") (e)	1
8118910	7/32 Wood Bit (f)	1
8120910	HEX 250 Bit Receiver (1/4") (g)	1
8098910	SL 250 Sleeve (h)	1
8121910	SDS B250 Bit Receiver (1/4")*	1

**Only sold separately - not included in kit.*

ACCESSORIES

SAMMYS TOGGLE™

Application



Installation Steps

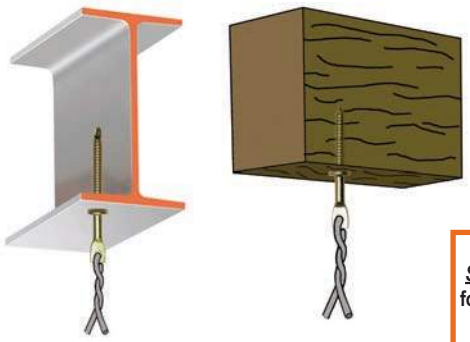
1. Pre-drill a 5/8" hole with a regular drill or hole saw.
2. Insert SST screw into #14 black nut driver. With wing nut and washer on bolt, insert wing nut through surface, and begin installation.
3. When bolt is secure and nut driver spins free, stop drill motor and remove.
4. SST screw is now ready to receive 1/4", 3/8", or Metric all thread rod or bolt stock.

#14 Black
Nut Driver
Part # 8113910

Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	Box Qty	Case Qty
1/4"	8063925	SST 300	1/4 x 3"	450 (Lath & Plaster) 404 (2 Layers 5/8 Rock)	25	125
3/8"	8064925	SST 30	1/4 x 3"	450 (Lath & Plaster) 404 (2 Layers 5/8 Rock)	25	125

CEILING SCREWS

Application



Use the *Speedy Pole Tool*™ for easy installation of ceiling screws without ladders or scaffolding!
(see pg 13 for details)

Product Features

- 3/16" eyelet to accommodate common wire size.
- ICC approvals can be found at www.itwbuildex.com under Evaluation Report # ER-5367.

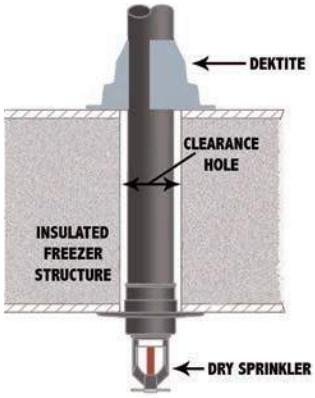
CWIT
Installation Tool
Part # 8110910

Approvals	Substrate	Part Number	Model	Point	Description	Overal Total Length	Ultimate Pullout (lbs)	Max Gauge	ICC Test Load (lbs)	Box Qty	Case Qty
ICC	STEEL	8107957	CWSD 1*	Teks	1/4 x 1"	2"	472 (20 ga)	16 ga.	170 (20 ga.)	25	125
ICC	STEEL WOOD	8190957	CWSD 15*	Gimlet Teks	1/4 x 1-1/2"	2-3/4"	472 (20 ga) 1393 (Fir)	20 ga.	170 (20 ga.)	25	125
ICC	STEEL	8108957	CWSD 2*	Teks	1/4 x 2"	3-1/4"	472 (20 ga)	16 ga.	170 (20 ga.)	25	125
ICC		8110910	CWIT Installation Tool								1

** Does not comply with ROHS requirements*

DEKTITE® PIPE FLASHING

Application



STAY UP TO CODE!
with a quicker, more efficient way to flash your refrigeration/freezer units.

Product Features

- Complies with NFPA 13 Code Changes.
- Flashing for dry pendant sprinklers subject to extreme temperature changes.
- One piece construction is easy to install.
- Pipe diameter markings ensure accurate fit.
- EPDM temperature range of -65°F to +250°F.

Part Number	Description	Pipe Outside Diameter	Dektite Base Diameter	Dektite Height	Box Qty
4001910	Mini	1/4" - 1-1/8"	3-1/2"	1-3/4"	20
4003910	1	1/4" - 2"	4-3/4"	3"	10
4004910	2	1-3/4" - 3-1/4"	6-1/4"	4"	10

SPEEDY POLE TOOL™ & UNIVERSAL SOCKET KIT

Universal Pole Tool Socket Kit (8129910) Includes:

- Adaptor Plug (a)
- Socket Driver for SAMMYS (b)
- Socket Driver for Ceiling Wire Screws (c)
- Socket Driver for 1/4" Standard Nut Drivers (d)
- Stud Plug for Viper or Ladd Powder Actuated Attachment (e)

(Items not sold seperately)

Watch a video demonstration at www.itwbuildex.com

Product Features

- The Pole Tool and Universal Socket Kit provide easy and safe installation for:
  - Sammys
  - Threaded Rod
  - Pencil Rod
  - Ceiling Screws
  - Jack Chain
  - Wire
  - Screws
- Ideal for retrofit and hard-to-reach projects in wood and steel.

Part Number	Description	Box Qty
8123910	Pole Tool 6' (3' - 6')	1
8124910	Pole Tool 12' (4' - 12')	1
8125910	Pole Tool 18' (6' - 18')	1
8126910	Pole Tool 24' (8' - 24')	1
Speedy Pole Tool Installation (specify choice when ordering pole tool)		
8127910	Sammys Socket Driver	1
8128910	Ceiling Wire Socket Driver for wire and chain	1
8129910	Universal Pole Tool Socket Kit	1

SPOT-RITE LEVEL™

Part Number	Model	Ea. Qty
8130910	Spot Rite Level	1

Product Features

- 1/2", 3/4", and 1" threading
- Magnetic strip for ease of use
- Pocket Sized
- Lightweight
- 3-vial design for measurement of 0°, 45°, and 90° angles

APPROVALS

Part Number	Model	Rod Size	Mount Direction	UL Max Pipe Size	UL Test Load (lbs)	UL Min Wood Thickness	FM Max Pipe Size	FM Test Load (lbs)	FM Min Wood Thickness
SAMMYS FOR WOOD - PIPE HANGER									
8007957	GST 10	3/8"	Vertical	CPVC 1-1/2"	300	1-1/2"			
8020957	SWG 10	3/8"	Horizontal	CPVC 1-1/2"	300	1-1/2"			
8008957	GST 20	3/8"	Vertical	2-1/2"	850	1-1/2"	4"	1475	1-1/2"
8068925	GST 20-SS	3/8"	Vertical	2-1/2"	850	1-1/2"			
8010957	GST 30	3/8"	Vertical	4"	1500	1-1/2"	4"	1475	1-1/2"
8009925	GST 25-380	3/8"	Vertical	4"	1500	1-1/2"			
8022925	SWG 25-380	3/8"	Horizontal	3-1/2" - 4"*	1500	1-1/2"			
8021957	SWG 20	3/8"	Horizontal	2-1/2" - 3"**	1050	1-1/2"			
8073925	SWG 20-SS	3/8"	Horizontal	2-1/2"	850	1-1/2"			
8269957	SH-GST/CST 20	3/8"	45° Angle off Vertical	2-1/2"	850	1-1/2"			
8269957	SH-GST/CST 20	3/8"	45° Angle off Vertical	4"	1500	1-1/2"			
8139957	SH-GST 20	3/8"	17° Angle off Vertical	3"	1050	1-1/2"	4"	1475	1-1/2"
SAMMYS FOR STEEL - PIPE HANGER						**Min Steel Thick**			**Max Steel Thick**
8038957	DSTR 1	3/8"	Vertical	4"	1500	.035"	4"	1475	.105"
8037957	DSTR 1-1/2	3/8"	Vertical	4"	1500	.035"	4"	1475	.105"
8039957	DSTR 516	3/8"	Vertical	4"	1500	.037"	4"	1475	.105"
8045957	DST 516	3/8"	Vertical	4"	1500	.188"	4"	1475	.188"
8046957	TEK 50	3/8"	Vertical	4"	1500	.250"	4"	1475	.188"
8055957	SWDR 1	3/8"	Horizontal	4"	1500	.037"	4"	1475	.060"
8056957	SWDR 516	3/8"	Horizontal	4"	1500	.037"	4"	1475	.060"
8054957	SWDR 1-1/2	3/8"	Horizontal	4"	1500	.037"	4"	1475	.060"
8137957	SH-DSTR 1	3/8"	17° Angle off Vertical	4"	1500	.035"	4"	1475	.105"
8268957	SH-TEK 50	3/8"	Vertical 70° Angle off Vertical	2-1/2" 4"	850 1500				
8150922	XP 20	3/8"	Vertical	2-1/2"	850	.027"	2" 4"	940 1475	.029" .105"
8153922	XP 35	3/8"	Vertical	4"	1500	.060"	2" 4"	940 1475	.029" .125"
8294922	SXP 20	3/8"	Vertical or up to 45°	2"	750	.027"	2"	635	.029"
8295922	SXP 35	3/8"	Vertical or up to 89°	3-1/2"	1250	.060"	2"	635	.029"
8293957	SWXP 35	3/8"	Horizontal	3-1/2"	1250	.060"			
SAMMYS FOR CONCRETE - PIPE HANGER									
8059957	CST 20	3/8"	Vertical				4"	1475	3000
8061957	SWC 20	3/8"	Horizontal				4"	1475	3000
8150922	XP 20	3/8"	Vertical	2-1/2"	850	Pre-Pour Structural @ 3000psi			
8150922	XP 20	3/8"	Vertical	2-1/2"	850	Post-Pour Range II LWC ≤ 35 PCF (lbs/ft^3)			

Part Number	Model	Rod Size	Mount Direction	UL Load Rating (lbs)	UL Min Steel Thickness
SAMMYS FOR STEEL - LUMINAIRE FITTING					
8150922	XP 20	3/8"	Vertical	185 250	.027" .035"
8153922	XP 35	3/8"	Vertical	185 250	.027" .035"
8181922	XP 200	1/4"	Vertical	185 250	.027" .035"
8294922	SXP 20	3/8"	Vertical 45°	170 80	.027" .027"
8295922	SXP 35	3/8"	Vertical 90°	250 80	.060" .060"
8293957	SWXP 35	3/8"	Horizontal	80	.060"

Part Number	Model	Rod Size	Mount Direction	UL Load Rating (lbs)	UL Min. Steel Thickness	Listed Application
SAMMYS FOR STEEL - CONDUIT, TUBING, AND CABLE						
8150922	XP 20	3/8"	Vertical	283	.027"	Max 4 trade size EMT, RMC, and IMC & 5 trade size rigid PVC conduit
8153922	XP 35	3/8"	Vertical	500	.060"	Max 4 trade size EMT & 6 trade sze RMC, IMC, and rigid PVC conduit
8294922	SXP 20	3/8"	Vertical	283	.027"	Max 4 trade size EMT, RMC, and IMC & 5 trade size rigid PVC conduit
8295922	SXP 35	3/8"	Vertical	500	.060"	Max 4 trade size EMT & 6 trade sze RMC, IMC, and rigid PVC conduit
8293957	SWXP 35	3/8"	Horizontal	500	.060"	Max 4 trade size EMT & 6 trade sze RMC, IMC, and rigid PVC conduit
8149957	CZ2000	1/4" or 3/8"	Onto Vertical Rod			UL Listed 4S16 - Cable Hanger, Cat. No. C-Z2000 Plenum Rated, Complies w/ NEC Standards

Sheet Steel Gauges

Gauge No.	22 ga.	20 ga.	18 ga.	16 ga.	14 ga.	12 ga.	1/8"	3/16"	1/4"
Nominal Decimal Equivalent	.030"	.036"	.048"	.060"	.075"	.105"	.125"	.188"	.250"

*SWG 25-380 Maximum pipe size in composite wood joist allowed by UL is 3-1/2"
*SWG 25-380 Maximum pipe size in wood timber or joist allowed by UL is 4"
**SWG 20 Maximum pipe size in composite wood joist allowed by UL is 2-1/2"
**SWG 20 Maximum pipe size in wood timber or joist allowed by UL is 3"

UL compliance with NEC Standards.
UL and FM tests were performed in compliance with NFPA 13 Standards.
Fastening requirement: 5 times weight of water-filled schedule 40 pipe plus 250 pounds.

SPECIAL NOTES

Engineering Note
In 1996, the anchors listed by UL were tested in plate steel that measured .188" and .118". Subsequent testing was done for z-purlin applications in May 1997 using (.037") or 20 gauge steel. Most recently in 2008, testing with the new Sammy X-Press® was completed using (.030") or 22 gauge steel metal deck.

Sammys® Nut Drivers
Special nut drivers were designed to be used with Sammys. When the appropriate nut drivers are used for installation, the driver spins freely on the screw after installation is complete and eliminates the expected wrist snap, reduces over-torque, and prevents screw failure.

Steel Screws
Due to variations in hardness of certain metals, it should be noted that our self-drilling screws for steel will experience different drill speeds. 500-1500 RPM drill speed should be used.

Metric Products
Metric versions of the Sammy anchors are available at www.itwbuildex.com

Sammys for Seismic
Please visit www.itwbuildex.com for our current Seismic product offerring.

Vibratory Environments
For attaching or anchoring in high vibratory environments, special care should be taken not just for building attachments but also for the hangers or assemblies being supported. Consult local code authorities for accepted anchoring devices.

Composite Joist/Truss
Truss manufacturers vary installation recommendations for composite joist. UL testing was completed to validate that Sammys and Sidewinders SWG 20 and SWG 25-380 can be installed into the top cord of a truss. Sammy GST 20 can be installed into the center of the lower cord of a composite joist. Penetration of the upright center web is permitted by some joist manufacturers. Consult truss manufacturer for recommended installation point.

Pre-drilling may be required by joist manufacturers. If so, pre-drill pilot hole 1/8" smaller than root diameter of fastener.

Consult the table below:

Model	Root Diameter	Hole Size
GST 20	.182"	1/8"
GST 25-380	.280"	7/32"
SWG 20	.182"	1/8"
SWG 25-380	.280"	7/32"

To increase efficiency of the installation process, sleeve tools, bit receivers, and wood bits are available for pre-drilling.

NFPA/NEC Standards
All UL and FM testing complies with NFPA 13 and NEC standards. Check with your local (AHJ) Authority Having Jurisdiction to confirm application and usage.

UL Listings / FM Approvals
UL and FM reports are available at www.itwbuildex.com

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PIPE HANGER
ALSO LISTED AS CONDUIT AND CABLE HARDWARE
ALSO LISTED AS ANCHOR FOR LUMINAIRE
9R21

FM
APPROVED

Technical Drawings
Technical drawings are available and can be downloaded at www.itwbuildex.com in the following formats: .dwg, .dxf, and .igs.

Manufactured in the U.S.A. Products
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CATALOG ISSUE

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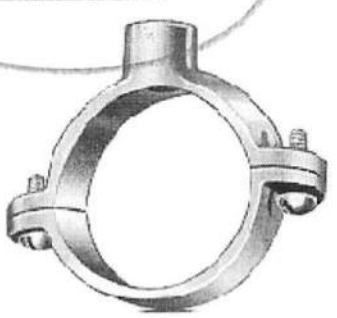
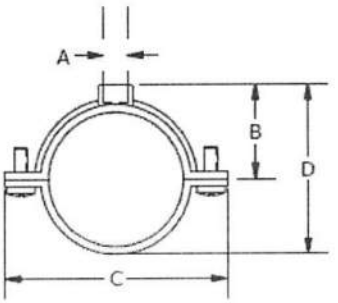
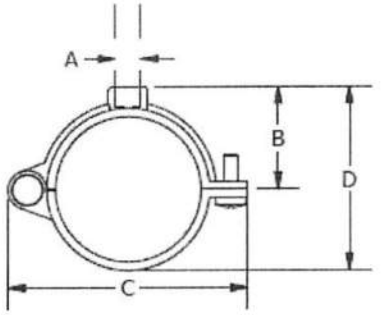
BX84_rev0712

FIG. 100

SPLIT RING EXTENSION HANGER







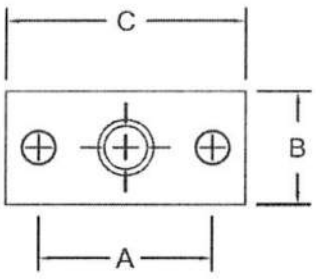
MATERIAL: Malleable iron, stainless steel.
FINISH: Black or electro galvanized.
SERVICE: For suspension of non-insulated stationary pipe lines.
ORDERING: Specify pipe size, figure number and finish.
APPROVALS: Complies with Federal Specification WW-H-171E Type 25 and Manufacturers' Standardization Society SP-58 & SP-69 Type 12.

PIPE SIZE	A	B	WEIGHT/C APPROX.	MAX REC. LOAD, LB.
3/8*	3/8	11/16	16	180
1/2	3/8	13/16	17	180
3/4	3/8	15/16	20	180
1	3/8	1 1/16	21	180
1 1/4	3/8	1 1/4	29	180
1 1/2	3/8	1 5/16	31	180
2	3/8	1 5/8	35	180
2 1/2*	1/2	1 15/16	57	300
3*	1/2	2 3/8	72	300
4*	1/2	2 7/8	116	300

*Sizes 3/8, 2 1/2, 3 and 4 are hinged style

FIG. 105

HANGER FLANGE



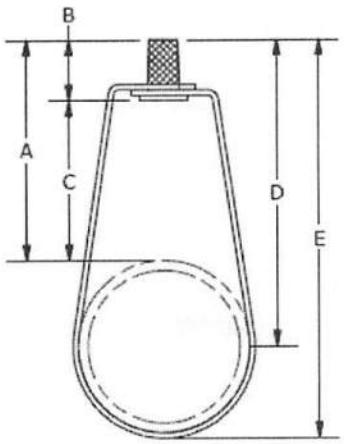
MATERIAL: Malleable iron, stainless steel.
FINISH: Black or electro-galvanized.
SERVICE: For attachment to wood beams, ceilings or floors.
ORDERING: Specify tap size, figure number and finish.

BOLT TAP	A	B	C	WEIGHT (APPROX.) PER 100
3/8	1 15/16	1 15/16	2 1/4	18
1/2	1 15/16	1 15/16	2 1/4	17

FIG. 110

ADJUSTABLE SWIVEL RING HANGER, STD. & NFPA

MATERIAL: Carbon steel.
FINISH: Electro-galvanized.
SERVICE: Recommended for suspension of non-insulated, stationary pipe lines and conduit. Approved for use without additional locking nuts normally required with pipe hangers.
ORDERING: Specify pipe size and figure number.
APPROVALS: Underwriter's Laboratories Listed for ¾"-2" and Factory Mutual Approved for ¾"-4". Complies with Federal Specification WW-H-171E Type 10 and Manufacturers' Standardization Society SP-58 & SP-69 Type 10.

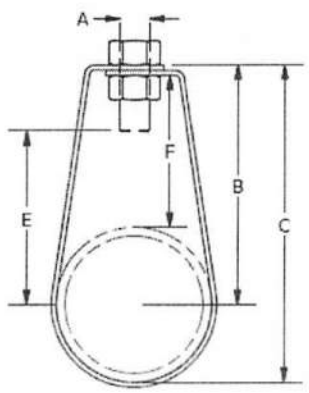


PIPE SIZE	WEIGHT PER 100	MAX. REC. LOAD LB.	DIMENSIONS					MATERIAL SIZE	ROD SIZE	NFPA ROD SIZE
			A	B	C	D	E			
½	11	400	2¼	⅞	1½	2⅝	3 3/16	16ga x ⅝	⅜	⅜
¾	11	400	2 1/16	⅞	1¼	2½	3 3/16	16ga x ⅝	⅜	⅜
1	12	600	2	⅞	1⅜	2⅝	3⅜	16ga x ⅝	⅜	⅜
1¼	13	600	2	⅞	1⅜	2¾	3¾	16ga x ⅝	⅜	⅜
1½	14	600	1⅞	⅞	1⅜	2⅞	4	16ga x ⅝	⅜	⅜
2	15	600	2⅛	⅞	1¼	3¼	4⅝	16ga x ⅝	⅜	⅜
2½	32	600	2½	1⅛	1⅜	3¾	5⅝	13ga x ¾	½	⅜
3	34	600	2⅞	1⅛	2⅞	4½	6¼	13ga x ¾	½	⅜
3½	37	600	3	1⅛	1¾	5	7	13ga x ¾	½	⅜
4	78	1250	2¾	1⅛	1¾	5	7⅜	11ga x 1	⅝	⅜
5	94	1250	3¼	1⅛	1⅞	6	9⅛	11ga x 1	⅝	½
6	120	1250	3¾	1½	2½	7¼	10⅝	11ga x 1	¾	½
8	145	1250	4½	1½	3⅛	8⅞	13⅛	11ga x 1	¾	½

FIG. 115

ADJUSTABLE BAND HANGER

MATERIAL: Carbon steel.
FINISH: Black, electro-galvanized.
SERVICE: For suspension of non-insulated, stationary pipe lines and conduit.
ORDERING: Specify pipe size, figure number and finish.
APPROVALS: Complies with Federal Specification WW-H-171E Type 7 and Manufacturers' Standardization Society SP-58 & SP-69 Type 7.

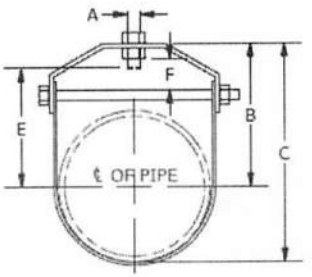


PIPE SIZE	MATERIAL SIZE	MAX. REC. LOAD LB.	A	B	C	E	F	WEIGHT PER 100
⅜	16ga x ⅞	610	⅜	2 3/16	2⅝	1 9/16	1⅜	11
½	16ga x ⅞	610	⅜	2 3/16	2⅝	1 7/16	1¼	11
¾	16ga x ⅞	610	⅜	2 1/16	2⅝	1 5/16	1	12
1	16ga x ⅞	610	⅜	2 1/16	2 11/16	1 5/16	1 5/16	12
1¼	16ga x ⅞	610	⅜	2 9/16	3 7/16	1 13/16	1¼	14
1½	16ga x ⅞	610	⅜	2¾	3 11/16	2	1 3/16	16
2	16ga x ⅞	610	⅜	3	4 3/16	2¼	1 3/16	23
2½	14ga x 1	970	½	3 7/16	4⅞	2 7/16	1¼	28
3	13ga x 1	970	½	4¼	6	3¼	1⅝	41
3½	13ga x 1	970	½	4⅛	6⅛	3⅛	1⅜	44
4	11ga x 1	1250	½	4½	6¾	3¼	1⅜	87
5	11ga x 1	1250	½	5	7¾	4¾	1¼	100
6	11ga x 1½	1600	¾	6 11/16	10	5 3/16	2⅛	160
8	11ga x 1½	1800	¾	7 9/16	11⅞	6 13/16	2	260

FIG. 200

ADJUSTABLE CLEVIS HANGER

MATERIAL: Carbon steel and 304/316 stainless steel.
FINISH: Black, electro or hot-dipped galvanized.
SERVICE: For the suspension of non-insulated, stationary pipe lines.
ORDERING: Specify pipe size, figure number and finish.
APPROVALS: Underwriters Laboratories Listed and Factory Mutual Approve ¾"-8". Complies with Federal Specification WW-H-171E Type 1 and Manufacturers' Standardization Society SP-58 & SP-69 Type 1.



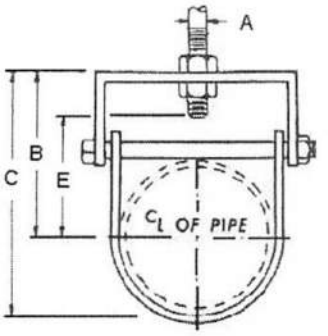
PIPE SIZE	SIZE OF STEEL		A	B	C	E	F	WGT. PER 100	MAX. REC. LOAD, LBS.
	UPPER	LOWER							
½	13ga x ⅞	13ga x ⅞	⅜	1 11/16	2 1/16	1 5/16	7/16	18	610
¾	13ga x ⅞	13ga x ⅞	⅜	1 11/16	2 9/16	1 5/16	7/16	18	610
1	13ga x ⅞	13ga x ⅞	⅜	2 1/16	2 11/16	1 5/8	5/8	22	610
1¼	13ga x ⅞	13ga x ⅞	⅜	2 1/2	3 3/16	2 1/16	7/8	26	610
1½	12ga x ⅞	12ga x ⅞	⅜	2 7/8	3 11/16	2 7/16	1 1/16	34	610
2	12ga x ⅞	12ga x ⅞	⅜	3 5/16	4 7/16	2 7/8	1 1/4	38	610
2½	9ga x 1 3/16	10ga x 1 3/16	½	4 1/2	5 7/8	3 7/8	1 15/16	86	1130
3	9ga x 1 3/16	10ga x 1 3/16	½	4 3/4	6 1/2	4 3/16	1 3/4	96	1130
3½	8ga x 1 3/16	10ga x 1 3/16	½	5 7/8	7 15/16	5 5/16	2 9/16	114	1130
4	8ga x 1 3/16	10ga x 1 3/16	⅝	5 15/16	8 3/16	5 3/16	2 1/8	126	1430
5	4ga x 1¼	8ga x 1¼	⅝	5 11/16	8 7/16	4 15/16	1 7/16	220	1430
6	3ga x 1½	8ga x 1½	¾	6 13/16	10 1/8	5 15/16	1 3/4	300	1940
7	3ga x 1½	8ga x 1½	¾	7 13/16	11 5/8	6 15/16	2	420	2000
8	3ga x 1¾	8ga x 1¾	¾	8 1/16	12 7/16	7 1/8	1 7/8	450	2000
10	⅜ x 1¾	3ga x 1¾	⅞	10	15 7/16	8 7/8	2 1/4	806	3600
12	⅜ x 2	3ga x 2	⅞	11 9/16	18	10 7/16	2 13/16	1100	3800
14	½ x 2	¼ x 2	1	12 9/16	19 9/16	10 9/16	2 9/16	1480	4200
16	½ x 2½	¼ x 2½	1	13 15/16	21 15/16	11 15/16	2 13/16	2100	4600
18	½ x 2½	¼ x 2½	1	16	25	13 7/8	3 3/4	2440	4800
20	⅝ x 3	⅜ x 3	1¼	17½	27½	15 1/8	3 3/4	4700	4800
24	⅝ x 3	⅜ x 3	1¼	19¾	31¾	17 3/8	4	5400	4800
30	¾ x 3	⅜ x 3	1¼	24 1/8	39 1/8	21½	4¾	6950	6000

NOTE: CLEVIS HANGERS FOR 20" PIPE AND LARGER ARE FURNISHED WITH PIPE SPACER ON CROSS BOLTS

FIG. 205

FLAT TOP CLEVIS HANGER

MATERIAL: Carbon steel.
FINISH: Black, electro or hot-dipped galvanized.
SERVICE: General piping, where space does not permit installation of standard figure 200 clevis hanger.
ORDERING: Specify pipe size, figure number and finish.



PIPE SIZE	SIZE OF STEEL		A	B	C	E	MAX. REC. LOAD, LBS.	WGT. PER 100
	UPPER YOKE	LOWER STRAP						
2	8ga x 1	12ga x ⅞	⅜	2 1/2	3 11/16	2 1/16	300	46
2½	8ga x 1¼	10ga x 1 3/16	½	2 7/8	4 3/16	2 5/16	500	78
3	8ga x 1¼	10ga x 1 3/16	½	3 3/8	5 3/8	3 1/16	500	98
3½	8ga x 1¼	10ga x 1 3/16	½	4 1/16	6 1/16	3 7/16	500	136
4	4ga x 1¼	10ga x 1 3/16	⅝	4 1/16	6 5/16	3 5/16	700	138
5	4ga x 1¼	8ga x 1¼	⅝	4 7/8	7 5/8	4 1/8	700	208
6	3ga x 1½	8ga x 1½	¾	5 1/2	8 7/8	4 5/8	900	282
8	3ga x 1¾	8ga x 1¾	⅞	6 3/8	10 7/8	5 1/2	1000	434

OBAR SYSTEMS 2969 RT 23 SOUTH NEWFOUNDLAND NJ 07435

FLOOR PORT

Components

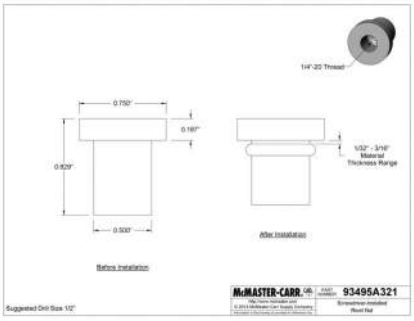
1. A hard plastic inner core that measures 1.5" in length with a .50 inch bore, a .75 inch outside diameter and 4 lugs that extend to .84 inches.
2. A plastic sleeve that has a.75 inch inside diameter and a .80 inch outside diameter
3. A 1/4 -20 x 1/2 rubber insulated brass rivet nut
4. A stainless steel 1/4-20 x1" bolt

Port assembly

Port assembly

Rubber insulated nut

Rubber insulated nut



Installation

Warning: Installation requires the use of concrete drilling equipment. The installer must be familiar with and follow all safety procedures required for the use of such equipment including but not limited to the use of hearing and eye protection.

1. Select the area to drill the hole for the port. The contractor should make every effort to determine the the selected area is free of any utilities or pipes in or under the selected point. In addition the use of a drill interrupter such as the Protek11 is highly recommended .

2. Drill a 20MM (.79") hole through the concrete and clean all dust and debris from both in and around the hole with a commercial vacuum equipped with a HEPA filter.

3. Insert the port assembly into the clean hole and using a dead blow hammer and the driver tool drive the assembly into floor to a point where the top of the bolt is flush with the surface of the floor. The port is now ready to use.

* A 3/4" bit may also be used for step #2. Use 20mm diamond hole bit to clean/bore after 3/4" hole is drilled.

Sidewalk bolt and over-sized washer included if flush floor mount is needed.

Protek 11 Drill Interrupter

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* Wireless range may vary according to environment
** Battery life determined by sensor reporting &other variables.
*** 10 minute heartbeats= 3.5 days/ 2 hour heartbeats = 42 days

OBAR SYSTEMS, INC.
2969 Route 23 South
Newfoundland NJ 07435
1 800 949 6227
973 697 0112

Appendix D
Site Specific Health & Safety Plan
Mobile Media Inc. Site

June 2024

Site Specific Health & Safety Plan

Mobile Media Inc. Site
175 Kelly Avenue
Hamlet of Pine Bush
Orange County, New York
BCP Site #C336093

Prepared by:

C.T. MALE ASSOCIATES
12 Raymond Avenue
Poughkeepsie, New York 12603
(845) 454-4400

C.T. Male Associates Project No: 19.9347

SITE SPECIFIC HEALTH & SAFETY PLAN
MOBILE MEDIA INC. SITE
175 KELLY AVENUE
HAMLET OF PINE BUSH, ORANGE COUNTY, NEW YORK

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SITE SPECIFIC HEALTH & SAFETY PLAN
MOBILE MEDIA INC. SITE
175 KELLY AVENUE
HAMLET OF PINE BUSH, ORANGE COUNTY, NEW YORK

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1.0 GENERAL

1.1 Overview

This Health and Safety Plan (HASP) has been prepared for use during implementation of the Interim Remedial Measure (IRM) and Supplemental Remedial Investigation (SRI) under the Brownfield Cleanup Program (BCP) at the Mobile Media Inc. Site (C336093), located at 175 Kelly Avenue in the Hamlet of Pine Bush, Orange County, New York (the "Site").

Site specific training may be required in addition to the procedures presented within this plan including health and safety, emergency communications and procedures, and monitoring.

A designated Office Health and Safety Officer (OHSO) will be responsible for implementing CT Male's health and safety policies and to ensure field work complies with CT Male policies. A designated Health and Safety Officer (HSO) will be responsible for implementing this HASP during the completion of the IRM and SRI field work. All persons or parties who enter the work area (support zone, decontamination zone or exclusion zone) must review, sign and comply with this HASP. A partial list of individuals authorized to enter the exclusion zone at the Site is presented in Section 13.0 of this HASP. Others may be added to the list as needed.

A copy of this HASP will be maintained at the Site whenever field work is being performed, for the duration of the project. A complete description of the IRM and SRI work is presented in the IRM Work Plan and SRI Work Plan respectively. A brief description of the proposed scope of work is outlined below:

<u>Interim Remedial Measure – Sub-Slab Depressurization (SSDS) Installation:</u>

- Installation of SSDS suction points will include drilling the building floor slabs, limited excavation through these drill holes to create a sub-slab cavity, filling the cavity with gravel and installing PVC effluent piping.
- Installation of a rooftop exhaust fan, and connection of PVC effluent piping between the rooftop fan and the suction points.
- Installation of foundation slot vents and a pipe penetration through the crawl space exterior wall to install an exhaust fan and effluent piping.

- Electrical power connection between installed fans and circuit panel, with associated switches and remote monitoring devices.
- Sampling of indoor and outdoor ambient air and SSDS effluent for VOCs within 24 hours of SSDS system installation
- Sampling of indoor and outdoor ambient air and SSDS effluent for VOCs during the 2024/2025 heating season.

Supplemental Remedial Investigation:

- Collection of surface soil samples across the Site for visual and/or olfactory evidence of contamination and laboratory analyses;
- Advancement of test soil borings to aid in the collection of fill/soil samples for visual and/or olfactory evidence of contamination and laboratory analysis, for installation of monitoring wells, and characterization of the Site's sub-surface;
- Collection and laboratory analysis of groundwater samples from installed groundwater monitoring wells;
- Collection of sub-slab soil vapor and air quality samples for laboratory analyses as directed by the New York State Department of Environmental Conservation (NYSDE) and the New York State Department of Health (NYSDOH);
- Gauging of water levels in groundwater monitoring wells;
- Sampling of investigation derived waste for disposal;
- Collection of field quality control samples of soil and groundwater for laboratory analysis;
- Elevation survey of sampling and monitoring well locations; and
- Other unforeseen environmental conditions which may be encountered during the IRM and SRI field work.

1.2 Contact Names & Numbers

For this project, the following project contacts have been assigned.

SITE CONTACT:

Owner:	Lance Pennington	845.477.8080 (O)

CONSULTANT CONTACTS:

CONSULTING ENGINEER:	C.T. Male Associates 50 Century Hill Drive Latham, New York 12110	518.786.7400 (O)
	Daniel P. Reilly, P.E., Project Principal	518.786.7625 (O) 518.928.9792 (C)
	Jim McIver, P.G., Project Manager	845. 454.4400(O)
	Nancy Garry, Health & Safety Officer	518.786.7541 (O) 518.320.5783 (C)
	Jonathon Dippert, P.G., Health & Safety Officer (HSO) Designee	518.786.7563 (O) 518.469.1183 (C)

EMERGENCY PHONE NUMBERS:

PERSONAL INJURY	Emergency	911
OR EMERGENCY:	Ellenville Regional Hospital 10 Healthy Way Ellenville, New York 12428 (approx. 20 minutes)	845.647.6400
FIRE DEPARTMENT:	Emergency Pine Bush Fire Department 2405 NY Route 52 Pine Bush, New York 12566	911 845.744.2681
POLICE:	Emergency Crawford Police Department Public Safety Facility 121 NY Route 302 Pine Bush, New York 12566	911 845.744.3300 (Non-emergency number)
NYS Police	Emergency NYS Police 121 NY-302 Pine Bush, New York 12566	911 845.744.3891
UPSTATE NEW YORK REGIONAL POISON CONTROL CENTER:	University Hospital Upstate Medical University SUNY Health Science Center 750 East Adams Street Syracuse, New York 13201	800.222.1222
NATIONAL RESPONSE CENTER:	c/o United States Coast Guard (G-OPF) 2100 2nd Street, Southwest - Room 2611 Washington, DC 20593-0001	800.424.8802
NYSDEC SPILL HOTLINE:		800.457.7362

2.0 HEATLH AND SAFETY PERSONNEL

The Office Health and Safety Officer (OHSO) will be responsible for implementing CT Male's health and safety policies and to ensure field work is in compliance with CT Male policies.

The Site Health and Safety Officer (SHSO) will be responsible for implementation of the HASP and the delegation of health and safety duties. The SHSO will coordinate the resolution of safety issues that arise during site work or ask the OSHO for direction and compliance of the situation. When field operations require only Level D protection, it will not be necessary for the SHSO to be present on-site at all times. When the SHSO is not present on-site, a designee will be authorized to perform the duties of the SHSO, and the designee will be responsible for implementation of the HASP.

The SHSO or designee has authority to stop work upon their determination of an imminent safety hazard, emergency situation or other potentially dangerous situations (e.g. weather conditions). Authorization to resume work will be issued by the OHSO or the SHSO.

3.0 SITE LOCATION AND DESCRIPTION

Mobile Media Inc., the proposed BCP site, is located at 175 Kelly Avenue Pine Bush, Orange County, New York 12566. The site consists of an approximate 0.48 acre parcel of land known by the Town of Pine Bush assessor's office as S.B.L 6-8-3. The coordinates for the approximate center of the site are 41° 36' 23.9034" latitude and -74° 18' 3.33" longitude.

The Site is presently used for storage and shipping of automotive tires by a tire retail company.

The Site was formerly used for the manufacturing and distribution of high-density plastic shelving unit systems, primarily for the retail industry. Previous businesses operating at the Site included the Marietta Silk Company and Mastercraft Cravat Co. which were silk and tie manufacturers. There were no readily available documents or historical accounts of the processes employed by these historic manufacturing entities, but it is likely that cVOCs were used on-site given the nature of the industry. Clothing manufacturing operations often clean garments with perchloroethylene (PCE), a common dry-cleaning solvent, prior to distribution.

4.0 POTENTIAL SITE CONTAMINANTS

Investigations by WGA, C_2G SEBI, and C.T. Male have confirmed the presence of environmental contamination at the Site. cVOC impacted soils, groundwater and soil vapor have been identified during Site investigations. Specifically, the Phase II ESA completed by WGA identified trace concentrations of trichloroethene (TCE) in soils ranging from 0.0069 to 0.029 mg/kg. Contaminant concentrations identified in groundwater exceeding applicable SCG values included MTBE, PCE, TCE, 1,2-dichloroethane (DCA) and chloroform. The highest concentrations of cVOCs were identified on the east side of the building where concentrations of TCE as high as 3,400 ug/l were identified in well TW-1. Following four (4) chemical oxidation events by SEBI, the concentration of TCE in TW-1 was 2,600 ug/l. A monitoring well location map provided in the C_2G Subsurface Investigation report is included with this Attachment. Analytical data tables provided in the SEBI report are also included with this attachment.

A vapor intrusion investigation completed by SEBI identified soil vapor concentrations beneath the building. Specifically, SEBI reported concentrations of PCE (0.058-0.198 ppbv), TCE (0.833-2.84 ppbv), and carbon tetrachloride (0.081-0.084 ppbv) were identified. Indoor air concentrations of TCE of 0.142 and carbon tetrachloride of 0.083 were also detected. SEBI compared the soil vapor and indoor air results to the applicable NYSDOH Matrix and concluded that the results for vapor sample VP-2 indicated, "take reasonable and practical action to identify sources and reduce exposures for TCE." All other results indicated no further action.

Contaminants that may be encountered during the IRM and SRI include volatile organic compounds, semi-volatile organic compounds, and metals in the Site media.

4.1 Potential Exposure Pathways

Occupational exposure to chemical hazards associated with the work activities could potentially occur by dermal contact (skin contact), inhalation and an indirect route (incidental ingestion).

4.1.1 Dermal Contact

The primary route of potential exposure for C.T. Male employees is dermal contact. Personnel walking or handling associated equipment may be exposed to chemical hazards by skin contact or adsorption. However, exposure is expected to be limited since workers will be required to wear appropriate personal protective equipment (PPE) (i.e. appropriate work gloves, shoes, clothing, and safety glasses).

4.1.2 Ingestion

Personnel handling of associated equipment, including project hazardous materials, could be exposed by incidental ingestion. Typically, this exposure occurs if proper PPE was not used or personal hygiene was not practiced. Personal protection against exposure via ingestion can be accomplished by performance of proper decontamination procedures when exiting contaminated work areas as well as using the correct PPE.

4.1.3 Inhalation

Constituents that potentially pose an occupational concern to employees by the inhalation route are not expected for this scope of work. If a potential inhalation hazard is noted on-Site, C.T. Male staff will immediately stop work and take the appropriate steps to notify SHSO, PM or OHSO. The work being conducted will be reevaluated to determine the potential exposure and further PPE that may be needed.

5.0 HAZARD ASSESSMENT

5.1 General

The hazard assessment, use of specific protective equipment, and monitoring associated with each field work task of the IRM and SRI to be conducted at the subject Site are presented in following subsections.

For this project, C.T. Male will be subcontracting portions of the IRM and SRI activities. Each subcontractor will be responsible for developing and implementing a Site-specific health and safety plan for their activities, for protection of their employees, and use of personal protective equipment. The subcontractor health and safety plans shall be submitted to C.T. Male prior to the work beginning for the subcontractor. In addition, if there are training or professional certificates that are needed for the project as per OSHA or other applicable regulations, then the subcontractor shall provide copies of certificates to C.T. Male before work begins. The subcontractor will also be responsible for developing and following their own Respiratory Protection Program, as applicable.

5.2 Media Sampling

5.2.1 Soil and Groundwater Sampling and Water Level Measurement

Soil and groundwater sampling, and measurement of groundwater levels are planned for the Site. The potential hazards to personnel during this work are dermal contact. Level D protection should be sufficient to protect against dermal contact during handling of soils and groundwater. If organic vapors are present at the action levels described in Section 5.4, on the basis of organic vapor monitoring of the area during the work, it may be necessary to upgrade to Level C respiratory protection.

5.2.2 Indoor and Outdoor Ambient Air Sampling

Indoor and outdoor ambient air sampling is planned for the Site. The potential hazards to personnel during this work are inhalation of vapors. If organic vapors are present at the action levels described in Section 5.4, on the basis of organic vapor monitoring of the area during the work, it may be necessary to upgrade to Level C respiratory protection.

5.3 Subsurface Work

Excavating SSDS suction points and advancement of exploratory test borings (including installation of groundwater monitoring wells) into soils are planned for the Site. The potential hazards to personnel during this work are dermal contact. Level D protection should be sufficient to protect against dermal contact during drilling of and/or handling of the subsurface soils and groundwater. If organic vapors are present at the action levels described in Section 5.4, on the basis of organic vapor monitoring of the area during the work, it may be necessary to upgrade to Level C respiratory protection.

5.4 Air Monitoring

During ground intrusive activities and activities outlined in section 5.2, the ambient air in the work area will be monitored with a photoionization detection (PID) meter (total volatile compounds – MiniRAE 3000) prior to the start of work and periodically as conditions warrant.

The following known contaminants are found on Site: Tert-Butyl Methyl Ether (MTBE – CAS No. 1634-04-4), Trichloroethylene (TCE - CAS No. 79-01-6), Tetrachloroethylene (PERC – CAS No. 127-18-4), 1,2-dichloroethane (CAS No. 107-06-2) and Chloroform (CAS No. 67-66-3). Of these, 1,2 dichloroethane has an ionization energy of 11.04 eV and Chloroform has an ionization energy of 11.42 eV. As such, a PID meter with an 11.7 eV lamp will need to be used to monitor organic vapors. The following correction factors will be applied while using the 11.7 eV lamp:

Table 1
Correction Factors for 11.7 eV Lamp

Contaminant	Correction Factor
MTBE	0
TCE	0.43
PERC	0.31
1,2-dichloroethane	0.6
Chloroform	3.5

If a concentration of 10 ppm (sustained for 5 minutes) of total volatile compounds are detected within the work area on the instrument, relative to an isobutylene standard (used to calibrate the instrument), work will cease immediately, and the workers shall shut down equipment and leave the area immediately. The level of personal protective equipment (PPE) protection will be evaluated prior to continuing work. If a PPE upgrade to Level C is required, it will include: a half face air purifying respirator equipped with combination organic vapor and particulate cartridges for 10-15 ppm exposure levels; and a full-face air purifying respirator for greater than 15 ppm to less than 50 ppm exposure levels, prior to continuing work. If a concentration greater than 50 ppm is encountered, work will cease immediately, and the situation will be evaluated prior to continuation of work. Table 1 summarizes the action levels relative to the required respiratory protection.

Table 2
C.T. Male Action Levels & Required Respiratory Protection

Action Level	Level of PPE	Type of Respiratory Protection
0-10 parts per million	Level D	No respiratory protection
10-15 parts per million	Level C	Negative pressure half-face respirator
15-50 parts per million	Level C	Negative pressure full-face respirator
Greater than 50	Cease Work	Evaluate work procedures

- Facial hair is not permitted while wearing most respirators.

- Workers required to wear a respirator must have a minimum of OSHA 40 Hour training with current medical monitoring and fit test documentation.

5.5 Community Air Monitoring Plan

A Site-specific Community Air Monitoring Plan (CAMP) will be followed for the project based on the New York State Department of Health Generic Community Air Monitoring Plan dated May 2010. A CAMP will be followed during ground intrusive remedial activities (i.e., subsurface investigation activities). The intent of the CAMP is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of the RI. The CAMP is not intended for use in establishing action levels for worker respiratory protection. The CAMP will monitor the air for dust (particulate air monitoring, see Section 5.5.1) and volatile organic compound

vapors (VOC air monitoring, see Section 5.5.2) at the downwind perimeter of the work area. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown.

The CAMP and Special Requirements CAMP are included below.

5.5.1 Particulate Air Monitoring

Two (2) real-time particulate monitors capable of continuously measuring concentrations of particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) will be utilized. The instruments will be placed inside environmental enclosures at temporary monitoring stations based on the prevailing wind direction each work day, one (1) upwind and one (1) downwind of the designated work areas.

Each particulate monitor will be equipped with a telemetry unit capable of transmitting real-time particulate data to the Remediation Engineer and/or field representative. The particulate monitoring instruments will be capable of displaying and transmitting the short term exposure limit (STEL) or 15 minute averaging period, which will be compared to the NYSDOH Generic and Special Requirements Community Air Monitoring Plan action levels for particulates, as listed below. The instruments are programmed to alarm at preset action levels. At the end of each day, the readings for each instrument will be downloaded to a PC and retained for future reference and reporting.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that the downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, the downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in

reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

In the event of poor weather such as heavy rain, particulate monitoring will not be performed for protection of instrumentation. These weather conditions would limit the effectiveness of the sensitive monitoring equipment and likely suppress particulate generation. Work activities will be halted if fugitive dust migration is visually observed for a sustained period of time during poor weather conditions.

5.5.2 Volatile Organic Compound Air Monitoring

C.T. Male will continuously monitor for volatile organic compounds (VOCs) at the downwind perimeter of the immediate work areas with a MiniRAE 3000 VOC monitor or equal, using a 11.7 eV lamp. The VOC monitor will be placed in the downwind environmental enclosure containing a particulate monitor. The downwind VOC monitor will be equipped with a telemetry unit capable of transmitting real-time VOC data to the Remediation Engineer and/or field representative. The VOC monitoring instrument will be capable of displaying and transmitting the short-term exposure limit (STEL) or 15 minute averaging period, which will be compared to the NYSDOH Generic and Special Requirements Community Air Monitoring Plan action levels for VOCs, as listed in the bulleted list below. The downwind and/or occupied structures VOC STEL readings will be downloaded to a PC and retained for future reference and reporting.

Upwind VOC STEL concentrations will be measured at the start of the work day, and periodically thereafter, employing a handheld MiniRae 3000 VOC monitor to evaluate the Site's background conditions. The upwind VOC STEL readings will be manually recorded for future reference and reporting.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. Work activities will then be evaluated to determine the source of the organic vapors and the engineering controls required to reduce/eliminate the organic vapors.

5.6 Hazard Identification and Control

The following table presents generalized hazards potentially involved with the tasks to be completed on this project. Table 3 identifies general procedures to follow to prevent or reduce accident, injury or illness. Any worker on-site who identifies a potential hazard must report the condition to the SHSO or designee, and initiate control of the hazardous condition.

Table 3
Potential Hazards and Control

Potential Hazard	Control
Vehicular Traffic	1. Wear Hi-Vis safety vest when vehicular hazards exist. 2. Use cones, flags, barricades, and caution tape to define work area. 3. Use vehicle to block work area. 4. Use vehicle caution lights in high traffic areas within the Site. 5. Contact local police for high traffic situations on public roadways.
Slip, Trip, and Fall Protection	1. Assess work area to determine if there is a potential for falling. Additional PPE can be utilized to reduce slip, trip, fall hazards. 2. Make sure work area is neat and tools are staged in one general area. 3. Wear steel-toe boots with adequate tread and always watch where the individual is walking. Carry flashlight when walking in poorly lighted areas.

Table 3 Potential Hazards and Control	
Potential Hazard	**Control**
Inclement Weather	1. Stop outdoor work during electrical storms and other extreme weather conditions such as extreme heat or cold temperatures. 2. If there is lighting or thunder, staff need to stop work for 30 minutes since last occurrence and take cover in a safe location. Not in a field or under a tree. 3. Take cover indoors or in vehicle. 4. Listen to local forecasts for warnings about specific weather hazards such as tornadoes, hurricanes, and flash floods.
Utility Lines Contact	1. Contact UFPO to have utility lines marked prior to any underground excavation, trenching or drilling. UFPO must be contacted at least 72 hours prior to work. 2. Conduct onsite utility mark out by a subcontractor, if needed. 3. Refer to site drawings for utility locations. 4. Pre-clear the utility. Refer to the guidance on clearance from Dig Safely 811.
Noise	1. Wear hearing protection when equipment such as a drill rig, excavator, jackhammer, or other heavy equipment is operating on-site. 2. Wear hearing protection whenever you need to raise your voice above normal conversational speech due to a loud noise source; as this much noise indicates the need for protection. 3. Hearing protection is required when measured sound exceeds 85 decibels (dB) where employees stand or conduct work.
Electrical Shock	1. Maintain appropriate distance between heavy equipment and overhead utilities; 20 foot minimum clearance from power lines; and 10 foot minimum clearance from shielded power lines. 2. Contact local underground utility locating service prior to penetrating the ground surface.
Hand and Power Tools	1. Ensure cords to tools are not frayed and are properly grounded. 2. Ensure guards for power tools are in place (such as portable circular saw) as recommended by the manufacturer.

Table 3 Potential Hazards and Control	
Potential Hazard	**Control**
	3. Tool cutting edges are kept in proper condition so the tool will operate properly. 4. Worn or bent tools are not to be used. Tool handles must be secure. 5. When not in use, tools are stored in a dry, secure location. 6. Ensure proper PPE use with hand and power tools. Cut or puncture resistant gloves, or work gloves to provide protection may be used. Check with OSHO or SSHO prior to use of the power tools. 7. If a generator is used with the power tools, ensure there is proper ventilation for the generator.
Physical Injury	1. Wear safety glasses, reflective Hi-vis safety vest and/or shirt always when on-site. Personnel to have hearing protection on them and in use when it is required. 2. Maintain visual contact with any equipment operators and wear hard hats and Hi-vis safety vest when heavy equipment is operating on-site. Be aware of other vehicle traffic while heavy machinery is operating onsite. 3. Avoid loose clothing, long hair, and jewelry when working around rotary equipment. 4. Keep hands and feet away from drilling augers, excavation equipment tracks/tires, and other onsite heavy equipment. 5. Test emergency shut-off switches on equipment prior to daily use. 6. Wear life preserver in boats. 7. Do not enter manholes or confined spaces. 8. Be aware of openings into manholes and keep area clear of trip hazards. 9. Be aware of outside terrain – steep slopes and slip, trip hazards while working. 10. Be aware of biological hazards onsite such as insects (bees, mosquitoes, and flies), ticks, spiders, and snakes. 11. Be aware of botanical hazards such as poison ivy, poison sumac, and giant hogweed.
Back Injury	1. Use a mechanical lifting device or a lifting aid where appropriate.

Table 3 Potential Hazards and Control	
Potential Hazard	**Control**
	2. Ensure the route is free of obstructions. 3. Bend at the knees and use leg muscles when lifting. 4. Use the buddy system if lifting heavy or awkward objects. 5. Do not twist or jerk your body when lifting.
Heat Stress	1. Increase consumption of water and electrolytes while working. 2. Avoid excessive alcohol intake the night before working in heat stress situations. 3. Avoid excessive caffeine intake when working in heat stress situations. 4. Increase number of rest breaks as necessary, and rest in a shaded area. 5. Watch for signs and symptoms of heat exhaustion and fatigue. 6. Rest in cool, dry areas. 7. In the event of heat stress or heat stroke, bring the victim to a cool environment and call 911.
Cold Stress	1. Wear cotton, wool or synthetic (polypropylene) undergarments to absorb perspiration from the body. 2. Wear additional layers of light clothing as needed for warmth. The layering effect holds in air, trapping body heat, and some layers could be removed as the temperature rises during the day. 3. Pay close attention to body signals and feelings (hypothermia symptoms), especially to the extremities. Correct any problem indicators by breaking from the work activity and moving to a rest area to warm up and add additional clothing. 4. Increase water intake while working. 5. Avoid excessive alcohol intake the night before working in cold conditions. 6. Increase the number of rest breaks as necessary, and rest in a warm area. 7. In the event of hypothermia or frost bite, bring the victim to a warm environment and call 911.
Fire Control	1. Smoking is not allowed on-site. 2. Keep flammable liquids in closed containers. 3. Isolate flammable and combustible materials from ignition sources.

Table 3 Potential Hazards and Control	
Potential Hazard	**Control**
	4. Keep fire extinguisher nearby and use only if deemed safe. 5. Inform SHSO prior to a chemical being brought onsite. 6. Facility Hot Work permit may be required for certain tasks. "Hot work" means riveting, welding, flame cutting or other fire or spark-producing operation.
Media Sampling (water, soil, sediment, soil gas, etc.)	1. Wear appropriate PPE to avoid skin, eye, and inhalation contact with contaminated media. 2. Stand upwind to minimize possible inhalation exposure, especially when opening monitoring wells or closed containers/vessels. 3. Conduct air monitoring, whenever necessary, to determine level of respiratory protection. 4. If necessary, employ engineering controls to assist in controlling chemical vapors. 5. When collecting samples on or near water bodies, wear a life jacket and employ the buddy system. 6. When collecting samples from water bodies, assess water conditions and the water current and ensure that the sampling vessel is stabilized, or the water is safe to enter..
Working on Water	1. Review Job Hazard Analysis for Working on water. 2. Wear proper PPE per hazard assessment along with USCG approved life jackets. If water temperature below 50F, mustang coat should be worn, if under 40F full mustang suit should be worn. 3. Prior to and after each use, the life jackets shall be inspected for defects which would alter their strength or buoyancy. Defective units shall not be used. 4. If placing a boat into the water from a trailer - Lower driver's side window and remove seat belt for escape when launching at boat ramp in the event vehicle enters water. 5. If launching canoe from shoreline check for uneven footing or slippery conditions, level or clear as necessary. 6. Assess launch areas for poisonous plants, animals, spiders, bee nests.

Table 3 Potential Hazards and Control	
Potential Hazard	**Control**
	7. Operators of motorized vessels must have NY State boating safety certificate/training. Check requirements for other states 8. Boat should be operated with 2 people on board or one person on shore/in communication with vessel. 9. Follow/obey boating laws, maintain safe speeds and recognize aids to navigation.
Working in Water	1. Review Job Hazard Analysis for Working in water. 2. Wear proper PPE per hazard assessment along with USCG approved life jackets. If water temperature below 50F, mustang coat should be worn, if under 40F full mustang suit should be worn. 3. Prior to and after each use, the life jackets shall be inspected for defects which would alter their strength or buoyancy. Defective units shall not be used. 4. Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet. 5. When entering water body from shoreline check for uneven footing or slippery conditions, level or clear as necessary. 6. Assess area in which you are entering the water body for poisonous plants, animals, spiders, bee nests.
Working from Heights	7. Review clients HASP regarding working from heights. 8. Review job tasks for working from heights and complete job hazard analysis for the tasks 9. Review C.T. Male fall protection written program. 10. Use proper PPE, such as harness and tie off, for the project. 11. Only staff trained in fall protection program and the use of harnesses can work from heights.
Cleaning Equipment	12. Wear appropriate PPE to avoid skin and eye contact with Alconox or other cleaning materials. 13. Stand upwind to minimize possible inhalation exposure.

Table 3 Potential Hazards and Control	
Potential Hazard	**Control**
	14. Properly dispose of spent chemical cleaning solutions and rinse accordingly.
Poor Structural Building Condition	1. Assess building and rooftop condition prior to accessing and note where exit points are at all times. 2. Be cautious when walking inside a building. Always look for holes in the floors or hanging debris which could cause injury. 3. Carry a high powered flashlight and use as necessary in low light areas. 4. If working in a building, ensure work area is neat and tools are staged in one general area. 5. If working on a rooftop, maintain a safe distance from the roof ledge and do not access sloped roof surfaces without proper safety controls. 6. Wear steel-toe boots with adequate tread. 7. Attempt to employ the buddy system so someone knows what part of the building individuals are located.
Deer Ticks	1. Wear long pants and long sleeve shirts. Pants could be tucked into the top of socks at boot level. Shirt tucked into pants. 2. Wear insect repellant clothing, if available, see SHSO for appropriate clothing. 3. Use tick repellent, this will need to be cleared with OSHO or SHSO to ensure that new chemicals are not introduced to the Site. 4. Perform personal body checks for the presence of ticks, after field work is complete and before the personnel have left the Site. 5. Notify the Office Health and Safety Officer immediately if you have been bitten by a tick or discovered a tick on yourself.
Note: A first aid kit and fire extinguisher will be located in the C.T. Male company vehicle.	

Response actions to personal exposure from on-site contaminants include skin contact, eye contact, inhalation, ingestion, and puncture or laceration. The recommended response actions are presented in Section 11.2.

5.7 Airborne Infectious Disease Plan and COVID-19

C.T. Male COVID-19 & Airborne Infectious Disease

C.T. Male will follow applicable CDC, OSHA, New York State, and Local authorities for COVID-19 and other related infectious diseases.

To address work site safety regarding infectious disease exposure (including COVID-19), C.T. Male personnel will follow C.T. Male Associates 'Airborne Infectious Disease Exposure Prevention Plan' dated August 5, 2021, included as Appendix A. This plan would be followed when an airborne infectious disease is designated by the NYS Health Commissioner as a highly contagious communicable disease that presents a serious risk of harm to the public health.

In addition to the above referenced Plan and SOP, C.T. Male employees will not report to work and notify their supervisor immediately if they are experiencing illness such as fever, cough, shortness of breath or difficulty breathing, chills, repeated shaking with chills, muscle aches, sore throat, loss of taste or smell, or runny/stuffy nose.

C.T. Male will also:

- Maintain Social Distancing: Six-foot distance with others, as is possible.
- Make effort to hold safety/tailgate meetings outdoors; maintain social distancing of six feet.
- Avoid sharing tools and equipment without cleaning and disinfecting.
- Avoid touching their eyes, nose, and mouth with unwashed hands.
- Cover their cough or sneeze with a tissue, then throw the tissue in the trash.
- Clean and disinfect frequently touched objects and surfaces using a bleach solution or wipe.
- Wash their hands often with soap and water for 20 seconds and use an alcohol-based hand sanitizer that is 60% alcohol when soap and water are unavailable.

6.0 TRAINING

Site specific training of workers and personnel will be conducted and provided by the OSHO or SHSO or designee prior to any on-site activity. The training will specifically address the activities, procedures, monitoring and equipment for the Site operations. It will include area and facility layout, hazards, emergency services (police, hospital, fire, etc.), and review of this HASP. Questions by workers, field personnel, etc. will be addressed at this time.

Workers and personnel conducting and/or supervising the project must have attended and successfully completed a 40 Hour Health and Safety Training Course for Hazardous Waste Operations and an annual 8-hour Refresher Course. Workers must take part in an employer medical surveillance program in accordance with OSHA 1910.120 requirements, including that the workers have had a medical physical within one (1) year prior to the date work begins and that they are physically able to wear a respirator.

Documentation of training and medical surveillance will be submitted to the OHSO or designee prior to the start of any on-site work. A copy of the training certificates shall be maintained by the OSHO and Human Resources Department at the C.T. Male Latham office.

7.0 SITE ACCESS

The IRM and SRI will be conducted within and at the inside perimeter of the Site boundaries. Due to the Site location, it is possible that the public or curious bystanders may be present at the time of the work. As such, the work area and exclusion zone will be considered as the following, dependent on the investigative tasks performed.

- Cones will be used to delineate an approximate 10-foot square around the test boring location. If the field operations are in an area of high traffic or potential public encounters, caution tape in conjunction with the cones can be used. All work and equipment will remain within the designated work area/exclusion zone until completion of the test boring and installation of the monitoring well.

- Cones will be used to delineate an approximate 10-foot square around each sediment sampling location and each soil sampling location not originating from a test boring. All work and equipment will remain within the designated work area/exclusion zone until completion of the sediment and soil sampling.

- Cones or caution tape will be used to delineate an approximate 10-foot square around each soil gas and indoor air quality sampling station. All work and equipment will remain within the designated work area/exclusion zone until completion of the sediment and soil sampling.

Only OSHA trained individuals who are qualified to do the work and have read and signed this Site-specific HASP will be allowed within the work/exclusion zone. The SHSO or designee will be responsible for limiting access to unauthorized individuals.

The Contamination Reduction Zone (decontamination area), and Support Zone (clean area, everywhere else) will be established outside the Exclusion Zone, as necessary. The exclusion, contamination reduction, and support zone during the IRM and SRI work have been identified and designated as follows:

Work/Exclusion Zone - The location of the work/exclusion zone will be determined in the field prior to the start of work and will vary depending on the work activities conducted. For the most part, the work/exclusion zone is anticipated to be defined

with caution tape and cones (see above). Only authorized persons with proper training and protective gear will be allowed to enter the work/exclusion zone.

Contamination Reduction Zone – If applicable, this zone will generally be a 30'± x 30'± area, marked off with stakes, colored flagging, cones, or equal method, containing the decontamination pad. The location will be determined in the field prior to the start of work and will vary depending on the area(s) the work is being conducted. This zone is where decontamination of personnel and equipment will take place, as necessary, on the basis of the work being performed.

Support Zone - Area outside of the contamination reduction zone; not including the work/exclusion zone. Unauthorized or untrained individuals must remain in this zone.

8.0 PERSONAL PROTECTION

8.1 Level of Protection

Based on an evaluation of the potential hazards, the minimum level of protection to be worn by workers during implementation of the IRM and SRI activities is defined as Level D protection and will be controlled by the HSO or designee.

The minimum level D protective equipment will consist of field clothes, Hi-Vis shirts or vests, rubber and/or nitrile gloves, safety glasses, face covering (COVID-19), and safety boots (steel or composite toe). As appropriate, this level of protection may be modified to include hard hats, ear plugs, protective suits, coveralls, leg chaps, or face shield for additional protection.

If required, level C protective equipment will consist of the items listed for Level D protection with the added protection of full-face, air purifying (organic vapor and particulate) respirator, chemical resistant clothing, inner and outer chemically resistant gloves (i.e. nitrile and/or PVC), and chemical resistant safety overboots.

Level B is not anticipated, but if required, level B protective equipment will consist of the items listed for Level D protection except a self-contained breathing apparatus (SCBA) will be worn dependent on the level of contaminants present in the work zone, and protective suits will be required. When Site conditions warrant the need for level B protective equipment, work will cease and the project will be re-evaluated to determine the necessity for employing engineering controls to reduce or eliminate the potential contaminants of concern.

8.2 Safety Equipment

Basic emergency and first aid equipment will be available at an area within the Support Zone clearly marked and available or within a C.T. Male company vehicle. This shall include a first aid kit, fire extinguisher, supply of potable water, soap and paper towels, extra ear plugs and safety glasses. The HSO or designee shall be equipped with a cellular phone in case of emergencies.

9.0 COMMUNICATIONS

The SHSO or designee will be equipped with a cellular phone in case of emergencies. The SHSO or designee shall notify the C.T. Male Project Manager and OSHO as soon as safely possible in the event of an accident, injury or emergency action.

Hand signals for certain work tasks will be employed, as necessary, and the buddy system will be employed, if feasible, during drilling, test borings and installation of monitoring wells.

10.0 DECONTAMINATION PROCEDURES

10.1 Personnel Decontamination Procedures

Decontamination procedures will be carried out by all personnel leaving the Work/Exclusion Zone (except under emergency evacuation). The amount of decontamination performed will be dependent on the level of personal protection currently being worn within the exclusion zone.

1. Do not remove respiratory protection until all steps have been completed.
2. Clean outer protective gloves and outer boots, if worn, with water (preferably with a pressurized washer) over designated wash tubs in the exclusion zone to remove the gross amount of contamination.
3. Deposit equipment used (tools, sampling devices, and containers) at designated drop stations - on plastic drop sheets or in plastic lined containers. If disposable equipment is used, it can be discarded in the designated container.
4. Rinse outer boots if worn and gloves with clean water in designated rinse tubs. Remove outer boots if worn and gloves and deposit in designated area to be determined in the field for use the next day or when necessary. If disposable outer boots are worn, remove and discard in designated container.
5. Remove protective suit, if worn, and discard in designated container. If ear plug were used, they can be discarded in designated container. Remove respirator at this time, if used; wash and rinse with clean water. Organic vapor and particulate cartridges, when used, will be replaced daily. Used cartridges will be discarded in the designated waste container. Remove inner gloves and discard in designated container.
6. Remove hard hat & safety glasses, clean with Clorox wipes or Clorox bleach solution (or similar) prior to placing into C.T. Male vehicle.
7. Prior to entering the C.T. Vehicle, ensure that C.T. Male SOP for field staff in relation to COVID-19 is followed.

10.2 Equipment and Sample Containers Decontamination

All decontamination will be completed by personnel in protective gear appropriate for the level of protection determined by the Site HSO or designee. Manual sampling equipment including scoops, hand augers, and shovels which come into contact with the Site's soils and sludge will be cleaned with a tap water(or filtered water)/detergent wash and a tap water (or filtered water) rinse. The sampling equipment will be decontaminated after each sample is collected at the Contaminant Reduction Zone (Decontamination Station). The sampling equipment wash and rinse water will be captured in plastic pails or tubs and ultimately transferred to labeled appropriate storage containers(s) (e.g.: DOT 17H approved 55-gallon open top steel drums or frac tank) and staged on-site at a secure location.

Drill rig equipment (i.e., casing, drill rods, bits, core samplers) which comes into contact with the site's soils will be decontaminated with a high pressure/hot water wash and/or other methods within the Contaminant Reduction Area. The cleaning will be performed at the completion of each boring location. Equipment decontamination wastes will be transferred to labeled appropriate storage containers and staged on-site at a secure location.

Larger equipment (i.e., drill rig) which comes into contact with the site's soils will be decontaminated with a high pressure/hot water wash and/or other methods within a decontamination pad. The decontamination procedure will focus on portions of the equipment that has come into contact with the site's soils such as the tires and tracks. The cleaning will be performed prior to the equipment leaving the Site. Equipment decontamination wastes will be transferred to appropriate storage containers and staged on-Site at a secure location.

Exterior surfaces of sample containers will be wiped clean with disposable paper towels in the decontamination zone and transferred to a clean cooler for transportation or shipment to the analytical laboratory. Sample identities will be noted and checked off against the chain-of-custody record. The disposable paper towels will be placed in the designated disposal container and disposed of as solid waste.

11.0 EMERGENCY RESPONSE PROCEDURES

THE PROJECT EMERGENCY COORDINATOR IS:

Office Site Health and Safety Officer (OHSO) Nancy Garry

Site Health and Safety Officer (SHSO) Designee Jonathon Dippert

The following standard emergency procedures will be used by on-site personnel. The Project Manager and HSO shall be notified of any on-site emergencies and be responsible for assuring that the appropriate procedures are followed.

11.1 Personal Injury

Emergency first aid shall be administered on-site as deemed necessary and only by a trained individual, if available at the site. If a trained individual is not available on-Site, decontaminate if feasible, and transport individual to nearest medical facility (Ellenville Regional Hospital). If feasible, the injured individual shall not transport themselves to the nearest medical facility. The SHSO will be responsible for completing the incident report in conjunction with the employee.

11.2 Personal Exposure

The recommended response to worker exposure from contaminants on-Site includes the following:

SKIN CONTACT: Use generous amounts of soap and water. Wash/rinse affected area thoroughly, then provide appropriate medical attention, as necessary.

EYE CONTACT: Wash eyes thoroughly with potable tepid water supply provided on Site. Eyes should be rinsed for at least 15 minutes subsequent to chemical contamination. Provide medical attention, as necessary.

INHALATION: Move worker to fresh air and outside of the work zone and/or, if necessary, decontaminate and transport to hospital (Columbia Green Hospital). If respirator use is implemented at the time of

inhalation, worker must not remove respirator until completely away from the work zone.

INGESTION: Decontaminate, if feasible, and transport to hospital (Columbia Green Hospital).

PUNCTURE WOUND OR
LACERATION: Provide first aid at the Site and if wound needs medical attention, decontaminate, if feasible, and transport to hospital (Columbia Green Hospital).

If the affected worker is exposed to contaminants on-Site and the injury or accident prevents decontamination of the individual, the emergency responders must be notified of this condition and the exposure must be kept to a minimum.

11.3 Potential or Actual Fire or Explosion

Immediately evacuate area in the event of potential or actual fire or explosion. Notify the local Fire and Police Departments, and other appropriate emergency response groups as listed in Section 1.2. Perform off-Site decontamination and contain wastes for proper disposal. If a fire or explosion occurs, all on-Site personnel must meet in the designated area of the Site (established by the HSO or designee – prior to work starting and relayed to Site workers) for an accurate head count.

11.4 Equipment Failure

Should there be any equipment failure, breakdown, etc. the Project Manager and SHSO shall be contacted immediately. The Project Manager or the SHSO will make every effort to replace or repair the equipment in a timely manner.

11.5 Spill Response

The Site SHSO or designee shall initiate a corrective action program with the subcontractors in the event of an accidental release of a hazardous material, suspected hazardous material or petroleum. The SHSO or designee will act as the Emergency Coordinator with the subcontractors for the purposes of: spill prevention; identifying releases; implementing clean up measures; and notification of appropriate personnel.

The corrective action program will be implemented by the SHSO or designee and subcontractor to effectively control and minimize any impact accidental releases may have to the environment.

Effective control measures will include:

- Preliminary assessment of the release.
- Control of the release source.
- Containment of the released material.
- Effective clean-up of the released material.

Potential sources of accidental releases include: hydraulic oil spills or petroleum leaks from heavy equipment; cooling oils (potentially PCB containing) for electrical equipment handling and cleaning; and spills from drums and tanks. The SHSO or designee in conjunction with the subcontractor shall respond to an accidental release in the following manner:

- Identify the character, source, amount and area affected by the release.
- Have subcontractor take all reasonable steps to control the release.
- Notify facility personnel.
- Notify the NYSDEC Spill Hotline at 1-800-457-7362 if required.
- Contain the release with sorbent material which should include speedi-dry, spill socks and sorbent pads.
- Prevent the release from entering sensitive receptors (i.e., catch basins and surface water) using the specified sorbent material or sandbags.
- Coordinate cleanup of the released material.
- Oversee proper handling and storage of contaminated material for disposal.

At no time should personal health or safety be compromised or jeopardized in an attempt to control a release. All health and safety measures as outlined in this HASP should be adhered to.

12.0 ADDITIONAL WORK PRACTICES

Workers will be expected to adhere to the established safety practices. Work on the project will be conducted according to established protocol and guidelines for the safety and health of all involved. The following will be adhered to:

- Employ the buddy system when possible, and for those work tasks which require it. Establish and maintain communications.
- Minimize contact with potentially contaminated soil and groundwater.
- Employ disposable items when possible to minimize risks during decontamination and possible cross-contamination during sample handling.
- Smoking, eating, or drinking after entering the work zone and before decontamination will not be allowed.
- Avoid heat and other work stress related to wearing personal protective equipment. Take breaks as necessary and drink plenty of fluids to prevent dehydration.
- Withdrawal from a suspected or actual hazardous situation to reassess procedures is the preferred course of action.
- The removal of facial hair (except mustaches) prior to working on-Site will be required to allow for a proper respiratory face piece fit.
- The Project Manager, OHSO, SHSO, and field personnel shall maintain records recording daily activities, meetings, facts, incidents, data, etc. relating to the project. These records will remain at the project site or electronically available during the full duration of the project so that replacement personnel may add information while maintaining continuity. These daily records will become part of the permanent project file.

13.0 AUTHORIZATIONS

Personnel authorized to enter the exclusion zone at the Mobile Media Inc. Site (C336093), located at 175 Kelly Avenue in the Hamlet of Pine Bush, Orange County, New York while operations are being conducted must be certified by the HSO. Authorization will involve completion of appropriate training courses and review and sign off of this HASP.

Personnel authorized to perform work on-site are as follows:

Company Representing	Written Name
C.T. Male	Kirk Moline, Jeffrey Marx, Dan Reilly, Jon Dippert, Dan Achtyl, Chris Ormsby, Dan King, Kendall Cietek, Cliff Bondi, Brittany Winslow, Ryan Hubbard, Brittany Terrttinao, Nancy Garry, Steve Bieber, Jorel Spain, Adam Rodgers, Rosaura Andujar-McNeil, Mary Loughlin, Elizabeth Rigby, Eric White, Jim McIver

14.0 FIELD TEAM REVIEW

Each field team member shall sign this section after Site specific training is completed and before being permitted to work on-Site.

I have read and understood this Site Specific Health and Safety Plan, and I will comply with the provisions contained therein.

PROJECT: IRM and Supplemental Remedial Investigation
Mobile Media Inc. Site
175 Kelly Avenue
Hamlet of Pine Bush, Orange County, New York

Name: Printed Signature Date

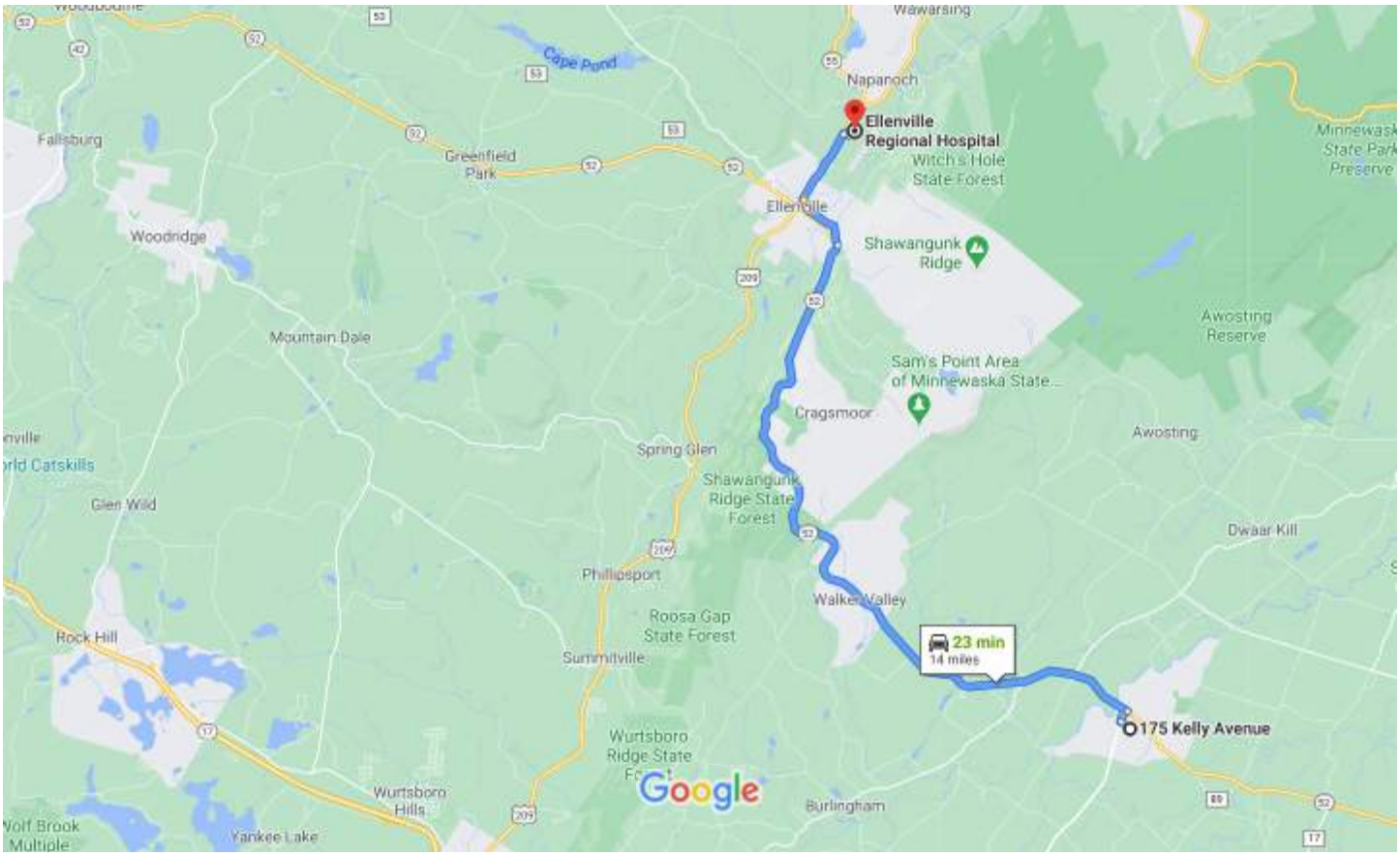
FIGURE 1

HOSPITAL ROUTE MAP
ELLENVILLE REGIONAL HOSPITAL

Google Maps

175 Kelly Ave, Pine Bush, NY 12566 to Ellenville Regional Hospital

Drive 14.0 miles, 23 min



Map data ©2020 Google 2 mi

175 Kelly Ave

Pine Bush, NY 12566

Take Maple Ave to NY-52 W

2 min (0.4 mi)

1. Head northwest on Kelly Ave toward Center St

0.2 mi

2. Turn right onto Maple Ave

0.2 mi

3. Turn left onto NY-52 W

15 min (11.4 mi)

Continue on Canal St to US-209 N/N Main St

2 min (0.9 mi)

4. Continue straight onto Canal St

0.8 mi

5. Turn right onto Liberty St

0.1 mi

6. Turn right onto US-209 N/N Main St

Continue to follow US-209 N

Pass by AutoZone Auto Parts (on the left)

2 min (1.1 mi)

Drive to your destination

1 min (0.2 mi)

7. Turn right onto Shoprite Blvd

495 ft

8. Turn left

Destination will be on the right

0.1 mi

Ellenville Regional Hospital

10 Healthy Way, Ellenville, NY 12428

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

APPENDICES

Appendix A

C.T. Male Airborne Infectious Disease Prevention Plan
August 5, 2021

August 5, 2021

C.T. Male Associates
Airborne Infectious Disease
Exposure Prevention Plan

AIRBORNE INFECTIOUS DISEASE EXPOSURE PREVENTION PLAN

CONTENTS

I. PURPOSE

The purpose of this plan is to protect employees against exposure and disease during an airborne infectious disease outbreak. This plan goes into effect when an airborne infectious disease is designated by the New York State Commissioner of Health as a highly contagious communicable disease that presents a serious risk of harm to the public health. This plan is subject to any additional or greater requirements arising from a declaration of a state of emergency due to an airborne infectious disease, as well as any applicable federal standards.

Employees should report any questions or concerns with the implementation this plan to the Primary Designated Contact.

This plan applies to all "employees" as defined by the New York State HERO Act, which means any person providing labor or services for remuneration for a private entity or business within the state, without regard to an individual's immigration status, and includes part-time workers, independent contractors, and other temporary and seasonal workers. The term also includes individuals working for digital applications or platforms, staffing agencies, contractors or subcontractors on behalf of the employer at any individual work site, as well as any individual delivering goods or transporting people at, to or from the work site on behalf of the employer, regardless of whether delivery or transport is conducted by an individual or entity that would otherwise be deemed an employer under this plan.

Please check the websites of Departments of Health and Labor for up to date information on whether a designation has been put into effect, as any such designation will be prominently displayed. No employer is required to put a plan into effect absent such a designation by the Commissioner of Health.

II. RESPONSIBILITIES

This plan applies to all employees of C.T. Male and all work sites.

This plan requires commitment to ensure compliance with all plan elements aimed at preventing the spread of infectious disease. The following supervisory employee(s) are designated to enforce compliance with the plan. Additionally, these supervisory employees will act as the designated contacts unless otherwise noted in this plan:

Name	Title	Location	Phone
Sue Lukaszewski*	Director of Human Resources	Latham	W 518-786-7407 C 518-912-9500
Nancy Garry	Corporate Health & Safety Manager	Latham	W 518-786-7541 C 518-320-5783
Michelle Gill	Director of Business Operations	Latham	W 518-786-7530 C 518-281-9639

*Primary Designated Contact

III. EXPOSURE CONTROLS DURING A DESIGNATED OUTBREAK

A. MINIMUM CONTROLS DURING AN OUTBREAK

During an airborne infectious disease outbreak, the following minimum controls will be used in all worksites:

1. **General Awareness:** Individuals may not be aware that they have the infectious disease and can spread it to others. Employees should remember to:
    - Maintain physical distancing;
    - Exercise coughing/sneezing etiquette;
    - Wear face coverings, gloves, and personal protective equipment (PPE); as appropriate;
    - Limit what they touch;
    - Stop social etiquette behaviors such as hugging and hand shaking; and
    - Wash hands properly and often.

2. **"Stay at Home Policy":** If an employee develops symptoms of the infectious disease, the employee should not be in the workplace. The employee should inform the Primary Designated Contact and follow New York State Department of Health (NYSDOH) and Centers for Disease Control and Prevention (CDC) guidance regarding obtaining medical care and isolating.

3. **Health Screening:** Employees will be screened for symptoms of the infectious disease at the beginning of their shift. Employees are to self-monitor throughout their shift and report any new or emerging signs or symptoms of the infectious disease to the Primary Designated Contact. An employee showing signs or symptoms of the infectious disease should be removed from the workplace and should contact a healthcare professional for instructions. The health screening elements will follow guidance from NYSDOH and CDC guidance, if available.

4. **Face Coverings:** To protect coworkers, employees will wear face coverings throughout the workday to the greatest extent possible. Face coverings and physical distancing should be used together whenever possible. The face covering must cover the nose and mouth, and fit snugly, but comfortably, against the face. The face covering itself must not create a hazard, e.g. have features could get caught in machinery, cause severe fogging of eyewear, or cause difficulty breathing. The face coverings must be kept clean and sanitary and changed when soiled, contaminated, or damaged.

5. **Physical Distancing:** Physical distancing will be followed as much as feasible. Avoid unnecessary gatherings and maintain a distance of at least six feet (or as recommended by the NYSDOH/CDC for the infectious agent) from each other. Use a face covering when physical distance cannot be maintained.

In situations where prolonged close contact with other individuals is likely, use the following control methods:

- restricting or limiting customer or visitor entry;
- limiting occupancy, including offices, vehicles and job sites;
- allowing only one person at a time inside small enclosed spaces with poor ventilation;
- reconfiguring workspaces;
- physical barriers;
- signage;
- floor markings;
- telecommuting;
- remote meetings;
- preventing gatherings;
- restricting travel; and
- use of personal protective equipment as needed.

6. **Hand Hygiene:** To prevent the spread of infection, employees should wash hands with soap and water for at least 20 seconds or use a hand sanitizer with at least 60% alcohol to clean hands BEFORE and AFTER:
    - Touching your eyes, nose, or mouth;
    - Touching your mask;
    - Entering and leaving a public place; and
    - Touching an item or surface that may be frequently touched by other people, such as door handles, tables, coffee machines, microwaves, copiers, workstations, field equipment, and gas pumps.

    Use an alcohol-based hand sanitizer that is 60% alcohol when soap and water are unavailable. Because hand sanitizers are less effective on soiled hands, if possible, wash hands rather than using hand sanitizer when your hands are soiled.

7. **Cleaning and Disinfection:** See Section VI of this plan.

8. **"Respiratory Etiquette":** Because infectious diseases can be spread by droplets expelled from the mouth and nose, employees should exercise appropriate respiratory etiquette by covering nose and mouth when sneezing, coughing or yawning.

9. **Special Accommodations for Individuals with Added Risk Factors:** Some employees, due to age, underlying health condition, or other factors, may be at increased risk of severe illness if infected. Please inform the Director of Human Resources if you fall within this group and need an accommodation.

B. ADVANCED CONTROLS DURING AN OUTBREAK

For activities where the Minimum Controls alone will not provide sufficient protection for employees, additional controls from the following hierarchy may be necessary. C.T. Male will determine if the following are necessary:

1. Elimination: temporary suspension or elimination of risky activities where adequate controls could not provide sufficient protection for employees.

2. Engineering Controls: appropriate controls to contain and/or remove the infectious agent, prevent the agent from being spread, or isolate employees from the infectious agent. Examples of engineering controls include:

   i. Mechanical Ventilation:
      - Increasing the percentage of fresh air introduced into air handling systems;
      - Avoiding air recirculation;
      - Using higher-efficiency air filters in the air handling system;
      - If fans are used in the facility, arrange them so that air does not blow directly from one worker to another; and

   ii. Natural Ventilation:
      - Opening outside windows and doors to create natural ventilation; and
      - Opening windows on one side of the room to let fresh air in and installing window exhaust fans on the opposite side of the room so that they exhaust air outdoors. (Note: This method is appropriate only if air will not blow from one person to another.)

   iii. Install automatic disinfection systems (e.g., ultraviolet light disinfection systems).
   iv. Install hand washing or sanitizing stations throughout the worksite.
   v. Install cleanable barriers such as partitions and/or clear plastic sneeze/cough guards.
   vi. Change layout to avoid points or areas where employees may congregate.

   Subject to changes based on operations and circumstances surrounding the infectious disease, engineering controls that are anticipated to be used are listed in the following table:

Engineering Controls Utilized/Location:
Mechanical Ventilation - all office locations
Natural Ventilation – all office locations in which windows can be opened. Field office trailers at client/project site locations, and company vehicles.
Install hand washing or sanitizing - All office locations, field office trailers and project sites
Install cleanable barriers/guards – Office locations
Change layout – Office locations

3. "Administrative Controls" are policies and work rules used to prevent exposure. Examples include:
   - Increasing the space between employees;
   - Slowing production speed to accommodate fewer workers at a time;
   - Disinfecting procedures for specific operations;
   - Employee training;
   - Identify and prioritize job functions that are essential for continuous operations;
   - Cross-train employees to ensure critical operations can continue during employee

absence;
- Limit the use of shared workstations;
- Post signs reminding employees of respiratory etiquette, masks, handwashing;
- Rearrange traffic flow to allow for one-way walking paths;
- Provide clearly designated entrance and exits;
- Provide additional time /short breaks for handwashing and cleaning;
- Clean equipment and tools prior to handoff; and
- Limit attendance of in-person meetings.

Subject to changes based on operations and circumstances surrounding the infectious disease, the following specific administrative controls are anticipated to be used:

Administrative Controls Utilized/Location:
Increasing space between employees – Field office locations
Disinfecting procedures for specific operations – Field staff to follow C.T. Male standard operating procedure, 'Procedures for field staff in relation to COVID-19 or other viruses'
Employee training – all employees
Limit the use of shared workstations – office locations
Post signs - office and field office locations
Rearrange traffic flow – office locations
Provide additional time /short breaks for handwashing and cleaning – field staff on project and/or work sites
Clean equipment and tools prior to handoff – field staff
Limit attendance of in-person meetings – all staff

4. Personal Protective Equipment (PPE) such as eye protection, face shields, respirators, and gloves that protect the wearer from infection. PPE will be provided, used and maintained in a sanitary and reliable condition at no cost to the employee. The PPE provided to an employee will be based on a hazard assessment for the workplace. The following PPE that are anticipated to be used are in the following table:

PPE Required - Activity Involved/Location:
OSHA Eye protection – cleaning/disinfection activities – field staff, Latham office maintenance staff, staff performing housekeeping activities at all office locations
Face shields – cleaning/disinfection activities - staff performing housekeeping activities at all office locations, as needed
Gloves – cleaning/disinfection activities - field staff, Latham office maintenance staff, staff performing housekeeping activities at all office locations

1) The use of respiratory protection, e.g. an N95 filtering facepiece respirator, requires compliance with the OSHA Respiratory Protection Standard 29 CFR 1910.134 or temporary respiratory protection requirements OSHA allows for during the infectious disease outbreak.
2) Respirators with exhalation valves will release exhaled droplets from the respirators. Respirators are designed to protect the wearer. Surgical masks and face coverings, which are not respirators, are designed to protect others, not the wearer.

C. EXPOSURE CONTROL READINESS, MAINTENANCE AND STORAGE:
The controls we have selected will be obtained, properly stored, and maintained so that they are ready for immediate use in the event of an infectious disease outbreak and any applicable expiration dates will be properly considered.

IV. HOUSEKEEPING DURING A DESIGNATED OUTBREAK

A. DISINFECTION METHODS AND SCHEDULES

Objects that are touched repeatedly by multiple individuals, such as door handles, light switches, control buttons/levers, dials, levers, water faucet handles, computers, phones, or handrails will be cleaned frequently with an appropriate disinfectant. Surfaces that are handled less often, or by fewer individuals, may require less frequent disinfection. The disinfection methods and schedules selected are based on specific workplace conditions.

The New York State Department of Environmental Conservation (NYSDEC) and the Environmental Protection Agency (EPA) have compiled lists of approved disinfectants that are effective against many infectious agents (see www.dec.ny.gov and www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants). Select disinfectants based on NYSDOH and CDC guidance and follow manufacturer guidance for methods, dilution, use, and contact time.

B. ADJUSTMENTS TO NORMAL HOUSEKEEPING PROCEDURES

Normal housekeeping procedures should continue to be followed during an infectious disease outbreak, to the extent practicable and appropriate consistent with NYSDOH and/or CDC guidance in effect at the time. However, routine procedures may need to be adjusted and additional cleaning and disinfecting may be required.

Staff delegated to clean/disinfect may be at increased risk because they may be cleaning many potentially contaminated surfaces. Some housekeeping activities, like dry sweeping, vacuuming, and dusting, can resuspend into the air particles that are contaminated with the infectious agent. For that reason, alternative methods and/or increased levels of protection may be needed.

Rather than dusting, for example, the CDC recommends cleaning surfaces with soap and water before disinfecting them. Conducting housekeeping during "off" hours may also reduce other workers' exposures to the infectious agent. Best practice for staff performing housecleaning is to wear appropriate PPE for the chemicals being used and exposure to the infectious disease. See www.cdc.gov and www.OSHA.gov/coronavirus for more guidance.

If an employee develops symptoms of the infectious disease at work, it is ideal to isolate the area in accordance with guidance issued by NYSDOH or the CDC, before cleaning and disinfecting the sick employee's work area. This delay will allow contaminated droplets to settle out of the air and the space to be ventilated.

As feasible, liners should be used in trash containers. Empty the containers often enough to prevent overfilling. Do not forcefully squeeze the air out of the trash bags before tying them closed. Trash containers may contain soiled tissue or face coverings.

V. INFECTION RESPONSE DURING A DESIGNATED OUTBREAK

If an actual, or suspected, infectious disease case occurs at work, take the following actions:

- Instruct the sick individual to wear a face covering and leave the worksite and follow NYSDOH/CDC guidance; and
- Follow local and state authority guidance to inform impacted individuals.

VI. TRAINING AND INFORMATION DURING A DESIGNATED OUTBREAK

A. The Director of Human Resources will verbally inform all employees of the existence and location of this Plan, the circumstances it can be activated, the infectious disease standard, employer policies, and employee rights under the HERO Act. (Note: training need not be provided to the following individuals: any individuals working for staffing agencies, contractors or subcontractors on behalf of the employer at any individual work site, as well as any individual delivering goods or transporting people at, to or from the work site on behalf of the employer, where delivery or transport is conducted by an individual or entity that would otherwise be deemed an employer under this plan).

B. When this plan is activated, all personnel will receive training which will cover all elements of this plan and the following topics:

1. The infectious agent and the disease(s) it can cause;
2. The signs and symptoms of the disease;
3. How the disease can be spread;
4. An explanation of this Exposure Prevention Plan;
5. The activities and locations at our worksite that may involve exposure to the infectious agent;
6. The use and limitations of exposure controls; and
7. A review of the standard, including employee rights provided under Labor Law, Section 218-B, which addresses the "Prevention of Occupational Exposure to an Airborne Infectious Disease."

C. The training will be:

1. Provided at no cost to employees and take place during working hours. If training during normal work hours is not possible, employees will be compensated for the training time (with pay or time off);
2. Appropriate in content and vocabulary to your educational level, literacy, and preferred language; and
3. Verbally provided in person or through telephonic, electronic, or other means.

VII. PLAN EVALUATIONS DURING A DESIGNATED OUTBREAK

C.T. Male will review and revise the plan periodically, upon activation of the plan, and as often as needed to keep up-to-date with current requirements. Documented plan revisions:

Plan Revision History			
Date	**Participants**	**Major Changes**	**Approved By**

VIII. RETALIATION PROTECTIONS AND REPORTING OF ANY VIOLATIONS

C.T. Male will not discriminate, threaten, retaliate against, or take adverse action against any employee for exercising their rights under this plan, including reporting conduct the employee reasonably believes in good faith violates the plan or airborne infectious disease concerns to C.T. Male, government agencies or officials or for refusing to work where an employee reasonably believes in good faith that such work exposes him or her, other workers, or the public to an unreasonable risk of exposure, provided the employee, another employee, or representative has notified C.T. Male verbally or in writing, including electronic communication, of the inconsistent working conditions and the employer's failure to cure or if the employer knew or should have known of the consistent working conditions.

Notification of a violation by an employee may be made verbally or in writing, and without limitation to format including electronic communications. To the extent that communications between C.T. Male and employee regarding a potential risk of exposure are in writing, they shall be maintained by C.T. Male for two years after the conclusion of the designation of a high risk disease from the Commissioner of Health, or two years after the conclusion of the Governor's emergency declaration of a high risk disease. To report violations of this plan and/or retaliation during regular business hours and for weekends/other non-regular business hours when employees may be working, contact Sue Lukaszewski, Director of Human Resources by phone (518-786-7407 during business hours or 518-912-9500 outside of normal business hours) or email (s.lukaszewski@ctmale.com).