

Excavation Work Plan

For

Bronx River Tunnel Project

Block 2781, Lot 800

BCP Site RR ROW-C203102

Prepared By:

Consolidated Edison Company of New York Inc.

4 Irving Place

New York, New York 10003

July 2023

ConEdison 42" Gas Main Project No. G-19-913

Table of Contents

• Site Description -----	3
• Site History -----	3
• Proposed Work -----	3
• Notification -----	3
• Contact Names/Numbers-----	4
• Excavation Plan-----	4
• Screening Methods -----	4
• Stockpile Methods -----	5
• Waste Characterization -----	5
• Material Handling -----	5
• Material Load Out & Disposal -----	5
• Importing Fill Material -----	5
• Contingency Plan -----	6
• Dust, Odor, Vapor and Nuisance Control -----	6
• Construction Health and Safety Plan-----	6
• Reporting -----	6
• Test Pit Excavation Locations (Fig. 1) -----	8
• Appendix A – Contractor Health and Safety Plan	
• Appendix B – Community Air Monitoring Plan	

Site Description

This Excavation Work Plan (EWP) was developed in order to excavate a trench to expose a portion of the 42-inch cast iron retired gas main for the purposes removing it and installing a new 36-inch main. Approximately 5 feet of the excavation is within the Consolidated Edison of New York, Inc. (Con Edison) property line (Block 2781 Lot 800) with the balance of the excavation within the easement that is located within a parcel that is currently vacant. The parcel in which the easement is located has been accepted into the New York State Brownfield Cleanup Program (BCP) as Site #C203102 and under its current BCP enrollment status is defined as BCP RR ROW. The property is owned by New York City and managed by the New York City Economic Development Corporation (NYC EDC) and GEI Consultants acts as the Owner's Engineer.

Site History

Historically, the HPFDC was part of a Con Edison MGP that was initially constructed between 1924 and 1932, and operated until the early 1960's. The plant was constructed to manufacture both oven gas and carbureted water gas, producing coke, ammonium sulfate, coal tar, water gas tar, and light oil as major by-products. In total, approximately 46 buildings or structures existed in the former Con Edison facility that were actively involved in gas production. There has not been a tenant or active use of the parcel (with the exception of the Con Ed head house building) since the use of the property as part of the MGP.

Proposed Work

The proposed work will consist of an excavation with dimensions of 8-foot wide by 7-foot deep by 35-foot long. The excavation is being completed in order to expose the 42-inch retired cast iron main that runs east to west along the northern boundary of the RR ROW. Once the excavation is completed, the main will be removed and replaced with a new 36-inch main. Once the activities associated with main is complete, the excavation will be closed.

Notification

NYCEDC will be notified prior to excavation and earthwork activities subject to this EWP. NYCEDC, through its Brownfield Program will make the appropriate notifications and reports to the NYCDEC project manager.

	Email	Phone Number
NYSDEC		
Ronnie Lee	Ronnie.Lee@dec.ny.gov	518-402-9767
Owner – NYC EDC		
Rasheed Lucas	rlucas@edc.nyc	212-312-4226
Owner’s Engineer – GEI		
Kevin McCarty	kmccarty@geiconsultants.com	212-845-9965
Con Edison Representatives		
Shaun Persaud Transmission Construction	persauds@coned.com	929-237-0657
Matt Madsen EH&S Engineering & Construction	madsenm@coned.com	718-839-1861
Melissa Abt EH&S Remediation	abtm@coned.com	718-204-4331

The information in this table will be updated as necessary to provide accurate contact information. The initial notification will include the following:

- A detailed description of the work to be performed, including the location of the test pits
- An estimate schedule for the work, detailing the start and completion of ground intrusive work.
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120.
- A copy of the contractor’s health and safety plan provided as Appendix A of this EWP.
- Backfill documentation, if necessary

Excavation Plan

Activities will consist of excavation, stockpiling and backfilling of the excavation at the completion of said work. The excavation described herein will be performed in accordance with applicable federal, state, and city regulations.

The proposed excavation area is shown in Figure 1. A copy of the CHASP is included as Appendix A. NYC EDC will be promptly notified of proposed changes, delays, or deviations to the EWP and schedule.

Screening Methods

Screening within the work area will take place for both the breathing zone of the workers as well as for determining if the material being excavated is impacted. Visual olfactory and instrumental (PID) screening will be performed by a field engineer, geologist or scientist under the supervision of a qualified environmental professional (QEP) during excavation and earthwork to

determine if the material is impacted. The PID in conjunction with a multi-gas meter and dust monitor will be used to monitor the air quality in the work area for the workers. The instruments will be calibrated daily and the PID will be equipped with a 10.6eV lamp.

Stockpile Methods

Excavated material with visual and or olfactory impacts will be stockpiled separately and will be segregated from other materials. Stockpiles of material not impacted will be staged on plastic and will be used as backfill.

Waste Characterization

Impacted material will be characterized in a manner required by the receiving facility and in compliance with applicable laws and regulations, before it is transported off site for disposal. NYSDEC will be notified concerning the amount of impacted material as well as the type of impacts observed.

Material Handling

A Con Edison inspector will observe and document that the contractor performs excavation and handling as specified in this EWP. The inspector and contractor are responsible for safe execution of excavation and handling activities under this EWP.

Material Load Out and Disposal

Impacted material will be handled, transported and disposed of by a licensed and placarded hauler in accordance with applicable 6NYCRR Part 360 and Part 364 regulation and other applicable federal, state, and local regulations.

The contractor will identify disposal facilities and provide Owner's Engineer if necessary. The following documentation will be provided for NYSDEC review and approval, for each disposal facility:

- Generator (Con Ed) signed waste profile/application and supporting forms
- Letter from generator to the facility describing the material to be disposed and requesting written acceptance of the material.
- Pre-approval letter from the facility accepting the materials.
- Current and valid operating permits and
- Waste transporter permits

Importing Fill Material

After the new main is installed, the excavation will be backfilled with a minimum of 12" above the top of the main with sand. Properly compacted, suitable 3/8" clean fill or recycled screening backfill, shall be installed on top of the 12" minimum sand described above. The sources of backfill will be evaluated before any backfill is imported to the site. The process will include submitted a Fill Importation Request Form to NYSDEC, an examination of source location,

current historical uses, and applicable documentation. Material from industrial sites, environmental remediation sites, spill sites or other potentially contaminated sites will not be imported to the Site. The contractor will identify source facilities for backfill and provide the Owner's Engineer with copies of the following documents, which will be provided to NYSDEC for review and approval, for each borrow source:

- Facility name, address, site history and current and valid operating permits
- Letter from the originating source or supplier of the material and physical characteristics.
- Tabulated analytical results showing the material meets Commercial SCOs
- Representative photographs of the material

Imported material will be screened for evidence of contamination (visual, olfactory, and instrumental) before it is placed and graded. The imported material shall not contain C&D debris, other than recognizable concrete aggregate as described herein, exhibit observable indicators of contamination (i.e., petroleum-staining and odors), or have been in contact with a spill of petroleum, hazardous waste, or industrial waste.

Contingency Plan

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to the Owner's Engineer and NYSDEC Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline.

Dust, Odor, Vapor and Nuisance Control

Since this work will be taking place in the vicinity of the remedial activities at RR ROW, the contractor performing the remedial activities will position their air monitoring stations so that the excavation will be included in the CAMP area. The CAMP is provided in Appendix B.

If odors, vapors, or fugitive dust exceeding action levels set forth in this EWP within the excavation area or are identified by the remedial contractor, work will be halted, and the source identified and controlled. Work will not resume until odors, vapors, or fugitive dust are abated. The Owner's Engineer and the NYSDEC will be notified if odors, vapors, or fugitive dust exceeding action levels are reached.

Construction Health and Safety Plan

The contractor has prepared a site specific health and safety plan (CHASP), included as Appendix A. Work performed under this EWP will be in compliance with applicable health and safety laws and regulations, including site and occupational Safety and Health Administration (OSHA) worker safety requirements.

Reporting

While the anticipated schedule for digging the excavation approximately one week, *the excavations will remain open to install a new 36" Gas Transmission Main as well as removal of*

old 42" Main. It will be sheeted and open for approximately 4-6. At the completion of the work, the Owner's Engineer will receive a summary report that will include a description of the completed excavation, if any material was imported or exported onto the Site and its quantity, a summary of daily CAMP results, including exceedances, and Site photographs including the Site restoration at the completion of the work.

This report is not intended to be the primary mode of communication for notifying the NYSDEC of emergencies, requests for changes to this EWP and/or time critical information; however such information will be included in the summary report. Emergency conditions, changes, and deviations to this EWP will be addressed immediately and directly to the Owner's Engineer and NYSDEC Project Manager.



Fig. 1 Approximate Location of Excavation

APPENDIX A

Site-Specific Health and Safety Plan



WILLIAMS SPECIALTY SERVICES INC.

HASP – Health and Safety Plan

PROJECT TITLE: BRONX RIVIER

Work Performed for: CON EDISON

Work Performed by: Williams Specialty Services Group, LLC
100 Crescent Centre Parkway
Suite 1240
Tucker, Georgia 30084
18-33 42nd Street
Astoria NY 11105
718-204-4885

Approval: Tom Scaccia 8/5/2021
WISG Project Manager *Signature* *Date*

Approval: Michael Cutro 8/5/2021
WISG EHS Manager *Signature* *Date*

**Williams Specialty Services
18-33 42nd Street Astoria NY 11105
100 Crescent Centre Parkway - Suite 1240
Tucker Georgia 30084
1-770-879-4000
Health and Safety Plan**

Con Edison Acceptance
To be completed by authorized Con Edison Representative


Accepted	<u>Yes</u>	<u>No</u>
	X	
Signature <u></u>	Date	<u>11/18/2021</u>
Type/Print Name <u>Matt Madsen</u>	Title	<u>Project Specialist</u>

TABLE OF CONTENTS

Section	Description	Page #		Section	Description	Page #
1	INTRODUCTION	4		30	RESPIRATORY	24
2	AIR RESOURCES	8		31	SAMPLING	24
3	ASBESTOS AWARENESS	9		32	TIME OUT PROGRAM	24
4	FIRST AID & BLOODBORNE PATHOGENS	9		33	VEHICLE MANAGEMENT	25
5	CHEMICAL SAFETY & HANDLING	10		34	WASTE MANAGEMENT	25
6	CLOSE CALL PROGRAM	10		35	WATER RESOURCES	26
7	CONFINED SPACE PROGRAM (PERMIT REQUIRED)	11		36	WELDING BURNING	27
8	DRUG AND ALCHOL	11		37	WORK AREA PROTECTION	29
9	ELECTRICAL ENCLOSED SPACES	11		38	WORKING ELEVATIONS	30
10	ELECTRICAL SAFETY	11		39	RULES WE LIVE BY	30
11	EXCAVATION & TRENCHING	12		40	EMERGENCY ACTION PLAN	35
12	FIRE PROTECTION & PREVENTION	13				
13	FISH, WILDLIFE and WETLANDS	13				
14	GAS ENCLOSED SPACES	14				
15	HEARING CONSERVATIO5	14				
16	HEAT STRESS and COLD	14				
17	INSULATION MATERIALS (NON-ASBESTOS)	15			Attachments:	
18	JOB BRIEFINGS	15		A	SDS Attachments	37
19	LEAD MANAGEMENT PROGRAM	17		B	eHASP acknowledgement page	37
20	MANAGEMENT OF CHANGE	18		C	WSS 1500 HAZ COM	37
21	MATERIAL HANDLING	19		D	WSS 1600 PPE	37
22	MECHANICAL EQUIPMENT	22		E	WSS 1620 RESPIRATORY	37
23	MERCURY MANAGEMENT PROGRAM	21		F	WSS 1630 OCCUPATIONAL NOISE	37
24	SILICA	22		G	WSS 1550 SILICA	37
25	OIL & DIELECTRIC	23		H	WSS 2500EXCAVATION & TRENCHING	37
26	OPERATORS QUALIFICATIONS	23		I	F-1100 B INCIDENT INVESTIGATION	37
27	PCB MANAGEMENT	23		J	F 100 C EMPLOYEE STSTMENT	37
28	PERSONAL PROTECTIVE EQUIPMENT	23		K	F 100 E NEAR MISS	37
29	PESTICIDE/HERBICIDE USE, STORAGE & DISPOSAL	24				

1.0 INTRODUCTION

Williams Specialty Services along with various sub-contractors will perform all required work to complete the Bronx River Tunnel 36" gas main installation and head house replacement. This work will take place at 240 food center drive, Bronx NY, and Randall Ave & Metcalf Ave. and is scheduled to complete in 18 months from the start date. In general, the project will include the demolition of the existing head houses that will later be replaced with new at each side of the tunnel. Also included is the removal of the 2 existing 42" abandoned gas mains along with the concrete support saddles. Other work shall include, but is not limited to, the maintenance and protection of pedestrians, excavation, installation of all gas pipe, fittings and valves. All welding, cleaning, pigging and pressure testing, dewatering, and filling gas main with nitrogen blanket. All workers performing gas work will be Operator Qualified. Job specific work plans for rigging, removals of ACM and any other hazardous materials associated with this project will be submitted for review and CE approval prior to commencement.

SITE PERSONNEL

Williams Specialty Services

<i>Name:</i>	<i>Title</i>	<i>E-Mail</i>	<i>Cell Phone</i>
<i>Tom Scaccia</i>	<i>Operations Manager</i>	<i>tscaccia@wisgrp.com</i>	<i>(315) 520-6188</i>
<i>Fred Fisher</i>	<i>Project Manager</i>	<i>ffisher@wisgrp.com</i>	<i>347-804-8464</i>
<i>David Swindall</i>	<i>Supt. / Safety backup</i>	<i>deswindall@wisgrp.com</i>	<i>423-605-4255</i>
<i>Joe Ramos</i>	<i>Site Safety</i>	<i>Jramos@wisgrp.com</i>	<i>917-445-5266</i>

Subcontractors

<i>Company:</i>	<i>Trade:</i>	<i>Name:</i>	<i>Cell Phone</i>
<i>Delta Environmental</i>	<i>Asbestos Abatement</i>	<i>Henry</i>	<i>917-682-6554</i>
<i>Verde</i>	<i>Electrical</i>	<i>TBD</i>	
<i>Cutting Technologies</i>	<i>Specialty Cutting</i>	<i>TBD</i>	

Con Edison Contacts:

<i>Name:</i>	<i>Title</i>	<i>E- mail</i>	<i>Cell Phone</i>
<i>Rick Simonetti</i>	<i>Const. Manager</i>	<i>simonettir@coned.com</i>	<i>646-772-3218</i>
<i>Mike Walsh</i>	<i>Sr. Specialist</i>	<i>walshmicha@coned.com</i>	<i>917-642-9044</i>
<i>Shaun Persaud</i>	<i>Chief Const. Ins.</i>	<i>persauds@coned.com</i>	<i>929-237-0657</i>

Con Edison Emergency Contacts/Emergency Procedures/ Accident Reporting

Matt Madsen Con Edison EH&S, Engineering and Construction

madsenm@coned.com 917-301-0270

EMERGENCY EVACUATION ASSEMBLY AREA:

“To the Chef’s Warehouse parking lot”

EMERGENCY RESPONSE:

In the event of an emergency, contractor’s personnel are required to follow this Emergency Response Plan. WSS will familiarize its employees with these procedures, station exits, and designated assembly areas during New Hire Orientation.

EMERGENCY ACTION PLAN

WSS will always have the above-named document on site and available. This Emergency Action Plan will be reviewed by all WSS employees and sub-contractors prior to any work commencement

ACCIDENT REPORTING PROCEDURE:

In case of an accident, spill, fire, explosion or any incident, to the EH&S control desk 212-580-8383 and Con Edison Construction Inspector will be notified immediately and a written report will be submitted along with a C-2 form within 24 hrs of occurrence if there was an injury.

WSS will submit an Accident Investigation Report with Root Cause Analysis and Corrective Actions within 24 hours.

Any oil or chemical spill must be reported **IMMEDIATELY** to the Con Edison site representative. If the site representative is not or cannot be reached, notify Matt Madsen Con Ed EH&S 917-301-0270

No chemicals, water, oil or other material shall be poured or otherwise allowed to enter the Station’s trench and sump system. If any material enters the trenches or sumps, the source of the material must be immediately controlled, and the Control Room must be immediately notified. A spill of any substance or other impact to the station's roadways, outfalls or surrounding water ways must be reported to the Control Room and site representative immediately. Preventative measures will be implemented, and care will be taken to prevent oil and chemical spills.

❖ Police Info:

Precinct 43rd - 900 Farley Avenue Bronx NY 10473

Precinct Phone # (718) 542-0888

❖ **Fire Dept Info:**

FDNY Engine 73, Ladder 42 , 655 Prospect Avenue Bronx NY 10455
Phone # (718) 999-2000

❖ **Hospital:**

NY Lincoln Hospital 234 East 149th Street Bronx NY 10451
Phone # (718) 579-5548

SITE CONTROL:

To control access to and from the Con Edison facility, all personnel upon arrival shall sign-in on the designated log book (located within the Williams trailer). Upon leaving the facility, all personnel shall sign-out on the designated log book (located within the Williams trailer).

To control access to and from the tunnel, Con Edison requires Williams to utilize the existing entry/exit log book located within the headhouses. This log will be controlled by Con Edison and shall be inspected by Williams site safety representative daily to confirm use.



Corporate Security

September 2011

Security Access and Egress Policy for Contractors

Con Edison is committed to provide a secure work environment for its' employees, contractors and visitors. The Company has a comprehensive security program to protect people, assets and operations against the threats of injury, loss or damage. Our security measures (card access systems, ID cards, sign-in logs, etc.) are intended to restrict access only to those authorized to perform business with Con Edison.

As a contractor for Con Edison, you may have authorization to enter Con Ed facilities, either by possessing a Con Edison Contractor ID card or by providing personal identification and being authorized by an active Con Edison employee. In order to maintain our commitment to security, we ask that:

- **When entering a facility, please display proper identification and follow the instructions of the contract guard and/or Con Ed employee admitting you.**
- **No other Con Ed employees, contractors or others are allowed to "piggyback" on your entry into a facility without signing in.**
- **When entering or existing a facility with an automated gate, make sure that the gate is completely closed and no one enters the facility behind you.**

If any of the above exceptions occur, immediately notify your Con Edison sponsor. If unavailable, please contact Con Edison Corporate Security at 212-460-2444.

Michele Campanella
Corporate Security Director

All contractor employees will follow the direction of their site representative in the case of an emergency. All contractors must check in and out with their site representative upon arrival to and departure from the work site. Contract personnel are to be in the work area only and are not permitted to wander about the station, leave exterior doors opens or otherwise compromise the

security of the facility. Station security, badging, and station sign in policies must be adhered to. Contractors must, in their job briefings, identify the hazards present at the site and on the job and be familiar with site emergency evacuation procedures. Review of/knowledge of hasp for all personnel working on project is required. Contact David Swindall (Supt.) for more information.

All Williams Specialty Services employees and subcontractors shall possess an OSHA 30-hour Construction Safety Training card dated within the past five (5) years and a valid Supported Scaffold User Training Certificate (NYC DOB). All welding procedures and welders shall be qualified in accordance with ASME Section 9 and NYFD codes.

All Williams Specialty Services subcontractors shall follow Safety Requirement Guidelines as specified in the WSS~HASP, all WSS personnel and subcontractors shall, at a minimum, wear hard hats, long sleeved natural fiber shirts, safety glasses, work boots, and hearing protection as required.

All workers shall participate in a safety orientation addressing site and client safety concerns specific to the work at hand. Workers shall also have awareness training for hazards that are identified onsite (asbestos, lead, etc.). These and other Safety Data Sheets specific to the project are found in Williams Specialty Services On-Site Hazard Communication Program for this project. Any and all other hazardous materials brought on site by WSS and our subcontractors shall be accompanied by an SDS and kept on site.

2.0 AIR RESOURCES

Williams Specialty Services shall identify all sources and control measures of air contaminants which may be found on site as a result of our work. Williams will retain the services of a certified Industrial Hygienist to design and exhaust system based on the size of the tunnel to adequately provide required air changes to control smoke from welding activities. Hygienist information will be provided prior to the commencement of welding activities. Air permits and approvals necessary for construction and operation shall be secured, as well. Additionally, WSS shall be responsible for the following:

1. Document monitoring, recordkeeping, and reporting requirements.
2. Architectural coatings shall meet applicable volatile organic compounds (VOC) content limitations.
3. Surface coatings containing asbestos are not permitted unless authorized Con Edison.
4. Equipment shall be designed and operated to ensure that exhaust has opacity less than any applicable regulation or permit limit.
5. Motor vehicles exhaust shall meet all applicable emission limits
6. Verify use of solvent or other materials comply with applicable VOC limits. (Including storage, emissions and equipment specifications.)
7. Fuels transported, stored, or burned shall meet applicable limitations on sulfur content, waste content, gasoline volatility and oxygen content, particulate matter (PM), nitrogen oxides (NOx), and VOC emission limitations, exhaust opacity, equipment requirements and testing, monitoring, recordkeeping, and reporting.
8. Procedures for storage and transfer of petroleum or volatile organic liquids shall meet specific emission control equipment requirements and performance requirements.

9. Facilities storing and dispensing gasoline may be required to comply with specific equipment and vapor recovery emission control requirements.
10. Commercial and consumer products supplied to or used on Con Edison property as part of the project shall comply with any applicable VOC content limitations.
11. Ozone depleting chemicals shall be controlled and disposed of in accordance with the United States Environmental Protection Agency (USEPA) regulations.
12. If required, an electrical Air Compressor will be utilized to supplement existing plant compressed air.

3.0 ASBESTOS AWARENESS

See attached job specific work plan for ACM removals

Asbestos awareness training shall be provided for all personnel working in areas that may contain ACM. All WSS workers shall be aware of surrounding areas which may contain asbestos. All WSS personnel and subcontractors shall be trained in hazard awareness associated with the presence of ACM. No WSS and/or subcontractor personnel shall be engaged in any handling/ abatement of any ACM. WSS project supervision is required to ensure that ACM is not inadvertently contacted or disturbed. WSS shall notify Con Edison site representative immediately if suspected ACM is unexpectedly encountered or disturbed.

Suspect materials shall be assumed to be ACM until results of sampling by a certified individual and analysis by a certified lab proves the material to be non-ACM, or historical documentation shows the material to be non-asbestos containing.

When WSS or its subcontractor personnel contacts or disturbs ACM; WSS shall develop an Asbestos Abatement Work Plan that outlines the procedures for planning and completing the project/activity and shall submit the Work Plan to the Con Edison Asbestos Project Coordinator for approval. Proper filing of all required federal, state and local Asbestos Project Notifications and fees for projects that shall disturb ACM shall be filed by Corp EH&S Asbestos Group unless it is designated that contractor shall do so.

It has been determined that the North 42" pipe contains ACM (LIRO Report) Williams has developed a plan to abate approximately 72 stripes around the pipe

4.0 BLOODBORNE PATHOGEN EXPOSURE PLAN (BBP) / FIRST AID/ CPR

WSS shall report all injuries/illnesses immediately to the Con Edison representative, regardless of the severity. For any serious injury, WSS shall call the local emergency contact number or 911 as appropriate. All Williams Specialty Services employees with reasonable risk of exposure shall be trained in OSHA's BBP Standard. Williams Specialty Services shall provide a well-stocked First Aid Kit suitable for the manpower on site. An OSHA approved BBP Control Kit shall be furnished to accommodate any injury causing potential blood exposure. Universal precautions (i.e. treat all potentially infectious material as if it were infected) shall be used at all times. Proper PPE shall be used at all times when there is a chance for exposure to infectious materials. Hand-washing facilities or products shall be made readily available to employees (at no cost to the employee). All infectious material shall be placed in appropriate, labeled containers and disposed of properly.

Any BBP generated by WSS will be disposed of by WSS. All infected equipment and surfaces shall be decontaminated with an appropriate disinfecting solution prior to re-use.

5.0 CHEMICAL SAFETY & HANDLING

Williams is currently working on a detailed list of materials and chemicals that will be used for this project. Williams understands that only Con Edison approved products will be allowed on site. Williams will provide Con Edison with product data sheets along with SDS sheets for any chemical or product that they intend to use. Only CE approved products will be used.

All chemicals will be stored in flammable storage cabinets. Oxygen and acetylene bottles will be stored in steel cages. Oxygen and acetylene will be used for cutting new pipe sections and will be performed outside of the tunnel. No torch use is anticipated in the tunnel. This activity is scheduled to start in May of 2022. Williams will provide Con Edison with the FDNY/ DEP permit if required prior to bringing and bottles on site.

Workers shall have knowledge of the physical properties, hazards and PPE required when exposed to or handling any materials or chemicals used on this Con Ed site. All workers shall follow all requirements for chemical safety and handling as prescribed by the SDS supplied by the manufacturer. Work area control measures shall be employed to isolate any potential exposures to other workers in the surrounding areas. Proper PPE shall be provided with any necessary training pertaining to the equipment in use. PPE shall be provided to all WSS workers at no cost to the employee.

All chemical spills at the Bronx River Site facility shall be reported to a Con Edison authorized representative immediately upon discovery.

WSS shall provide to Con Edison a complete inventory of chemicals brought on site. WSS shall have all SDS for the material at the Bronx River Job Site. All chemicals must be approved by Con Edison before being brought on site.

Chemicals and containers shall be properly stored and maintained while on site.

At the end of the project, WSS shall remove any chemicals that were not used.

6.0 CLOSE CALL AND TIME OUT PROGRAM

A "Close Call" event is defined as a work activity that has a reasonable potential to result in an imminent or eventual accident and or environmental release. Close calls provide a timely recognition of methodology, equipment or material deficiencies associated with a given work task. Upon recognition of a "Close Call" event; a local work area time out shall be implemented immediately. Immediate notification shall be made to the respective Con Edison representative and WSS Project Superintendent. Prior to re-authorization of the local work activity; an assessment of the "Close Call" circumstances shall be made. Preventative measures shall be unanimously agreed upon prior to restart with a Job Safety Briefing conducted by the respective Con Ed representative, WSS Supervision and respective project participants. Additional briefings, if applicable, shall be given to all project participants in a timely manner.

All project participants are empowered to declare a work activity “Time Out” upon recognition of an impending safety or environmental hazard (i.e. spill or exposure). An individual declaring a “Time Out” shall under no circumstance be the recipient of employer to employee retribution. A “Time Out” shall result in an immediate cessation of the respective work activity and a prompt notification to both the WSS Superintendent and the Con Edison Field Representative. *Project personnel shall be made aware that non-emergency situations shall be discussed with WSS Supervision FIRST.*

“Time Outs” are intended for emergency situations where there is an Immediate Danger to Life and Health (IDLH).

Prior to re-authorization of the respective work activity, a “Time Out” investigation shall be conducted with corrective and preventative actions discussed and implemented.

7.0 CONFINED SPACE PROGRAM

Not Applicable to this Project See project specific EH&S checklist. (Not required)

8.0 DRUG AND ALCOHOL PROGRAM

Williams Specialty Services maintains a Zero Tolerance concerning the use of drugs and alcohol. All personnel shall be required to consent to a pre-employment drug screening prior to access on site. Williams Specialty Services employs the services of a third party provider to administer this program. Drug and Alcohol screening shall be performed at random, as well.

Any worker who does not successfully meet the requirements of the Drug and Alcohol Program shall be prohibited from working on this or any other Con Edison projects.

9.0 ELECTRICAL ENCLOSED SPACES

Not Applicable to this Project

10.0 ELECTRICAL SAFETY

- All electrical hazards on this project shall be identified and corrected and only properly licensed electricians may perform any electrical work on Con Edison projects.
- In order to perform work at this facility, WSS and its subcontractors shall, at least, meet the following requirements:
 - No electrical equipment shall be used on or around live gas lines.
 - All workers who perform work on energized equipment shall be trained in the requirements of 1910.269.
 - Workspaces, walkways, and similar locations shall be kept free of electric cords and tools.
 - Equipment shall not be stored around electrical cabinets in such a manner that it might prevent or impede access.
 - Workers shall inspect all electrical equipment, including extension cords, for the following hazards:
 - a) Missing ground pins on plugs (except double-insulated);
 - b) Insulation pulled free from plugs or support connections;
 - c) Damaged insulation;
 - d) Exposed wires;

- e) Evidence of arcing, sparking, or smoking;
 - f) Proper rating of extension cords; and
 - g) Splices and/or taps, both of which are prohibited on extension cords.
- When any conditions are identified on equipment that makes it unsafe to operate, the equipment shall be removed from the site until repaired by a qualified person.
 - Temporary work site lighting shall be protected from damage.
 - Flexible cords shall be suitable for the condition and location of use and shall be used as appropriate.
 - Three-wire extension cords shall be used and shall be rated for hard or extra-hard use.
 - Power tools shall be inspected prior to use. Any equipment showing cords with cuts or frays shall be immediately tagged out of service and repaired or discarded.
 - Extension cords shall not be fastened with staples, hung on nails, or suspended on wires.
 - Workers shall be trained in the safety-related work practices that pertain to their job and cannot work near electrical hazards without training to recognize and avoid the hazard.
 - Electrical workers shall test all equipment to verify if energy is present.
 - Only qualified, trained workers may test electrical equipment.
 - When working on energized equipment, a lockout/tagout program shall be specified to verify that the equipment is de-energized.
 - Personal protective equipment used by electrical workers shall be appropriate and in good condition.
 - Portable metal ladders and ladders with metal reinforcement are prohibited near energized electrical equipment.
 - **ALL** electrical equipment used on the project (hand tools, etc.) shall be protected with a ground-fault circuit interrupter (GFCI).
 - Materials shall not be stored in transformer vaults.
 - AC and DC wiring systems shall be properly grounded.

11.0 EXCAVATION AND TRENCHING

The purpose of this procedure is to protect WSS employees from serious excavation and trenching hazards and to provide specific requirements for the installation of proper cave-in protection. All sheeting and shoring designs must be PE stamped and approved by Con Edison prior to use.

Without warning, an unsupported, improperly shored trench or excavation can collapse, potentially trapping, injuring, or killing workers. Vibrations or shocks from vehicles, blasting, trains, pile drivers, heavy trucks, and some tools can contribute to cave-ins by loosening the soil. Excavations in sandy or wet soil or areas that have been backfilled are typically unstable and can cause an excavation or trench to collapse if these unstable conditions are not properly addressed. Loads such as materials, equipment, and people on ground edges around an excavation or trench can significantly increase the pressure on the walls, causing the excavation or trench to collapse. Changing weather conditions affect soils in excavations and trenches. Water from rain and melting snow loosens soil and can increase pressure on shoring systems. Excessively dry weather conditions can reduce the cohesiveness of soils.

This summarizes requirements for excavating and trenching associated with the operation and maintenance of electric power generation, control, transformation, transmission, and distribution lines and equipment. The specific requirements that must be met at each site differ depending on the soil classification, the type of work required to be done, and other site-specific considerations.

See attached WSS Procedure # 2500

12.0 FIRE PROTECTION AND PREVENTION

Workers shall employ every precaution necessary to eliminate potential fires. Combustible materials within 25 feet of hot work shall be removed from the area. Work areas shall also be guarded by fire blanket and welding screens to prevent any slag or spark from falling to levels below. Caution tape or other such barricade means shall be used to secure the drop zone immediately below any lower level. An WSS employed Fire Watch possessing a valid FDNY (F-60) Certificate of Fitness shall be employed to monitor any hot work performed, with an area inspection performed 30 minutes following the completion of hot work and a subsequent final area inspection performed 30 minutes later. Materials shall be properly handled and stored with disposal of combustible debris conducted at reasonable intervals so as to minimize any fire hazards. Portable ABC fire extinguishers shall be kept on site in the work area with user training provided to all workers. No Con Ed facility fire extinguishers shall be used in any fashion related to Williams Specialty Services work. Fire extinguisher inventory shall be provided and maintained by Williams Specialty Services. All workers shall be protected by non-synthetic, FR (fire rated) clothing when performing hot work. Each of the fire extinguishers shall be tagged for monthly and annual inspection. Williams will provide and continually update all employee Certificate of fitness cards

13.0 FISH, WILDLIFE AND WETLANDS

The purpose of this procedure is to ensure that all Con Edison activities involving construction, maintenance and operations of facilities, potentially impacting natural resources comply with governing regulations. This includes activities potentially impacting wetlands or other water resources, including dredging, wildlife, and city-owned trees. It is also the policy of WSS not to “take” or impact any wildlife that does not pose a significant health or safety threat to Con Edison employees or the public or does not pose a threat of damage to Con Edison facilities or equipment.

In an Effort to protect waterways and wetlands, Williams will deploy straw bales along with sediment fence around the perimeter of the work site per drawing 606004 at Hunts point and Patterson ave. locations. General housekeeping of the work site will be maintained daily. Should any additional protection be required from Con Edison, details of such protection must be provided by Con Edison

Examples of such activities include, but are not limited to the following:

- ☐ Excavation.
- ☐ Dredging or dewatering;
- ☐ Installation and maintenance of power line rights-of-way, gas pipelines, electric distribution lines, intake pipes, bulkheads, docking facilities, road crossings, culverts, dams, or impoundments; or
- ☐ Vegetation management activities along transmission and distribution lines.

14.0 GAS ENCLOSED SPACES

Not Applicable to this Project

15.0 HEARING CONSERVATION

Hearing protection shall be provided at no cost to WSS workers and shall be worn on site in areas exceeding 90dBAs (over an 8-hour period) or where signage posted requires such protection. Williams Specialty Services shall conduct noise monitoring to determine the proper control methods to apply in each given situation.

The following table is a guide to common noise levels:

DECIBEL - dB(A)		EQUIPMENT
Double protection recommended above 105 dB(A)	112	Pile driver
	110	Air arcing gouging
	108	Impact wrench
	107	Bulldozer - no muffle
	102-104	Air grinder
	102	Crane - uninsulated cab
	101-103	Bulldozer - no cab
	97	Chipping concrete
	96	Circular saw and hammering
	96	Jack hammer
Hearing protection recommended above 85 dB(A)	96	Quick-cut saw
	95	Masonry saw
	94	Compactor - no cab
	90	Crane - insulated cab
	87	Loader/backhoe - insulated cab
	86	Grinder
	85-90	Welding machine
	85	Bulldozer - insulated cab
	60-70	Speaking voice

Table 1: Some typical noise levels found on construction sites

A standard rule-of-thumb for noise states that when standing face-to-face at a distance of 1 to 2 feet, if it is necessary to raise your voice to be heard, the background noise exceeds 85 dBA.

16.0 HEAT STRESS

Proper training and preventive measures shall help avert serious illness and loss of work productivity. Preventing heat stress is particularly important because suffering from heat stroke or heat exhaustion causes a person to be predisposed to additional heat injuries. To avoid heat stress, the following steps shall be used to adjust work schedules:

1. Modify work/rest schedules according to monitoring requirements.
2. Mandate work slowdowns as needed.
3. Rotate personnel.
4. Alternate job functions to minimize overstress or overexertion at one task.

5. Add additional personnel to work teams.

Potable water shall be provided to all personnel to maintain proper hydration.

Key factors that can bring about or aggravate heat stress: Temperature, Humidity, Air Movement, Physical Activity, Clothing Worn, and the Radiant Temperature of the surroundings. Temperature alone seldom causes heat stress.

Signs of heat stress:

Heat Rash: Skin irritation caused by excessive sweating in hot, humid environments

Fainting: Can occur if a person is not used to the hot heat

Heat Cramps: Painful muscle spasms that are caused by lack of salt in the body.

Heat Exhaustion: Illness caused by continued loss of fluid and salt from sweating

Heat Stroke: Medical emergency that occurs when sweating no longer helps the body regulate its internal temperature.

Responses to illnesses due to heat stress:

Heat Rash: Relief comes from bathing affected areas, then drying the skin.

Fainting: Lie down or sit down and put your head between your legs

Heat Cramps: Ease up the work pace before the problem advances to the more dangerous areas of heat exhaustion and stroke.

Heat Exhaustion: Move the victim into a cooler, shaded area. Recline the victim with the feet elevated. Loosen clothing. A conscious person can replenish lost body fluids by drinking cool beverages, slowly but steadily.

Heat Stroke: Contact 911 and do whatever you can to cool the victim off immediately.

Methods of preventing heat stress:

Engineering controls:

- Ventilation, Insulation, Shielding.

Administrative controls can be taken to reduce heat stress:

- Fluid replacement
- Planning jobs for cooler parts of the day
- Frequent breaks and rotating shifts

Acclimation: allowing the body to adjust and tolerate high temperatures better.

17.0 INSULATION MATERIALS (NON-ASBESTOS)

Non-asbestos thermal insulation materials shall be handled by methods that minimize airborne dust and the spread of contamination (e.g., wet methods or HEPA vacuuming). Non-asbestos thermal insulation debris shall be cleaned up using a vacuum equipped with a HEPA filter (Non-Asbestos HEPA Filter Vacuum). Dry sweeping of non-asbestos thermal insulation is prohibited. Compressed air shall not be used for cleaning clothes, machinery, or other surfaces. Wiping surfaces with a damp cloth is recommended as a final decontamination measure. WSS will adhere to Con Edison's Asbestos Management Manual Section 6.31 on Non-Asbestos Thermal Insulation (attached).

18.0 DOCUMENTED JOB BRIEFING

All WSS personnel shall participate in a daily, documented job briefing held at the start of each shift. All existing and predictable hazards associated with the task at hand shall be discussed with control measures and/or PPE identified. All findings shall be in place prior to engaging in any work activity. Daily Job Briefings shall be conducted by the craft foreman on behalf of his crew.

CONTRACTOR VERIFICATION OF WORK PERMIT / JOB BRIEFING FORM

Station: _____ Permit Number: _____

Con Edison Authorized Permit Holder: _____ Emp #: _____

I have reviewed the requirements of the Work Permit and I fully understand the requirements and can explain the scope of work and limitation to my workers.

Contractor Supervisor:

Contractor: _____ Date: _____ Time: _____

Print Name _____ Signature _____

Description of Work Being Performed: _____

Contractor Worker's Signature

Your signature is an acknowledgement that you received a *Daily Job Briefing* that included the daily scope of Work, Work Permit requirements including a field walk identifying protection and area hazards, work procedures, hazard associated with the task(s), and PPE requirements and that you understand all safety requirements when working in the station.

Company	Badge #	Print Name	Signature	Date

19.0 LEAD MANAGEMENT PROGRAM

Due to the incidental work activities involving the disturbance of paint; Lead Awareness training shall be provided to personnel whose jobs do not involve the handling or abatement of Lead containing materials. This training shall identify the locations and quantities of Lead containing materials and the procedures to follow to minimize contact with and exposures to lead. Appropriate PPE shall be provided to each affected worker at no cost to the employee. Any disturbance of Lead containing material (Paint) shall be contained (via plasticization). When vacuuming is necessary to clean-up lead or debris, only High-Efficiency Particulate Air (HEPA) –equipped vacuums shall be used.

ALL PAINTED OR COATED SURFACES MUST BE ASSUMED TO CONTAIN LEAD, UNLESS DOCUMENTED LABORATORY OR MANUFACTURER DATA PROVES OTHERWISE.

CONTRACTOR PERSONNEL SHALL NOT CONDUCT LEAD ABATEMENT ACTIVITIES, UNLESS THIS IS THE STATED INTENT OF THE REQUIRED WORK AND ALL OF THE REQUIRED LEAD REQUIREMENTS INCLUDING LICENSES, PERMITS, AND TRAINING HAVE BEEN MET TO THE SATISFACTION OF THE CON EDISON REPRESENTATIVE.

For any activity identified as potentially causing airborne concentrations of lead, an initial exposure assessment shall be performed by a Lead Competent Person (LCP) to determine the exposures of personnel to lead.

Appropriate personal protective equipment (PPE) that prevents contamination of employees and their garments shall be provided to employees exposed to lead.

When planned work may result in the disturbance of lead-containing material, a controlled area shall be established around the worksite that is demarcated by barricades or barrier tape and restricts access to only authorized individuals.

Personnel crossing into the controlled area shall wear the required PPE and all PPE shall be removed before personnel exit the controlled area.

Lead warning signs shall be posted at the boundary of the work area.

Polyethylene sheeting shall be placed beneath and directly adjacent to the work area prior to commencing work that may disturb paint or similar materials.

For the duration of work, all surfaces in the work area, including floors and other surfaces, shall be maintained as free as practicable of accumulations of lead-containing paint chips, dust, and debris.

Affected surfaces shall be wetted down, and plastic or a similar material shall be placed around the work area to contain paint chips and debris.

This area shall not be cleaned by sweeping or using compressed air.

When vacuuming is necessary to clean up lead or debris, only High-Efficiency Particulate Air (HEPA)-equipped vacuums shall be used. Shop vacuums are unacceptable for this purpose.

Incidental lead-based paint disturbance may result from the use of the following tools:

- Pipe wrench or other wrenches (excluding impact guns)
- Drills.
- Slugging hammer.
- Hydraulic bolting equipment.
- Equipment removal tools (i.e., pry bar, chain hoist, pipe clamps, jacks).
- Wheel pipe cutter or threader.

The primary engineering controls to reduce employee exposure are enclosures, wet methods, local exhaust ventilation, shrouded local exhaust on power tools attached to HEPA filters and HEPA vacuums.

When welding, torch cutting, or burning is conducted, lead-based paint shall be removed a minimum of 4 inches on either side of the heat application area prior to the start of work.

Eating, drinking, smoking, or chewing gum in the work area is strictly prohibited.

Personnel shall wash their face and hands prior to eating, drinking, or smoking.

All handling, storage, and disposal of lead-containing waste shall be conducted as required by local, state and federal regulations.

Employees who may be exposed to lead shall be offered an annual medical evaluation.

20.0 MANAGEMENT of CHANGE

Williams Specialty Services shall notify the Con Edison Authorized Representative of any change in working conditions that could affect compliance with environmental or health and safety requirements as soon as the changed conditions are identified. Williams Specialty Services shall identify the contingencies they have prepared for managed change. All personnel shall be appropriately trained to perform their job function under the changed conditions prior to being allowed to work under the changed conditions. Subcontractors shall be held to the management of change procedures outlined by Williams Specialty Services. Project changes may require conducting additional job safety briefings or submitting an eHASP addendum for approval of new work methods, procedures, or materials.

21.0 MATERIALS HANDLING

Williams will provide Con Edison with P.E. approved engineering shop drawings/calculation sheets, as well as rigging plans as required throughout the project. They must be in accordance with OSHA, and Con Edison Specifications. Changes to the system will warrant revised calculations, drawings, and inspections. The master rigger will need to be on site for additional inspection. When the master rigger is not on site, they will have a qualified Rigging Foreman and follow the CE rigging specification 3400-13794.

Williams will also include a PE Designed Basket as part of their rigging plan to lower equipment & materials into the shafts.

Most material handling activities for this project will be performed using a 50-ton crane. Williams will utilize the services of Bay Crane and a certified master rigger when required. Signaling of the crane will be performed using line of sight hand signals as well as radio communication. Pre job meetings will be performed by all crafts involved with the lift and details will be provided in the rigging plan as well as the pre job briefings.

All rigging devices including slings, chain falls, and come alongs shall be inspected by a trained and qualified individual, additionally this equipment will possess current rating and inspection tags. Whenever possible, materials shall be lifted, hoisted and positioned mechanically (chain falls, fork trucks) rather than by manual effort. Lifting devices shall be inspected, certified and labeled to confirm their weight capacities. All equipment shall be inspected prior to use by the operator and operated within the manufacturers' specifications. Defective equipment shall be taken out of service immediately and repaired or destroyed. Personnel shall not pass under a raised load, nor shall a suspended load be left unattended.

- Personnel shall not be carried on lifting or hoisting equipment, unless it is specifically designed to carry passengers.
- The wheels of the trucks or vehicles that are being loaded or unloaded shall be chocked to prevent inadvertent movement.
- The lift and swing path of a crane shall be watched and maintained clear of obstructions.
- Accessible areas within the swing radius of a crane shall be guarded or barricaded.
- All reciprocating, rotating, or other moving parts shall be guarded at all times.
- Accessible fire extinguishers shall be available in the immediate proximity of all mechanical lifting devices.
- Lifting devices shall never be left near the edge of excavations or unstable areas.
- Mobile lifting equipment, equipped with outriggers shall be positioned and the outriggers deployed and secured before any lifting or hoisting work is begun.
- Operations near overhead power lines are prohibited unless the power source has been shut off and locked out/tagged out or the appropriate clearance distances are maintained.
- Cranes may only be moved when directed by a qualified signal person.
- Wire ropes shall be removed from service when any abrasion, scrubbing, evidences of corrosion, kinking, crushing, bird caging, or other damage exists.
- Only trained, authorized individuals shall be permitted to operate fork trucks.
- Unsafe behavior while driving a fork truck is not permitted.
- Each fork truck shall be provided with an overhead guard.

- All mobile lifting devices shall be equipped with an audible backup warning device.
- All traffic regulations shall be observed when a lifting device is in operation.
- Only authorized personnel shall refill liquefied petroleum gas (LPG) tanks on fork trucks.
- Employees involved in heavy lifting shall be properly trained in lifting procedures and should be physically qualified to protect the person and the material.
- Tiered or stacked material shall be stored within acceptable height limits to avoid tripping, falling or collapse.
- Only material that shall be immediately used may be stored on scaffolds or runways.
- Personnel shall be trained in the procedures used for material handling. This training shall address the requirements of applicable regulations, for example the training of personnel who operate powered industrial trucks.

22.0 MECHANICAL EQUIPMENT

All power tools and hand tools shall be visually inspected prior to use. Any piece of equipment provided with a manufacturer supplied guard shall be operated in accordance with manufacturers specifications. At no time shall a machine guard be defeated or altered. All chain hoists shall be operated within the safe rated load stated by the manufacturer.

- Only workers who have been trained in the use of a particular tool may operate that tool.
- All hand and power tools shall be inspected prior to use to ensure proper operation and satisfactory condition. This includes:
 - Wrenches of any kind shall be removed from the project site when the jaws are worn to the point where slippage may occur.
 - Mushroomed heads on impact tools (chisels, etc.) shall be repaired or the tools removed from the site.
 - Wooden tool handles shall be free of splinters and cracks and be tightly secured in the tool.
- All hand and power tools that are damaged shall be immediately removed from the job site until they are repaired.
- Removing any guards attached to a power tool and using a power tool without its guards shall be prohibited.
- Moving parts of equipment (belts, pulleys, shafts, etc.) shall have guards that comply with the appropriate American National Standards Institute (ANSI) standards.
- Workers who are exposed to flying objects, dust, fumes, vapors, etc. when using hand or power tools shall wear the appropriate personal protective equipment (PPE).
- All hand and power tools shall be used for their intended purpose only.
- Electric hand tools shall be double insulated or grounded and protected by a ground-fault circuit interrupter (GFCI).

- All fixed electric tools shall have a disconnect switch that can be locked or tagged in the off position.
- The use of compressed air for personal cleaning is prohibited.
- All pneumatic hand tools shall be equipped with a safety device on the muzzle to prevent accidental discharge and be secured to the air line with a safety chain or other means to prevent accidental disconnect.
- Fuel-powered hand tools shall be turned off and allowed to cool prior to being refueled or serviced. Fuel-powered tools are not permitted for use indoors.
- Grinding machines shall be guarded in accordance with applicable ANSI standards.
- Work rests on stationary grinders shall be within inch of the grinding wheel surface and the tongue guard shall be within ¼ inch of the grinding wheel surface.
- The manufacturer's capacity rating shall be marked on all jacks and shall never be exceeded.
- As soon as a load has been raised by a jack, the load shall be cribbed, blocked, or otherwise secured.

23.0 MERCURY MANAGEMENT PROGRAM

Not Applicable to this Project

24.0 SILICA - Overview

This section applies to all occupational exposures to respirable crystalline silica in construction work, except where employee exposure will remain below 25 micrograms per cubic meter of air (25 µg/m³) as an 8-hour time-weighted average (TWA) under any foreseeable conditions.

Crystalline silica is an important industrial material found abundantly in the earth's crust. Quartz, the most common form of silica, is a component of sand, stone, rock, concrete, brick, block, and mortar. Materials containing quartz are found in a wide variety of workplaces.

Silica dust is hazardous when very small (respirable) particles are inhaled. These respirable dust particles can penetrate deep into the lungs and cause disabling and sometimes fatal lung diseases, including silicosis and lung cancer, as well as kidney disease.

The most severe exposures to crystalline silica result from sandblasting to remove paint and rust from stone buildings, metal bridges, tanks, and other surfaces. Other activities that may produce crystalline silica dust include jack hammering, rock/well drilling, concrete mixing, concrete drilling, and brick, ceramic tile, rock, stone, and concrete block cutting and sawing. Tunneling operations; repair or replacement of linings of rotary kilns and cupola furnaces are also potential sources of crystalline silica exposure.

Minimum Respirable Crystalline Silica Requirements

Written Exposure Control Plan

Williams has established and implemented a written exposure control plan that contains at least the following elements:

- A description of the tasks in the workplace that involve exposure to respirable crystalline silica;
- A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to respirable crystalline silica for each task;

- A description of the housekeeping measures used to limit employee exposure to respirable crystalline silica; and
 - A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to respirable crystalline silica and their level of exposure, including exposures generated by other employers or sole proprietors.
- Williams reviews and evaluates the effectiveness of the written exposure control plan at least annually and updates it as necessary.
- Williams makes the written exposure control plan readily available for examination and copying, upon request, to each employee covered by this section and their designated representatives.
- Williams has designated a competent person to make frequent and regular inspections of job sites, materials, and equipment to implement the written exposure control plan.
- Where respirators are required by this section, Williams has instituted a respiratory protection program in accordance with 29 CFR 1910.134.

Competent Person

Williams has designated Michael Cutro as the Competent Person for implementation of the company's written exposure control plan. The Competent Person must be capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace and has authorization to take prompt corrective measures to eliminate or minimize them. The competent person has the knowledge and ability necessary to fulfill the responsibilities set forth in written exposure control plan. This plan must be kept on site during all project work.

Housekeeping

Williams shall not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to respirable crystalline silica unless wet sweeping, HEPA- filtered vacuuming or other methods that minimize the likelihood of exposure are not feasible.

Williams shall not allow compressed air to be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica unless:

- The compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air; or
- No alternative method is feasible. Table 1 Tasks

For each employee engaged in a task identified on Table 1, Williams shall fully and properly implement the engineering controls, work practices, and respiratory protection specified for the task on Table 1, unless Williams assesses and limits the exposure of the employee to respirable crystalline silica in accordance with paragraph (d) of 1926.1153.

See attached WSS procedure # 1550

25.0 Oil and Dielectric Fluid

To prevent the potential for spills, all gas-powered equipment will have a spill containment dyke in place when equipment is not in use (forklift, welder, ETC.). Welding machine and compressor

will always have containment in place. All spills will be reported to Con Edison site representation immediately

26.0 Operator Qualifications

NGA Operator Qualification

27.0 PCB MANAGEMENT

All paint contains PCBs. All workers shall have Lead / PCB Awareness Training. This will be the extent to which WSS has any involvement with PCBs.

28.0 PERSONAL PROTECTIVE EQUIPMENT

The results of a hazard assessment shall be communicated to all Williams Specialty Services personnel prior to the start of work or if conditions should change. All workers shall be trained in the proper selection, use and care of PPE. PPE is as follows: Workers are required to always wear hard hats and safety glasses during working hours. The North gate will be considered entry point of the job site. All Williams employees, sub-contractors and vendors are required to meet this requirement. A sign will be posted on the north gate that states PPE is required beyond this point.

1. ANSI approved eye and head protection is required.
2. Hand protection (as needed).
3. Hearing Protection (as required or posted).
4. Proper work shoes or boots. (ANSI approved above ankle height)
5. Fire Retardant (FR rated) protective clothing (as per NFPA)
6. Respiratory protection as required, at a minimum shall be a “dust and mist” type respirator similar to 3M’s 8710.
7. No white or Con Ed blue hardhats are allowed to be worn.
8. Natural fiber clothing and long sleeve shirts will be worn at all times while working in the plant.
9. Include PPE required for welding/burning/hotwork.
10. Fall Protection harnesses and lanyards (as needed).

“Con Edison maintains a “zero” tolerance for individuals who fail to wear the proper PPE at their sites. “Zero Tolerance Failure to Wear PPE” – If an employee is found not complying with any one of the stipulated PPE requirements, the on-site Con Edison representative will inform the superintendent or foreman of the violation. The Con Edison representative will record the employee name and the offender will be sent off-site for the remainder of the work shift on a first offense. A second noncompliance PPE violation by the same employee will result in that employee being removed from the project permanently, and an infraction report will be issued to WSS. Multiple PPE violations will be subject to further disciplinary actions, including but not limited to an action line, requiring WSS to submit a written corrective action plan to Con Edison.”

29.0 PESTICIDE USE, STORAGE, DISPOSAL

Not Applicable to this Project

30.0 RESPIRATORY PROTECTION PROGRAM

All workers shall have valid training on the proper selection, use and care of respiratory equipment. Workers shall also be aware of the respiratory hazards associated with the scope of work being performed. In addition, workers shall possess current fit test credentials, current within the past twelve months. All respiratory protective equipment shall be inspected, maintained, cleaned, disinfected, and stored according to the manufacturers' directions and applicable OSHA standards.

- All medical and fit test documentation shall be made available on site for inspection at any time.

See attached RPP 1620

31.0 SAMPLING

See attached LIRO report SPO5488114 asbestos survey report

32.0 CLOSE CALL AND TIME OUT PROGRAM

A "Close Call" event is defined as a work activity that has a reasonable potential to result in an imminent or eventual accident and or environmental release. Close calls provide a timely recognition of methodology, equipment or material deficiencies associated with a given work task. Upon recognition of a "Close Call" event; a local work area time out shall be implemented immediately. Immediate notification shall be made to the respective Con Edison representative and WSS Project Superintendent. Prior to re-authorization of the local work activity; an assessment of the "Close Call" circumstances shall be made. Preventative measures shall be unanimously agreed upon prior to restart with a Job Safety Briefing conducted by the respective Con Ed representative, WSS Supervision and respective project participants. Additional briefings, if applicable, shall be given to all project participants in a timely manner.

All project participants are empowered to declare a work activity "Time Out" upon recognition of an impending safety or environmental hazard (i.e. spill or exposure). An individual declaring a "Time Out" shall under no circumstance be the recipient of employer to employee retribution. A "Time Out" shall result in an immediate cessation of the respective work activity and a prompt notification to both the WSS Superintendent and the Con Edison Field Representative. *Project personnel shall be made aware that non-emergency situations shall be discussed with WSS Supervision FIRST.*

"Time Outs" are intended for emergency situations where there is an Immediate Danger to Life and Health (IDLH).

Prior to re-authorization of the respective work activity, a "Time Out" investigation shall be conducted with corrective and preventative actions discussed and implemented.

33.0 VEHICLE MANAGEMENT

All applicable personnel shall possess valid Commercial Driver Licenses. Only trained and qualified workers shall operate any piece of motorized equipment. Personnel shall operate only the equipment for which they are trained. When transporting a loaded forklift; a flagman shall

escort the truck ensuring safe operation. Any Powered Industrial Truck (PIT) brought on site shall be inspected prior to its use. Vehicles shall be inspected prior to use and removed from service if deficiencies exist. All vehicles shall be free of leaks. Contact the Con Edison site representative immediately if any leaks occur.

34.0 WASTE MANAGEMENT

The 42" South pipe that is being removed has levels of PCB's & Lead within the exterior pipe coatings. Refer to document LiRo dated October 26, 2016 and CE sample report dated 8/20/20 for sample results. The contractor will dispose the pipe at an approved Con Edison recycling facility. The contractor will provide the recycling facility these reports to ensure they can accept the waste based on the samples. Prior to cutting of this pipe, contractor shall tape the cut point with 6" wide strip around entire circumference and any area on pipe that might get disturbed by cutting operation. Contractor shall place poly beneath each cut point to collect any debris that may fall. All waste that is collected shall be placed into a drum and disposed per regulatory requirements based on samples.

The following facility will be utilized for the South pipe
Allocco Recycling
540 Kingsland avenue
Brooklyn, NY 11222

The 42" North pipe that is being removed has levels of Asbestos
Asbestos report identified ACM Material on the exterior of piping. Williams / DELTA will abate cut locations and remove piping. Pipe will be disposed of at a Con Edison approved facility (see below)

After pipe is cut and prior to moving the pipe from its current position, the contractor shall fully wrap each section of pipe with poly. The contractor shall arrange for disposal of this pipe thru a CE approved recycling facility

The following facility will be utilized for the North pipe.
Waste Management
Fairless landfill
1000 New Ford Mill Road
Morrisville, PA 19067

Con Edison reserves the right to take title to all wastes and recyclables generated by the contractor's activities at Con Edison facilities and work sites.

Williams Specialty Services shall comply with all applicable requirements for hazardous wastes generated, which may be with the assistance of Con Edison representatives, including:

- Characterizing the waste, managing accumulated and stored waste.
- Labeling of containers, storing the waste, inspecting the storage areas.
- Filling out manifests and Land Disposal Restriction (LDR) forms.
- Contractor employees shall be trained in hazardous waste requirements and emergency response.
- Ensuring that waste is disposed of and transported using Con Edison approved treatment, storage, and disposal facilities and transporters.
- Ensuring that reports and records are maintained.

Wastes shall be segregated when stored to prevent mixing of waste types. Any Hazardous Waste generated on the project must be disposed of through 60th Street Station EH&S.

Dumpsters / roll off containers used for storing waste will be properly maintained, sized for the expected waste generation, and covered (with lids, doors, and/or tarps).

Security measures shall be implemented to prevent non-authorized personnel from tampering with wastes.

Department of Transportation (DOT) requirements regarding waste packaging, shipping and transport, including container selection and vehicle placards shall be followed when shipping waste off-site.

WSS shall provide copies of all shipping papers and certificates of disposal that are obtained and prepared for waste.

35.0 WATER RESOURCES

Water resources, including oceans, estuaries, rivers, lakes, reservoirs, ponds (ephemeral and permanent), streams, and freshwater wetlands and tidal wetlands, are regulated by federal, state, and, in many cases, local laws. New York State and certain municipalities also regulate activities in areas adjacent to wetlands (buffers or adjacent areas) and other water resources. These regulations often overlap, so that an understanding of jurisdiction is important to ensuring compliance. Permit requirements are project-specific and obtaining necessary permits is often a lengthy process, therefore, the facility or project manager responsible for compliance must coordinate with Environment, Health and Safety (EH&S) well before engaging in activities in or adjacent to any wetland or waterway. The permitting requirements governing these activities are summarized in below.

Note: This CEHSP focuses primarily on federal and New York State laws regulating activities in and adjacent to wetlands. As noted above, however, various local governments in Con Edison's service area also have adopted laws regulating these activities. These local laws can be accessed at EH&S Natural Resource Page - Wetlands or contact EHS directly.

36.0 WELDING and BURNING

All hot work shall be performed by trained and qualified workers carrying valid FDNY Certificates of Fitness/Torch Operators (F-60/G-60). All appropriate controls shall be employed to minimize workers exposure to hazards related to hot work (i.e. welding screens, PPE/ FR rated protective clothing, welding leathers or jackets, machine guards, etc.). All work performed shall be supervised by certified Fire Guards conducting a post inspection (30) minutes following hot work completion. A Fire Guard checklist shall be completed documenting the inspection. Compressed gas cylinders shall be utilized and stored properly in approved carts secured by chain when in use with flashback arrestors in place at the gauge side of the outfit. Cylinders shall be capped and stored in approved cages separating oxygen from acetylene by a distance of at least 20 ft.

Prior to hot work operation, permission is required from the Con Edison Bronx River project supervisor and the required work permits shall be secured from appropriate Con Edison

FIRE GUARD CHECKLIST

NAME: _____ (Print Name) FDNY CERTIFICATE #: _____ (IF APPLICABLE)

DATE: _____ LOCATION: _____

Yes No

1 Are sufficient fire extinguishers on hand (at least one for each torch)?

☐ ☐

2 Are all cylinders with regulators secured by chain?

☐ ☐

3 Combustible material such as wood, paper cardboard, trash containers, drums of oil, etc. must be kept at least 35 feet away from burning operations or install protective covers such as fire blanket or other non-combustible shields.

☐ ☐

4 Only those cylinders in use are permitted at the work site

☐ ☐

5 Are all oxygen and fuel gas cylinders, hose and torches in your visual site at all times?

☐ ☐

6 At the end of the shift, did you conduct an initial inspection of exposed areas 30 minutes after completion of torch operations?

☐ ☐

COMPLETED FIRST INSPECTION?

☐
(initials)

COMMENTS: _____

Yes No

7 Did you conduct a final inspection 30 minutes after the first initial inspection (if not relieved by a second shift Fire Guard?) (applicable to FDNY)

☐ ☐

COMPLETED SECOND INSPECTION?

☐
(initials)

COMMENTS: _____

SIGNATURE OF FIRE GUARD: _____

NOTE: Completed form must be returned to the Superintendent

Employees shall use appropriate PPE and proper ventilation systems for protection against hazards of hot work. Portable Fume Extractors will be utilized as required when welding in confined spaces.

Employees shall inspect all welding and cutting equipment prior to use. Equipment shall be inspected during work, as required.

If the object to be cut or welded cannot readily be moved, all movable fire hazards within 35 feet of the welding or cutting shall be taken to a safe place and made fire safe using welding blankets and shields. Welding shields will be set up in any area where unprotected workers could be exposed to dangerous light.

Cutting or welding shall not be permitted in the presence of explosive atmospheres or in an area where combustible gases, liquids, or dusts could accumulate.

Approved ground leads shall be used when arc welding.

Cables with splices within 10 feet of the holder shall not be used.

When arc welding is performed in wet conditions or under conditions of high humidity, special protection against electric shock shall be provided.

A Fire Guard Checklist shall be maintained at all times while conducting Hot Work operations and is attached below.

37.0 WORK AREA PROTECTION

Prior to the headhouse demolition, Williams provide a sketch of our proposed means of erecting a hard wall structure around both shafts. The design at a minimum will consist of 8'x2"x4" 16"OC walls with exterior plywood walls. There will be one lockable door to prevent unauthorized entry. The contractor will design a roofing system that will be pitched to allow for rain runoff and should also be fabricated to allow for easy access for lowering of material/equipment. At no time can the roofing system be open to the elements at the end of work shift. Contractor may use a tarp for their roof system, however, there will need to be cross members installed to ensure tarp is supported. The placement and size of these structures will be designed for easy access and workable clearances. Williams will submit an engineered detailed sketch of the structure for approval prior

Site work zones shall be established at each work area before work is conducted. The work zone sites shall consist of a designated area marked off by, barrier tape with proper signage. The areas surrounding the perimeter of the work area shall be covered to prevent any debris, spark or other material from falling to lower levels.

38.0 WORKING at ELEVATIONS

All workers shall be trained in fall protection in compliance with OSHA 29CFR 1926 Subpart M. Unless enclosed by an approved guardrail system AT ANY HEIGHT ABOVE 6 FEET; workers shall be outfitted with a PFAS utilizing a double shock-absorbing lanyard maintaining 100% TIE-OFF. Anchorage points shall be approved by Con Edison. Ladders in use shall be set-up properly, tied-off at the top with 36" above upper elevations at a minimum. Scaffolds shall be furnished and erected in accordance with applicable standards for persons engaged in work that cannot be done safely from the ground or from solid construction. Except that ladders used for such work shall conform to ladder safety standards. Williams Specialty Services and its scaffolding sub will follow all procedures as outlined in *Con Ed Specifications*. Scaffold competent individuals will inspect the scaffold prior to each shift and it will be documented via an appropriate tag. All workers shall be trained in proper use of scaffolds, including review of inspection tags before mounting. See attached Fall Protection Guideline GEHSI S18.00

39.0 RULES WE LIVE BY

Williams Specialty Services shall comply with and support the Con Edison RWLB Program as set forth in the following pages:

CORPORATE ENVIRONMENTAL, HEALTH AND SAFETY PROCEDURE

CEHSP A32.00 – Rules We Live By

Revision Date: 03/18/2021 Effective Date: 5/20/2021

CONTENTS

SECTION 1.0 – PURPOSE

SECTION 2.0 – APPLICABILITY

SECTION 3.0 – INTRODUCTION

SECTION 4.0 – COMPLIANCE REQUIREMENTS

4.1 – RULES WE LIVE BY IDENTIFICATION, TRAINING AND REPORTING

4.1.1 – IDENTIFICATION

4.1.2 – TRAINING AND COMMUNICATION

4.1.3 – REPORTING AND INVESTIGATION

4.2 – VIOLATION OF A RULE WE LIVE BY

4.3 – DEFINITIONS

RULES WE LIVE BY TABLE

RULES WE LIVE BY:

1.0 PURPOSE

This procedure establishes a consistent approach to communicating and reinforcing the importance of following critical safety work practices designed to protect employees, contractors, and the public.

2.0 Applicability

This Environmental, Health and Safety Procedure (CEHSP) applies to all Con Edison employees (management and union) and contractor employees working for Con Edison.

3.0 INTRODUCTION

There are safety and operational procedures specifically designed to protect against the potential for significant injury due to energy (e.g., electricity, gas, steam, or falling from

elevation) that must be controlled. Operating groups that work with such sources of energy have identified Rules We Live By. These rules are defined as a work procedure or safety requirement that, if not followed, could result in a severe injury or fatality, or place other individuals (employees or members of the public) at significant risk. At The Learning Center, the RWLB associated with a given activity of an operating department apply.

4.0 COMPLIANCE REQUIREMENTS

4.1 RULES WE LIVE BY IDENTIFICATION, TRAINING, AND REPORTING

4.1.1 IDENTIFICATION

Where work tasks require the safe control of energy sources such as electricity, gas, steam, or work at elevation, the operating organization must identify key procedures required to control or mitigate the effect or impact to the employee, fellow employees, contractor employees or the public. Lessons learned from previous incidents must be considered in the identification process. An organization must notify EH&S, Health and Safety, of any change to a Rule.

4.1.2 TRAINING AND COMMUNICATION

- An organization's Rules We Live By and associated procedures must be reinforced in applicable skills training.
- Each employee in the organization must receive OJT training on the Rules We Live By identified by the organization.
- Rules We Live By must be reinforced, as applicable, in job briefings.
- Rules We Live By must be incorporated into the scope of safety field observations and inspections.
- Where contractor work practices involve Rules We Live By, contractor employees will be trained on the applicable Rules We Live By, reporting procedure, and consequences. The operating organization must communicate the applicable Rules to contractor management and ensure the Rules are incorporated in the eHASP. The contractor supervisor will be required to train their affected employees and subcontractor employees before they begin work.

4.1.3 REPORTING AND INVESTIGATION

If a supervisor observes a Rule We Live By being violated, or is notified of a potential violation, the work must be stopped immediately.

If an employee, not a supervisor, believes a Rule We Live By may have been violated, he/she must stop the work immediately and report the situation to the supervisor of the employee who committed the alleged violation.

Resolution of the alleged violation must follow the Time Out process as defined in CEHSP A28.00 – Calling a Time Out, which includes immediate notification of EH&S.

4.2 VIOLATION OF A RULE WE LIVE BY

A violation of a Rule We Live By will result in significant consequences.

Any employee who witnesses a violation of a Rule We Live By and does not stop the work and report the violation will also be considered to have violated the Rule.

A violation by a contractor company or by a sub-contractor must be reported via an action line by the operating organization with contractor oversight.

The organization must notify EH&S after action has been taken as a result of the violation.

4.3 DEFINITIONS

Con Edison employee: This includes all management and union employees.

Contractor employee: This includes all per-diem contractor employees and those employees working for a contractor company hired by Con Edison.

REVISION HISTORY

Revision Date	Revision #	Summary of Change	Author
1/21/14	2013 Annual Review	CEHSP A32.00.01 RWLB - Table: Permits, Electric Ops – Added language to clarify that entry for work in structures containing d-faulted feeders is permissible after associated source equipment has been de-energized.	G. Slintak
4/23/14	2013, Revision 1	CEHSP A32.00.01 RWLB - Table: Adjusted high hazard PPE rule as applied to Gas Operations in response to 4/22 request. Change clarifies the attachment point for use of PPE (previously associated with "blowing gas," a subjective term).	G. Slintak
5/16/14	2	Combined 'CEHSP A32.00 – Rules We Live By' and 'CEHSP A32.00.01 – Rules We Live By Table' into one document. The table will be an attachment to the procedure.	S. Ng
12/31/14	2014 Annual Review Rev. 3	Edits to reflect organization changes. Minor changes to clarify rules.	W. Capune
12/21/15	2015 Annual Review Rev. 4	Edits to reflect organizational changes in Shared Services. Customer Operations adopted the same language as Electric Operations for High Hazard PPE.	W. Capune
04/06/18	Annual Review Rev. 5	No changes requested. Removed the year (2016) from the RWLB Table. Additional editorial comments added by G.Slintak.	W. Capune

Hazard	Electric Operations	Central Operations	Gas Operations	Customer Operations	Utility Shared Services
Verify Dead/Lockout-Tag Out	Properly test or spear to ensure that electric equipment, cable, or wire is "dead" as required regardless of voltage, before beginning dead work activities.	Properly test or verify that equipment is de-energized, isolated and protected prior to initiating dead work activities.			Properly lock out/tag out equipment before beginning work on the equipment. (when not intentionally live and PPE is required)
Permits (Operating, D-faults)	Enter D-Fault tagged structures only when authorized by the operating authority to perform feeder processing, or to perform work after all D-faults have been identified and de-energized.	<ul style="list-style-type: none"> Only perform work that is within the authorized scope of work as listed on the work permit. Do not change the status of a piece of equipment that has a Stop Tag applied to it. Follow the sequence of an operating order. 		Do not enter a structure that has been classified and tagged as a D-fault.	Only perform work that is within the authorized scope of work as listed on the work permit
Atmospheric Testing	<ul style="list-style-type: none"> Perform air monitoring and ventilate as required for entry and work in an enclosed space or a permit-required confined space. For excavations greater than 4 feet in depth the atmosphere shall be tested prior to entry or when the excavation is not already occupied. 	<ul style="list-style-type: none"> Perform air monitoring and ventilate as required for entry and work in an enclosed space or a permit-required confined space. For excavations greater than 4 feet in depth the atmosphere shall be tested prior to entry or when the excavation is not already occupied. 	<ul style="list-style-type: none"> Perform air monitoring and ventilate as required for entry and work in an enclosed space or a permit-required confined space. For excavations greater than 4 feet in depth the atmosphere shall be tested prior to entry or when the excavation is not already occupied. 	Perform air monitoring and ventilate as required for entry and work in an enclosed space or a permit-required confined space.	Perform air monitoring and ventilate as required for entry and work in an enclosed space or a permit-required confined space.
Rescue/Retrieval	Entrant and attendant are required to wear rescue harness when working in enclosed spaces.	Entrant and attendant are required to wear rescue harness when working in enclosed spaces.	Entrant and attendant working in enclosed spaces shall wear rescue harnesses, when required.	Entrant and attendant are required to wear rescue harness when working in enclosed spaces.	Entrant and attendant are required to wear rescue harness when working in enclosed spaces
High Hazard Energy PPE	<ul style="list-style-type: none"> Use fall protection equipment as required. Use appropriate rubber gloves with protective gauntlets, rubber sleeves, fire retardant clothing and eye/protection face shield as required for the electrical hazard. 	<ul style="list-style-type: none"> Use fall protection equipment as required. Use appropriate rubber gloves, rubber sleeves, fire retardant clothing, and eye protection/face shield as required for the electrical hazard. In Steam Distribution, use appropriate water resistant coveralls and face shields before disconnecting any piping from the dead side of the trap valve up to and including the trap inlet valves and trap bypass valve. These coveralls and face shields must be worn until all piping is reconnected. 	<ul style="list-style-type: none"> Use fall protection equipment as required. Wear airline respirator, FR coveralls, FR hood & FR gloves or liners as required by IP-42 	<ul style="list-style-type: none"> Use fall protection equipment as required. Use appropriate rubber gloves with protective gauntlets, rubber sleeves, fire retardant clothing, and eye protection/face shield as required for electrical hazard. Do not come into contact or move a downed or low hanging utility wire while performing Site Safety or Damage Assessment work. 	<ul style="list-style-type: none"> Use fall protection equipment as required Use the appropriate rubber gloves, rubber sleeves, fire retardant clothing, and eye protection/face shield as required for the electrical hazard
Sheeting/Shoring		Ensure that excavations five feet or deeper are properly sheeted and shored before anyone enters.	Ensure that excavations five feet or deeper are properly sheeted and shored before anyone enters.		
Gas Piping Integrity Test			Perform an integrity test before a customer turn-on.	Perform an integrity test before a customer turn-on.	
Securing Loads					Reels over 5,000lbs (individually or when bundled together) are secured per NYS Metal Coil requirements

40.0 EMERGENCY ACTION PLAN

See attached Evacuation plan.

EMERGENCY CONTACT INFORMATION

❖ **Police Info:**

Precinct 43rd - 900 Farley Avenue Bronx NY 10473
Precinct Phone # (718) 542-0888

❖ **Fire Dept Info:**

FDNY Engine 73, Ladder 42 , 655 Prospect Avenue Bronx NY 10455
Phone # (718) 999-2000

❖ **Hospital:**

NY Lincoln Hospital 234 East 149th Street Bronx NY 10451
Phone # (718) 579-5548

EMERGENCY ASSEMBLY AREA LOCATION:

Primary Location : Outside Con Edison Facility Gate in Chef's Warehouse parking Lot

Secondary Location : Outside Chef's Warehouse entry way guard booth.

Nearest Hospital, and MapQuest Directions

Hunts Point Tunnel Head House: Hunts Point Terminal Market & East Bay Ave Bronx NY

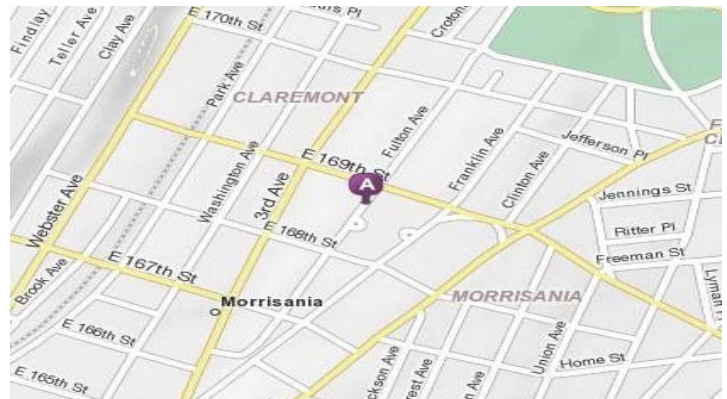
EMERGENCY ASSEMBLY AREA LOCATION: Head House Parking Lot

Emergency Telephone Numbers : 911

Hospital :

Bronx Lebanon Hospital
1276 Fulton Ave Bronx NY

**Hunts Point Tunnel Head House: Hunts Point
Terminal Market & East Bay Ave Bronx NY**



Patterson Ave Head House-Sound View Park (Below Patterson Ave) Accessible from Randall Ave or O'Brien Ave Bronx NY

EMERGENCY ASSEMBLY AREA LOCATION: Bike Path Adjacent to Head House

Hospital : 911
Jacobi Medical Center
1400 Pelham Parkway South
Bronx New York



ATTACHMENTS

Attachment A 1500 Hazard Communication
Attachment B 1630 Occupational Noise Exposure
Attachment C 1600 PPE
Attachment D 1620 Respiratory Protection
Attachment # 1550 Silica
Attachment #2500 Excavation & Trenching

Con Ed “Rules We Live By” Covid Plan

F1100 B Incident Investigation
F1100C Employee Incident Statement
F1100 E Near Miss report
WSS – TSE – Task Safety Evaluation
Evacuation Plan
Tunnel Accountability Plan



1500 HazCom
R11.pdf



1550 Silica R2.pdf



1600 PPE R3.pdf



1620
PPE-Respiratory Prot



1630 PPE-Noise
Exposure R6.pdf



2500 Excavation
and Trenching R8.p



F1100B - Incident
Investigation Report



F1100C Employee
Incident Statement I



F1100D Witness
Incident Statement I



F1100E Near Miss
Incident Report R1.;



NY TSE blank.pdf



1520 Lead R13.pdf



Bronx River Tunnel
36 Gas Main Evacua



Bronx River Tunnel
36 Gas Main Tunnel



GEHSI S18.00 -
Contractor Fall Prot



SPO 5488114 Bronx
River Tunnel Asbest



WRS NF Pipe
Approval draft.doc



Emergency Action
Plan. REV 1pdf.pdf 1



HASP COVID-19
Amendment. pdf.rtf

EXCAVATION, TRENCHING AND SHORING

EHS PROCEDURE #2500

REV. 8

REVISION HISTORY

<u>REVISION</u>	<u>DATE</u>	<u>COMMENTS</u>
1	04-01-91	General Revision
2	10-28-94	General Revision
3	12-26-96	General Revision
4	10-26-00	General Revision
5	03-27-03	General Revision
6	08-01-09	General Revision, Changed procedure #
7	10-04-10	ISN Review
8	04-28-14	General Revision

1.0 PURPOSE

The purpose of this procedure is to provide written instructions for the general protection requirements associated with excavation, trenching and shoring.

2.0 RESPONSIBILITY

Site Manager

The Site Manager is responsible for implementing the provisions of this procedure.

Superintendent and/or Production Supervisor

The Superintendent and/or Production Supervisor are responsible for assuring compliance with this procedure and for functioning (if qualified) as the excavation competent person or securing the services of a qualified excavation competent person.

3.0 REQUIREMENTS

Each work area involving or in the vicinity of excavations, trenching or shoring shall be evaluated by the Excavation Competent Person to assure worker, equipment, property, and public safety.

4.0 REFERENCES

[29 CFR 1926.650](#)
[29 CFR 1926.651](#)
[29 CFR 1926.652](#)

WILLIAMS

EXCAVATION, TRENCHING AND SHORING
EHS Procedure #2500; Rev. 8; April 28, 2014
Page 1 of 7

5.0 DEFINITIONS: For purpose of this procedure.

- 5.1 Excavation: Any man-made cavity or depression in the earth's surface, including its sides, walls or faces, formed by earth removal and producing unsupported earth conditions by reasons of the excavation.
- 5.2 Angle of Repose: The greatest angle above the horizontal plane at which a material will remain stable without sliding.
- 5.3 Bank: A mass of soil rising above a digging level.
- 5.4 Belled Excavation: A part of a shaft or footing excavation, usually near the bottom and bell shaped.
- 5.5 Benching: A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.
- 5.6 Braces: The horizontal members of the shoring system whose ends bear against the uprights or stringers.
- 5.7 Competent Person for Excavation: One who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, has the authority to take prompt corrective measures to eliminate them, and has the appropriate training.
- 5.8 Faces or Sides: The vertical or inclined earth surfaces formed as a result of excavation work.
- 5.9 Failure: The breakage, displacement, or permanent deformation of a structural member or connection so as to reduce its structural integrity and its supportive capabilities.
- 5.10 Hazardous Atmosphere: An atmosphere which by reason of being explosive, flammable, poisonous, corrosive, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.
- 5.11 Kickouts: Accidental release or failure of a shore or brace.
- 5.12 Layered Systems: Two or more distinctly different soil or rock types arranged in layers.
- 5.13 Protective System: A method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures.
- 5.14 Sheet pile: A pile, or sheeting, that may form one of a continuous interlocking line, or a row of timber, concrete, or steel piles, driven in close contact to provide a tight wall to resist the lateral pressure of water, adjacent earth, or other material.
- 5.15 Slope: The angle with the horizontal at which a particular earth material will stand indefinitely without movement.

WILLIAMS

EXCAVATION, TRENCHING AND SHORING

EHS Procedure #2500; Rev. 8; April 28, 2014

- 5.16 Stringers: The horizontal members of a shoring system whose sides bear against the uprights or earth.
- 5.17 Trench: A narrow excavation made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is no greater than 15 feet.
- 5.18 Trench Shield: A shoring system composed of steel plates and bracing, welded or bolted together, which support the walls of a trench from the ground level to the trench bottom and which can be moved along as work progresses.
- 5.19 Unconfined Compressive Strength: The load per unit area at which a soil will fail in compression. It can be determined by laboratory testing, or in the field using a pocket penetrometer, or by thumb penetration.
- 5.20 Uprights: The vertical members of a shoring system.
- 5.21 Trench Jack: Screw or hydraulic type jacks used as a cross-bracing in a trench shoring system.

6.0 REQUIREMENTS

Evaluation

- 6.1 An initial evaluation of the proposed excavation shall be conducted by the competent person using the criteria set forth below and document on the Trenching and Excavation Initial Evaluation Form.
- 6.2 Prior to the start of actual excavation, utility companies or owners shall be contacted within established or customary local response times, advised of the proposed work, and asked to establish the location of the utility underground installations. When utility companies or owners cannot respond within 24 hours (unless a longer period is required by state or local law), or cannot establish the exact location of these installations, the excavation may proceed, provided the excavator does so with caution, and is provided detection equipment or other acceptable means to locate utility installations. When excavation operations approach the estimated location of the underground installations, the exact location of the installation shall be determined by safe and acceptable means. While the excavation is open, utility installations shall be protected, supported or removed as necessary to safe guard installations, workers and the public.

Worker Protection

- 6.3 The walls and faces of trenches five (5) feet or more deep, and all excavations in which workers may be exposed to danger from moving ground or cave-in shall be guarded by a shoring system, sloping of the ground, or some other equivalent means.
- 6.4 As a minimum, all excavations, trenches, ditches, etc. shall be properly barricaded and have posted warning signs.
- 6.5 Workers in or around excavations or trenches shall be required to wear personal protective equipment for the head, eyes, respiratory organs, hands, feet and other parts of the body as deemed necessary by the hazards present.

WILLIAMS

EXCAVATION, TRENCHING AND SHORING

EHS Procedure #2500; Rev. 8; April 28, 2014

Page 3 of 7

- 6.6 Workers exposed to heavy equipment vehicular traffic shall be required to wear a reflector type warning vest.
- 6.7 Workers shall be protected from falling soil loads from digging and excavation equipment and shall never be allowed to work under suspended loads.

Access

- 6.7 Where workers may be required to enter an excavation, excavated or other material shall be effectively stored and retained at least two (2) feet or more from the edge of the excavation.
- 6.8 Ladders or steps shall be used to enter and exit trenches four (4) feet or more in depth. Ladders or steps shall be located at a distance not greater than twenty five (25) feet laterally. When ladders are being used they shall extend a minimum of three (3) feet above the top of the trench.
- 6.9 Structural ramps that are used solely by employees as a means of access or egress from excavations shall be designed by a competent person. Structural ramps used for access or egress of equipment shall be designed by a competent person qualified in structural design, and shall be constructed in accordance with the design.
 - 6.9.1 Ramps and runways constructed of two or more structural members shall have the structural members connected together to prevent displacement.
 - 6.9.2 Structural members used for ramps and runways shall be of uniform thickness.
 - 6.9.3 Cleats or other appropriate means used to connect runway structural members shall be attached to the bottom of the runway or shall be attached in a manner to prevent tripping.
 - 6.9.4 Structural ramps used in lieu of steps shall be provided with cleats or other surface treatments on the top surface to prevent slipping.
 - 6.9.5 Walkways shall be provided where employees or equipment are required or permitted to cross over excavations. Guardrails that comply with [1926.502\(b\)](#) shall be provided where walkways are six (6) feet (1.8m) or more above lower levels.

Inspections

- 6.10 Daily inspections of excavations shall be made by the excavation competent person and documented on the Trenching and Excavation Daily Inspection form. If evidence of possible cave-ins or slides is apparent, all work in the excavation shall cease until the necessary precautions have been taken to safeguard the employees.

WILLIAMS

EXCAVATION, TRENCHING AND SHORING

EHS Procedure #2500; Rev. 8; April 28, 2014

Atmospheric Conditions

- 6.11 When possible, dust conditions should be kept to a minimum by the use of water, salt, calcium chloride or other acceptable means.
- 6.12 In locations where undesirable atmospheric conditions may exist, the excavation or trench shall be tested. If necessary, controls as set forth in subparts D and E of [29 CFR 1926](#) (occupational health, environmental controls, PPE, and lifesaving equipment) shall be established to assure employee safety. When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to ensure that the atmosphere remains safe.
- 6.13 Where adverse conditions may exist or develop in an excavation, emergency rescue equipment such as breathing apparatus, a safety harness and line, basket stretcher, etc. shall be readily available.

Hazardous Conditions

- 6.14 Employees shall not be allowed to work in excavations in which water has accumulated or is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed by the water accumulation. Specific precautions may vary with each situation, but may include special support or shield systems to protect against cave-ins, water removal to control the accumulating water, or the use of a safety harness and lifeline. If the water is controlled by water removal equipment, this equipment and operation shall be monitored by a competent person to ensure proper operation.
- 6.15 Excavations below the level of the base or footing of any foundation or retaining wall shall not be permitted except when:
 - 6.15.1 A support system, such as underpinning, is provided to ensure the safety of employees and the stability of the structure.
 - 6.15.2 The excavation is in stable rock.
 - 6.15.3 A registered professional engineer has approved the determination that the structure is sufficiently removed from the excavation so as to be unaffected.
 - 6.15.4 A registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees.
- 6.16 Work in or around excavations or trenches should never be performed alone.
- 6.17 In addition to the requirements of this procedure, all safety requirements of the customer or host facility shall be followed.

7.0 SOIL CLASSIFICATION

- 7.1 Each soil and rock deposit at an excavation site must be classified by the excavation competent person as stable rock, Type A, Type B, or Type C soil.
 - 7.1.1 **Stable rock** refers to natural solid mineral matter which can be excavated with vertical sides and remain intact while exposed.

WILLIAMS

EXCAVATION, TRENCHING AND SHORING

EHS Procedure #2500; Rev. 8; April 28, 2014

- 7.1.2 **Type A** soil is cohesive with an unconfined compressive strength of 1.5 tons per square foot (tsf). Type A soils include clay, silty clay, sandy clay, clay loam, caliche, hardpan, and sometimes silty clay loam and sandy clay loam. No soil should be classified as Type A if it is fissured; subject to vibration from traffic, pile driving, or similar effects; previously disturbed; or part of a sloped, layered system where the slope is four horizontal to one vertical or greater.
- 7.1.3 **Type B** soil is cohesive soil with an unconfined compressive strength greater than .5 tsf but less than 1.5 tsf. Type B soils include granular cohesionless soils like angular gravel, silt, silt loam, sandy loam, and sometimes silty clay loam and sandy clay loam; previously disturbed soils that are not Type C; fissured soils and soils subject to vibration that would otherwise be classified as Type A; dry rock that is not stable; and material that is part of a sloped layered system where the layers dip on a slope less steep than four horizontal to one vertical.
- 7.1.4 **Type C** soil is cohesive soil with an unconfined compressive strength of .5 tsf or less. Type C soils include granular soils such as gravel, sand, and loamy sand; submerged soil; soil from which water is freely seeping; submerged rock that is not stable; or material in a sloped, layered system where the layers dip into the excavation at a slope of four horizontal to one vertical or steeper.
- 7.1.5 Soil classification is to be based on at least one visual analysis and one manual analysis of the soil.
- 7.1.6 **Visual Test:**
- 7.1.6.1 Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the relative amounts of the particle sizes. Soil that is primarily composed of fine-grained material is cohesive material. Soil composed primarily of coarse-grained sand or gravel is granular material.
- 7.1.6.2 Observe the soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breaks up easily and does not stay in clumps is granular.
- 7.1.6.3 Observe the sides of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tension cracks could indicate fissured material. If chunks of soil spall of a vertical side, the soil could be fissured. Small spalls are evidence of moving ground and are indications of potentially hazardous situations.
- 7.1.6.4 Observe the open side of the excavation to identify layered systems. Examine layered systems to identify if the layers slope toward the excavation and estimate the degree of slope of the layers.

WILLIAMS

EXCAVATION, TRENCHING AND SHORING

EHS Procedure #2500; Rev. 8; April 28, 2014

Page 6 of 7

7.1.6.5 Observe the sides of the excavation and adjacent areas for evidence of surface water or water seeping from the sides of the excavation.

7.1.6.6 Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the stability of the excavation face.

7.1.7 Manual Test:

7.1.7.1 The thumb test (ASTM D2488) can be used to determine the unconfined compressive strength of cohesive soil. Type A soils with an unconfined compressive strength of 1.5 tsf can be readily identified by the thumb. They can be penetrated by the thumb but only with great effort. Type C soils with an unconfined compressive strength of .5 tsf can be easily penetrated several inches by the thumb, and can be molded by light finger pressure.

7.1.7.2 Determine the unconfined compressive strength by the use of a pocket penetrometer.

8.0 FORMS AND TEMPLATES

- F2500A-[Trenching and Excavation Initial Evaluation Form](#)
- F2500B-[Trenching and Excavation Daily Inspection Form](#)
- F2500C-[Trenching and Excavation Competent Person](#)
- [Excavation Tool](#)

APPENDIX B

Community Air Monitoring Program

COMMUNITY AIR MONITORING PLAN

GAS MAIN REPLACEMENT PROJECT

**Hunts Point
Block 2781, Lot 800
Bronx, New York 10474
Gas Main Project No. X22-100049514**

Prepared for:

**Consolidated Edison Company of New York Inc.
4 Irving Place
New York, New York 10003**

Prepared by:

**TRC Engineers, Inc.
1430 Broadway, 10th Floor
New York, NY 10018**

June 19, 2023

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
1.0	INTRODUCTION	1
1.1	Description of Surrounding Property	1
1.2	Site History and Contaminants of Concern (COCs)	1
2.0	PURPOSE	1
3.0	AIR MONITORING PROCEDURES	3
3.1	VOC Monitoring, Response Levels, and Actions	4
3.2	Oxygen, Explosive Gas, Carbon Monoxide, and Hydrogen Sulfide Monitoring, Response Levels, and Actions	4
3.3	Particulate Monitoring, Response Levels, and Actions	5
3.4	Odor Monitoring and Mitigation Plan	5
4.0	DUST CONTROL MEASURES	7
5.0	REPORTING	8

FIGURES

- Figure 1 Site C Location, Hunts Point – Site C
Figure 2 Proposed Work Areas

APPENDICES

- Appendix A New York State Department of Health Generic Community Air Monitoring Plan
- Appendix B Fugitive Dust and Particulate Monitoring
- Appendix C Manufacturers’ Owner’s Manuals

1.0 INTRODUCTION

TRC Engineers, Inc. (TRC) prepared this Community Air Monitoring Plan (CAMP) for Consolidated Edison Company of New York Inc. (“Con Edison”) for implementation during work associated with the excavation a 35-foot-long by 8-foot-wide by 7-foot-deep trench to expose a portion of a 42-inch cast iron retired gas main. The retired gas main will be removed and a new 36-inch main will be installed. Approximately 5 feet of the excavation is within the Con Edison property line (Block 2781 Lot 800), Bronx, New York (the “Site”). The excavation work will be performed in accordance with the Excavation Work Plan (Con Edison, 2023) and the Site Management Plan (SMP) (Henningson, Durham & Richardson Architecture and Engineering, P.C. (HDR), 2008). TRC was retained by Con Edison to prepare and implement the CAMP during these activities. A Site Location Map prepared by HDR for the SMP is presented as Figure 1.

1.1 Description of Surrounding Property

Approximately 5 feet of the excavation is within the Con Edison property line (Block 2781 Lot 800) with the remaining excavation within an easement that is located within a parcel that is currently vacant. The parcel in which the easement is located has been accepted into the New York State Brownfield Cleanup Program (BCP) as Site #C203102 and under its current BCP enrollment status is defined as BCP RR ROW. The Proposed Work Areas prepared by Con Edison for the Excavation Work Plan are presented as Figure 2.

1.2 Site History and Contaminants of Concern (COCs)

The Site was historically part of Hunts Point MGP, which was constructed between 1924 and 1932 and operated until the early 1960s. Hunts Point MGP was constructed to manufacture both oven gas and carbureted water gas, producing coke, ammonium sulfate, coal tar, water gas tar, and light oil as major by-products.

Coal tar and purifier waste were encountered in previous remedial investigations. Coal tar and purifier wastes are not expected to be encountered at the Site, however the potential exists and procedures for handling and disposal described in the Site’s SMP must be followed. Potential contaminants associated with coal tar are Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs). Purifier waste is known to be acidic and contains chemically complexed Cyanide compounds.

Since the Site has been remediated under the BCP, Site workers and the surrounding community are not expected to be exposed to soil contamination. Proposed excavation activities will disturb the existing soils on-Site and, therefore, require specific procedures for community air monitoring. Those procedures are presented in this Plan.

2.0 PURPOSE

The CAMP requires real-time monitoring for VOCs and particulates (i.e., dust) at the downwind and upwind perimeter of each designated work area at the Site and within 20 feet of potentially

exposed individuals or structures. This CAMP will be implemented during removal of existing Site soil, demolition, excavation, grading, placement of excavated material in storage piles (or containers), and any other activities that may generate visible dust emissions from on-Site soil or materials. This document is prepared in accordance with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan guidance (Appendix 1A) and Fugitive Dust and Particulate Monitoring (Appendix 1B), contained in NYSDEC DER-10 *Technical Requirements for Site Remediation*, May 2010, Appendix 1 (Appendices 1A and 1B are included as attachments to this document). The CAMP is prepared to protect the surrounding community from exposure to potentially harmful particulates and vapors generated from ground intrusive activities. The CAMP is intended to protect the downwind public community, and is not intended to establish respiratory protection levels for Site workers. However, a multi-gas meter and photoionization detector (PID) will be used to monitor the air quality in the excavation for the construction workers.

CAMP monitoring will be conducted by a combination of two (2) ambient air dust and vapor monitoring stations which will be provided by the CAMP Monitor as follows: one (1) station will be located at the property perimeter upwind of work activities and one (1) station will be located at the property perimeter downwind of work activities. When choosing the stationary monitoring locations, the prevailing wind direction and location of sensitive receptors, such as residential neighborhoods, relative to planned construction activities will be considered. Figure 2 shows the Proposed Work Areas.

Work activities shall at all times be performed to minimize the generation of dust or odors (i.e., dust control measures/dust suppression techniques) as described further in Section 4.0.

3.0 AIR MONITORING PROCEDURES

A trained CAMP Monitor will be responsible for implementation of the air monitoring and daily calibration and maintenance of the monitoring equipment and data logging software in accordance with the manufacturer's recommendations. Monitoring personnel shall be trained and knowledgeable in the proper operation, maintenance, and calibration of the monitoring equipment. All instrumentation and equipment will be maintained in proper operating condition at all times by monitoring personnel. Instruction manuals for the monitoring equipment will be maintained at the Site for reference. The CAMP Monitor will be responsible for documenting in a project CAMP-dedicated bound logbook each monitoring and calibration event, any equipment and instrument malfunctions, unusual conditions, air monitoring station location(s), periodic documentation of dust levels, any exceedances of action levels and countermeasures implemented, a list of on-Site personnel, and any observations made by on-Site personnel. The perimeter air monitoring equipment will be inspected at least twice a day by the CAMP Monitor and the inspections will be documented in the project CAMP-dedicated bound logbook. Copies of the manufacturers' owner's manuals for monitoring instrumentation to be used is included in Appendix C.

The perimeter particulate monitoring equipment shall consist of the following: TSI DustTrak Model 8530 monitor (with PM-10 impactor head), MiniRAE 3000 photoionization detector (PID), Multi-RAE IR multi-gas meter, data logger, battery, weather environmental enclosure, and tripod base, or approved equivalent particulate monitoring system. The PID in conjunction with the multi-gas meter and dust monitor will be used to monitor the air quality in the trench for the workers.

The stationary CAMP monitoring stations will be located in environmental enclosures on tripods at heights approximately 4 to 5 feet above ground surface (i.e., in the breathing zone). The monitoring equipment will log 15-minute average concentrations for subsequent downloading and reporting. The equipment will be connected to a modem that will allow cloud-based monitoring of the levels. Within 24 hours of any CAMP monitoring equipment malfunctioning or not operating properly, the CAMP Monitor will obtain a functioning replacement unit at the Site for use. The required CAMP monitoring equipment is available from the following suppliers:

1. Pine Environmental: Windsor, NJ (800) 301-9663; and
2. Eco-Rental Solutions: Elmsford, NY (914) 400-0324.

In addition, the CAMP Monitor will check and record the daily wind direction and speed as obtained from a local public meteorological monitoring station. Prevailing wind directions indicated by wind socks, flags or other nearby wind indicators at monitoring locations will also be observed and logged during the day. These observations will allow the CAMP Monitor to determine appropriate upwind and downwind monitoring locations.

The following describes the specific CAMP procedures for excavation of impacted soil and particulate monitoring on this Project.

3.1 VOC Monitoring, Response Levels, and Actions

VOCs will be monitored at the downwind perimeter of each designated work area on a continuous basis. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated daily. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted, and monitoring will continue. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
2. If total organic vapor levels at the downwind perimeter of the work area persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring will continue. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the work area 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.
3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.
4. All 15-minute readings will be recorded and will be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

3.2 Oxygen, Explosive Gas, Carbon Monoxide, and Hydrogen Sulfide Monitoring, Response Levels, and Actions

A Multi-RAE IR or equivalent Portable Gas Monitor will be utilized to monitor for explosive, oxygen enriched/deficient atmospheres during work in and around the excavation. The equipment will be calibrated daily. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the Lower Explosive Limit (LEL) is above 10%, oxygen is less than 19.5% or above 23%, or if carbon monoxide or hydrogen sulfide is above 10 ppm, work activities will be halted, the source will be identified, corrective actions taken to abate emissions, and monitoring will continue.
2. If low oxygen is the cause, the work area will be evacuated immediately.
3. All 15-minute readings will be recorded and will be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

3.3 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the downwind stationary air monitoring stations during ground intrusive work using both air monitoring equipment and visual observations. The perimeter particulate monitoring equipment shall be capable of continuously measuring particulate matter smaller than 10 microns (PM-10) and capable of measuring, integrating (averaging), and recording over periods of 15 minutes or less at each monitoring station.

Particulate monitoring equipment shall be calibrated daily at the beginning of each day of monitoring. Calibration checks shall be performed as needed throughout the day if instrument malfunctions occur. The particulate air monitoring results will be compared to the following action levels:

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then Con Edison will be notified, and dust suppression techniques will be employed. Work may continue with dust suppression techniques, provided that downwind PM-10 particulate levels do not exceed $150 \mu\text{g}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.
2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels for the 15-minute period are greater than $150 \mu\text{g}/\text{m}^3$ above the upwind level, work will be stopped, and a reevaluation of activities conducted. In addition, the 15-minute average background PM-10 levels will be immediately measured upwind of the station. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentrations to within $150 \mu\text{g}/\text{m}^3$ above the upwind level and in preventing visible dust migration.

Odor or dust complaints from any owner or occupant of an adjacent or nearby property shall be immediately addressed and managed by the CAMP Monitor in a manner equivalent to an exceedance of an action level in the CAMP.

3.4 Odor Monitoring and Mitigation Plan

The purpose of this Odor Monitoring and Mitigation Plan is to detail the monitoring and, if necessary, mitigation of odor potentially generated during the intrusive soil work. Based on the existing data, generation of significant odor is not anticipated. However, work activities will be performed to minimize the potential for generation of odor.

Odor Monitoring

Odor will be monitored within the work area and CAMP stations by routine observations from the CAMP Monitor. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted, and the source of odors will be identified and corrected. Work will

not resume until all nuisance odors have been abated. Con Edison, NYSDEC, and NYSDOH will be notified of all odor events and of any other complaints about the project immediately. Odor or dust complaints from any owner or occupant of an adjacent or nearby property will be immediately addressed and managed by the CAMP Monitor in a manner equivalent to an exceedance of an air monitoring action level.

Odor Mitigation

All necessary means will be employed to prevent on- and off-Site nuisances. These measures may include using tarps to cover exposed odorous soil (if encountered). If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: use of chemical odorants in spray or misting systems; and use of staff to monitor odors in surrounding neighborhoods. If needed, these controls will be requested to be implemented by Con Edison.

3.5 Special Requirements for Work Within 20 ft of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls will be considered to prevent exposures related to the work activities and to control dust and odors if they are identified. The structures which fall under this are specifically located within the Meat Market.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 part-per-million, monitoring should occur within the occupied structure(s). Contamination within the Site consists of coal tar or purifier bed material. If MGP impacted material is identified, monitoring would include VOCs. If a significant amount of purifier bed material is identified, hydrogen cyanide (H₂S) specific sampling (using colorimetric tubes) may be conducted to insure that compound is not present in vapor form. The project is not prepared to screen for compounds outside of VOCs and this will require a change in monitoring procedure. NYSDEC will be contacted to determine if this additional stage is warranted.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 micrograms per cubic meter, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 micrograms per cubic meter or less at the monitoring point.

4.0 DUST CONTROL MEASURES

If particulate/dust readings above established threshold levels are detected or visible dust is observed, the CAMP Monitor shall require Con Edison to immediately institute measures to control dust. The control measures utilized shall be subject to the approval of Con Edison. Dust control measures shall not result in any surface water runoff from the Site.

There may be situations where visible dust is generated by excavation activities and migrates to downwind locations but is not detected by the monitoring equipment at or above the action levels. If visible dust is observed leaving the working area, dust suppression techniques will be employed. If visible dust persists subsequent to dust suppression techniques, additional measures, including work suspension, if necessary, will be implemented to remedy the situation.

Con Edison shall implement any and all dust control measures necessary to eliminate visible dust from leaving the Site and not exceed CAMP action levels. This includes, but is not limited to, the use of wetting equipment and excavation faces, and spraying water during excavation. Other dust controls shall be implemented by Con Edison as needed and as directed by the CAMP monitor including wind blocks, dust curtains, tarps over soil stockpiles and truck loads, restricting Site vehicle speeds to less than 10 mph, covering inactive excavation areas, and the proper sequencing and staging of soil disturbance activities to minimize the combined size of such exposed soil areas at any one time.

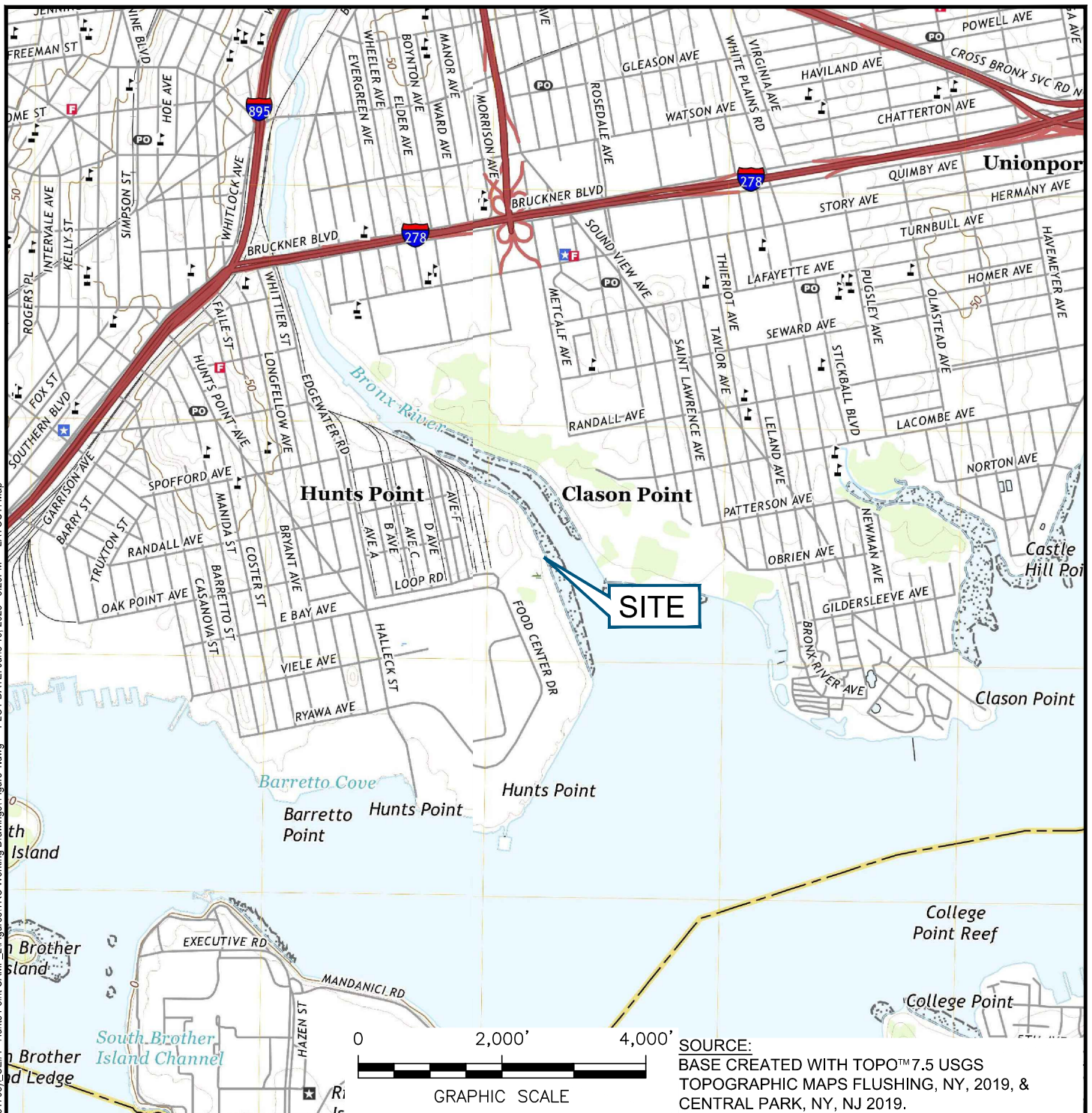
5.0 REPORTING

Any exceedance of a CAMP threshold or action level shall be reported by the CAMP Monitor to Con Edison immediately and additionally in writing in daily reports. The report shall include all instrument readings; location of the monitoring stations, especially where the exceedance was recorded; readings at upwind locations; date, time and duration of elevated readings (i.e., number of 15 minute time-weighted exceedances); activities being performed at the time of the exceedances; meteorological conditions; and descriptions of countermeasures implemented to control the exceedance and prevent future occurrences.

At the end of each workday, the CAMP Monitor shall download the CAMP perimeter ambient air monitoring data collected that day to a computer, and organize, review and compare the data to action levels to verify and document that proper controls were in place throughout the workday. Data shall be available for inspection by NYSDEC and NYCDOH without advance notice.

**FIGURE 1
SITE C LOCATION, HUNTS POINT – SITE C**

8.5x11 -- ATTACHED REF'S: -- ATTACHED IMAGES: NY_Correl_Plan_20190902_Tm_NY_Flushing_20190902_Tm_NY_Yonkers_20190918_Tm
DRAWING NAME: Uny-cpt\Shared\Projects\Con Edison MGP Contract (6531708)_CE#4 - Hunts Point CAMP - 2\Figures\TRC Working Drawings\Figure 1.dwg -- PLOT DATE: June 16, 2023 - 5:29PM -- LAYOUT: Map



SOURCE:
BASE CREATED WITH TOPO™ 7.5 USGS
TOPOGRAPHIC MAPS FLUSHING, NY, 2019, &
CENTRAL PARK, NY, NJ 2019.

1	2	3
4	5	6
7	8	

- 1 Yonkers
- 2 Mount Vernon
- 3 Mamaroneck
- 4 Central Park
- 5 Sea Cliff
- 6 Brooklyn
- 7 Jamaica
- 8 Lynbrook



FLUSHING, NY
2019

ROAD CLASSIFICATION	
Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD
Interstate Route	US Route
	State Route



1430 Broadway, 10th Floor
New York, NY 10018
Phone: 212.221.7822
www.TRCompanies.com

PROJECT:

**BRONX RIVER TUNNEL PROJECT
HUNTS POINT FOOD DISTRIBUTION CENTER
BLOCK 2781, LOT 800**

TITLE:

SITE LOCATION MAP

DRAWN BY: R. HAMILTON

CHECKED BY: A. REXROAT

APPROVED BY: S. AMBROSE

DATE: JUNE 2023

PROJ. NO.: 552202.9990.0000

FILE: Figure 1.dwg

FIGURE 1

FIGURE 2
PROPOSED WORK AREAS



**APPENDIX A
DER-10 APPENDIX 1A – NYSDOH GENERIC COMMUNITY AIR
MONITORING PLAN**

Appendix 1A

New York State Department of Health Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent 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 investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. 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.
2. 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.
3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.
4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. 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 downwind PM-10 particulate levels do not exceed $150 \text{ mcg}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \text{ mcg}/\text{m}^3$ 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 $150 \text{ mcg}/\text{m}^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

**APPENDIX B
DER-10 APPENDIX 1B – FUGITIVE DUST AND PARTICULATE
MONITORING**

Appendix 1B

Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.
2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.
3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM₁₀) with the following minimum performance standards:
 - (a) Objects to be measured: Dust, mists or aerosols;
 - (b) Measurement Ranges: 0.001 to 400 mg/m³ (1 to 400,000 :ug/m³);
 - (c) Precision (2-sigma) at constant temperature: +/- 10 :g/m³ for one second averaging; and +/- 1.5 g/m³ for sixty second averaging;
 - (d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
 - (e) Resolution: 0.1% of reading or 1g/m³, whichever is larger;
 - (f) Particle Size Range of Maximum Response: 0.1-10;
 - (g) Total Number of Data Points in Memory: 10,000;
 - (h) Logged Data: Each data point with average concentration, time/date and data point number
 - (i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
 - (j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
 - (k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
 - (l) Operating Temperature: -10 to 50° C (14 to 122° F);
 - (m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.
4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.
5. The action level will be established at 150 ug/m³ (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m³, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m³ above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m³ continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM₁₀ at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

- (a) Applying water on haul roads;
- (b) Wetting equipment and excavation faces;
- (c) Spraying water on buckets during excavation and dumping;
- (d) Hauling materials in properly tarped or watertight containers;
- (e) Restricting vehicle speeds to 10 mph;
- (f) Covering excavated areas and material after excavation activity ceases; and
- (g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m³ action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

**APPENDIX C
MANUFACTURERS' OWNER'S MANUALS**

MiniRAE 3000 User's Guide



FCC Information

Contains FCC ID: PI4411B or SU3RM900

The enclosed device complies with part 15 of the FCC rules.

Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Wireless Approval For UAE In Middle East

TRA REGISTERED No: ER36153/14 or ER36153/15

DEALER No.: HONEYWELL INTERNATIONAL MIDDLE EAST
– LTD – DUBAI BR

Wireless Approval For QATAR In Middle East

ictQATAR

Type Approval Reg. No.: R-4466 or R-4635



MiniRAE 3000 User's Guide

Contents

Read Before Operating.....	6
Special Notes.....	7
Warnings	8
Standard Contents.....	10
General Information	10
Physical Description.....	12
Specifications	12
Charging The Battery	16
Charging A Spare Rechargeable Battery	17
Low Voltage Warning.....	18
Clock Battery	18
Data Protection While Power Is Off	18
User Interface	19
Display	21
Operating The Instrument	22
Turning The Instrument On.....	22
Turning The Instrument Off.....	23
Operating The Built-In Flashlight	23
Pump Status.....	23
Calibration Status	24
Operating Modes	29
Basic User Level/Hygiene Mode (Default Settings)	30
Alarm Signals	32
Alarm Signal Summary.....	33
Preset Alarm Limits & Calibration	34
Testing The Alarm.....	34
Integrated Sampling Pump	34
Backlight	35
Datalogging.....	35
Datalogging event.....	35
Datalogging sample	35
Auto/Manual/Snapshot Datalogging	36
Standard Kit & Accessories	37
AC Adapter (Battery Charger).....	37
Alkaline Battery Adapter	38
External Filter	39

MiniRAE 3000 User's Guide

Optional Accessories	40
Calibration Adapter	40
Calibration Regulator	40
Organic Vapor Zeroing Kit	40
Standard Two-Point Calibration (Zero & Span)	41
Entering Calibration	42
Zero (Fresh Air) Calibration	44
Span Calibration.....	46
Exiting Two-Point Calibration In Basic User Level	48
Three-Point Calibration.....	49
Span 2 Calibration	50
Exiting Three-Point Calibration.....	53
Bump Test	48
Programming Mode.....	53
Entering Programming Mode.....	54
Programming Mode Menus.....	56
Zero Calibration	57
Meas. Gas.....	57
High Alarm	57
Clear Datalog	57
Radio	57
Power	57
Span Calibration.....	57
Meas. Unit.....	57
Low Alarm	57
Interval	57
Op Mode	57
Bump.....	57
STEL Alarm.....	57
Data Selection	57
Site ID	57
TWA Alarm	57
Datalog Type.....	57
User ID.....	57
Alarm Mode	57
User Mode.....	57
Buzzer & Light.....	57
Date	57
Time	57

MiniRAE 3000 User's Guide

Pump Duty Cycle	57
Pump Speed	57
Temperature Unit	57
Language	57
Real Time Protocol	57
Power On Zero	57
Unit ID	57
LCD Contrast	57
Lamp ID	57
PAN ID	57
Mesh Channel	57
Mesh Interval	57
Exiting Programming Mode	58
Navigating Programming Mode Menus	58
Calibration	59
Zero Calibration	59
Span Calibration	59
Bump	59
Measurement	60
Meas. Gas	60
Meas. Unit	61
Alarm Setting	62
High Alarm	63
Low Alarm	63
STEL Alarm	64
TWA Alarm	65
Alarm Type	66
Buzzer & Light	67
Datalog	67
Interval	68
Data Selection	69
Datalog Type	70
Manual Datalog	70
Snapshot Datalog	71
Monitor Setup	72
Radio Power	72
Op Mode	73
Hygiene	73
Search	73

MiniRAE 3000 User's Guide

Site ID.....	73
User ID	74
User Mode	74
Date.....	75
Time.....	76
Pump Duty Cycle.....	76
Pump Speed	77
Temperature Unit.....	77
Language	78
Real Time Protocol.....	78
Power On Zero.....	79
Unit ID	79
LCD Contrast.....	80
Lamp ID.....	80
PAN ID	80
Mesh Channel	81
Mesh Interval.....	81
Hygiene Mode	82
Advanced User Level (Hygiene Mode Or Search Mode)	86
Advanced User Level & Hygiene Mode.....	86
Basic User Level & Search Mode.....	88
Advanced User Level & Search Mode.....	89
Diagnostic Mode	90
Entering Diagnostic Mode.....	91
Adjusting The Pump Stall Threshold	92
Pump High	92
Pump Low.....	92
Exiting Diagnostic Mode.....	93
Transferring Data To & From A Computer	94
Downloading The Datalog To A PC.....	94
Connection.	94
Uploading Firmware To The instrument From A PC	95
Maintenance	96
Battery Charging & Replacement	96
Replacing The Li-ion Battery	97
Replacing The Alkaline Battery Adapter.....	97
PID Sensor & Lamp Cleaning/Replacement.....	99
Sensor Components.....	99
Cleaning The Lamp Housing Or Changing The Lamp.....	100

MiniRAE 3000 User's Guide

Determining The Lamp Type	101
Sampling Pump.....	102
Cleaning The Instrument	102
Ordering Replacement Parts	102
Special Servicing Note.....	103
Troubleshooting.....	104
Technical Support.....	105
RAE Systems Contacts.....	106
Controlled Part of Manual.....	107
Basic Operation	107
Turning The Instrument On	107
Turning The Instrument Off.....	107
Alarm Signals	108
Alarm Signal Summary.....	108
Preset Alarm Limits & Calibration.....	109
Charging The Battery	110
Low Voltage Warning.....	111
Clock Battery	111
Replacing Rechargeable Li-Ion or NiMH Battery	112
Alkaline Battery Adapter	112
Troubleshooting.....	113

DUSTTRAK™ II AEROSOL MONITOR MODEL 8530/8531/8532/8530EP

OPERATION AND SERVICE MANUAL

P/N 6001893, REVISION P
JANUARY 2017



DustTrak II 8530/31 Desktop and 8532 Handheld



DustTrak II 8530EP Monitor



CONTENTS

SAFETY INFORMATION	V
Laser Safety	v
Labels	vi
Description of Caution/Warning Symbols	vii
Caution	vii
Warning	vii
Caution and Warning Symbols	vii
Reusing and Recycling	vii
CHAPTER 1 UNPACKING AND PARTS IDENTIFICATION	1
Unpacking the DustTrak II Aerosol Monitor	2
Optional Accessories	7
Parts Identification for the DustTrak II Desktop Aerosol Monitor	
Models 8530/8531	8
Parts Identification for the DustTrak II Desktop Aerosol Monitor	
Model 8530EP	9
External Pump Module (8530EP only)	9
Parts Identification for the DustTrak II Handheld Aerosol Monitor	
Model 8532	10
CHAPTER 2 SETTING UP	11
Supplying Power to the DustTrak II Aerosol Monitor	11
Installing the Batteries in Model 8530/8531/8530EP Desktop	11
Installing the Batteries in Model 8532 Handheld	11
Connecting the External Pump to DustTrak Model 8530EP	12
Using the AC Adapter to Run Instrument	14
Battery Charging	14
Inlet Cap	14
Size-Selective Impactors	15
Dorr-Oliver Cyclone	16
Instrument Setup	16
Connecting to the Computer	16
Installing TrakPro™ Data Analysis Software	16
Connecting Analog/Alarm Output	17
Wiring the Analog Output	18
Wiring the Alarm	18
CHAPTER 3 OPERATION	19
Getting Started	19
For Model DustTrak 8530EP only	19
Setup Menu	22
Zero Cal	23
Flow Cal	24
User Cal	25
Alarm	30
Analog	32
Settings	33
Run Mode	35
Survey Mode	36

Manual Mode	37
Log Mode (1–5)	38
Taking Mass Concentration Measurements	39
Screen Regions	40
Stats	41
Graphing	41
Viewing Data	43
Title Bar	44
CHAPTER 4 MAINTENANCE	45
Maintenance Schedule	45
Zeroing Instrument	46
Cleaning the Inlet	46
Cleaning and Oiling Impactors	47
Replacing the Internal Filters	48
Replacing the Filters in the External Pump Module	51
Storage Precautions	52
CHAPTER 5 TROUBLESHOOTING	53
APPENDIX A SPECIFICATIONS	59
APPENDIX B ZERO MODULE	61
INDEX	63

These Application Notes can also be found on TSI's web site:

<http://www.tsi.com>

[*EXPMN-001 DustTrak II Theory of Operation.pdf*](#)

[*EXPMN-003 DustTrak II Impactor.pdf*](#)

MultiRAE IR

MULTI-GAS MONITOR PGM-54

OPERATION AND MAINTENANCE MANUAL

(Document No.: 008-4028)

Rev.B



**RAE SYSTEMS INC.
1339 Moffett Park Drive
Sunnyvale, CA 94089**

December 2001



RAE Systems Product Line

- **Gas Detection Tubes & Pumps**
 - **SampleRAE Electronic Sampling Pump**
 - **MultiRAE PLUS Multi-gas Monitors**
 - **MultiRAE IR Multi-gas Monitors w/CO₂**
 - **MultiRAE Confined Space Monitor**
 - **QRAE PLUS Multi-gas Monitors**
 - **QRAE Confined Space Monitor**
 - **VRAE Five-Gas Monitors**
 - **DRAE Two-Gas Monitors**
 - **MiniRAE 2000 Portable VOC Monitor (PID)**
 - **ppbRAE Portable ppb-Level VOC Monitor (PID)**
 - **UltraRAE Specific Compound Monitor**
 - **CDRAE Corona Discharge VOC Monitor**
 - **ToxiRAE PLUS PID Monitor**
 - **ToxiRAE PLUS Single Gas Monitors**
 - **ToxiRAE PLUS Oxygen Monitor**
 - **ToxiRAE PLUS Combustible Gas Monitor**
 - **MiniRAE PLUS Classic PID**
 - **ModuRAE Fixed System PID**
 - **AreaRAE Wireless Multi-point, Multi-gas Systems**
-

How can I be informed and updated?

Be sure to mail in your warranty card via email, post or fax to get on RAE's private database (information is never supplied to others).

You will be updated on new products, technical advisory notices, new accessories and much more. Thank you for your purchase!

Table of Contents

1. GENERAL INFORMATION.....	1-1
1.1 General Specifications	1-2
2. OPERATION.....	2-1
2.1 Physical Description	2-2
2.2 Keys and Display	2-4
2.3 Power On/Off.....	2-7
2.4 Operation.....	2-10
2.5 Alarm Signals.....	2-17
2.6 Back Light.....	2-20
2.7 Preset Alarm Limits and Calibration	2-21
2.8 Integrated Sampling Pump.....	2-22
2.9 Datalogging.....	2-23
3. OPERATION OF ACCESSORIES.....	3-1
3.1 Battery Charging Operation.....	3-2
3.2 Alkaline Battery Adapter	3-4
3.3 Water Trap Filter.....	3-5
3.4 Remote Sampling Probe or Tygon Tubing	3-6
3.5 Dilution Fitting.....	3-7
3.6 Calibration Adapter.....	3-8
4. PROGRAMMING	4-1
4.1 Programming Mode	4-2
4.2 Keys for Programming Mode	4-4
4.3 Entering the Programming Menu.....	4-5
4.4 Calibration.....	4-7
4.4.1 Fresh Air Calibration.....	4-11
4.4.2 Multiple Sensor Calibration	4-12
4.4.3 Single Sensor Calibration.....	4-15
4.4.4 Modify Span Gas Value	4-19
4.4.5 Change LEL/VOC Span Gas	4-20
4.5 Change Alarm Limits.....	4-22
4.6 View or Change Datalog.....	4-24

4.6.1	Reset Peak and Minimum	4-25
4.6.2	Clear All Data.....	4-26
4.6.3	Change Datalog Period	4-27
4.6.4	Select Data Type	4-28
4.6.5	View Datalog.....	4-29
4.6.6	Enable / Disable Datalog.....	4-30
4.6.7	Select memory Full	4-30
4.7	Change Monitor Setup	4-31
4.7.1	Change Site ID	4-32
4.7.2	Change Alarm Mode	4-35
4.7.3	Change User Mode.....	4-36
4.7.4	Change Real Time Clock	4-37
4.7.5	Change Back Light Mode	4-38
4.7.6	Change Password	4-39
4.7.7	Change Pump Speed	4-40
4.7.8	Change Averaging Method	4-41
4.7.9	Change Language? & Set Temp. Unit? ..	4-41
4.8	Change Sensor Configuration	4-42
4.8.1	Change LEL/VOC Gas Selection	4-44
4.8.2	Enable / Disable Sensor	4-48
4.8.3	Change Dilution Ratio.....	4-49
4.8.4	Change PID Lamp Type.....	4-50
4.9	Exit Programming Mode.....	4-51
5.	COMPUTER INTERFACE.....	5-1
5.1	ProRAE-Suite Software Installation	5-2
5.2	PC Connection	5-4
5.3	Starting ProRAE-Suite Software	5-5
5.4	Setup of Communication Port.....	5-7
5.5	Processing the Configuration Data	5-8
5.5.1	Editing the Configuration Data	5-9
5.5.2	Sending Configuration to Monitor.....	5-20
5.5.3	Saving Configuration Data.....	5-21

6. THEORY OF OPERATION	6-23
7. MAINTENANCE	7-1
7.1 Battery Replacement	7-2
7.2 Sensor Replacement	7-4
7.3 Sensor Cleaning/Replacement	7-7
7.4 PID Lamp Care	7-9
7.5 Sampling Pump Replacement	7-11
8. TROUBLESHOOTING	8-1
8.1 Special Diagnostic Mode	8-2
8.2 Troubleshooting Table	8-10
APPENDIX A. QUICK REFERENCE GUIDE	A-1
APPENDIX B. CORRECTION FACTORS	B-1
APPENDIX C. MULTIRAE DATA	
CONVERSION TO MICROSOFT EXCEL®	C-1
APPENDIX D. TECHNICAL NOTES	D-1
APPENDIX E. APPLICATION NOTES	E-1
APPENDIX F. LITERATURE REQUEST	F-1
APPENDIX G. REQUEST FORM FOR RMA	G-1
Main Contact Numbers	Outside Back Cover