



**OFFICE OF ENVIRONMENTAL REMEDIATION**

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**DECISION DOCUMENT**

**NYC VCP, E-Designation Remedial Action Work Plan Approval**

January 10, 2024

Re: 439-443 West 36th Street  
Manhattan Block 734, Lot 10  
Hazardous Materials, Air Quality, Noise E Designation  
E-137: Hudson Yards Rezoning - CEQR 03DCP031M - 1/19/2005  
OER Project Number 22EHAN376M

The New York City Office of Environmental Remediation (OER) has completed its review of the Remedial Action Work Plan (RAWP) dated November 2022, with Stipulation Letter dated January 9, 2024, and the Remedial Action Plan for Air Quality and Noise dated November 2023 for the above-referenced project.

These Plans were submitted to OER under the E-Designation Program.

**Project Description**

The proposed future use of the Site will consist of demolition of the existing two-story building and construction of a new 12-story mixed-use residential building with cellar. The building and cellar are proposed to extend the full footprint of the lot. Bottom of excavation (BOE) was assumed to be from 12 to 14 feet below sidewalk grades to accommodate construction. The building will be used for the following:

- Cellar – Common area, commercial storage, maintenance, and utility space
- First Floor – residential apartment and commercial/retail space
- Second to twelfth floors – residential apartments

**Statement of Purpose and Basis**

This document presents the remedial action for the NYC Voluntary Cleanup Program and E-Designation Program project known as “439 West 36th Street” pursuant to Title 43 of the Rules of the City of New York Chapter 14, Subchapter 7, and the Zoning Resolution and §43-1474 of the Rules of the City of New York.

**Description of Selected Remedy for Hazardous Materials**

The remedial action selected for the 439 West 36th Street site is protective of public health and the environment.

The proposed remedial action will consist of:

1. Performance of a Community Air Monitoring Program for particulates and volatile organic carbon compounds during Site intrusive work.
2. Selection of Site-Specific Soil Cleanup Objectives (SCOs).
3. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
4. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility(s).
5. The entire footprint of the building area (about 100% of the Site footprint) will be excavated to a depth of approximately 12 to 14 feet below grade (fbg) for development purposes. A small portion of property will be excavated to the depth of 18 fbg for elevator pit installations. Bedrock is anticipated to be encountered at approximately 7-8-fbg across most of the Site, and as deep as 16 fbg on the western portion of the Site. Approximately 4,110 tons of soil/fill will be removed from the Site and properly disposed at an

- appropriately licensed or permitted facility.
6. Field screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of excavated media on-Site.
  7. Management of excavated materials including temporarily stockpiling and segregating in accordance with defined material types and to prevent co-mingling of contaminated material and non-contaminated materials.
  8. Removal of all UST's that are encountered during soil/fill removal actions.
  9. Registration of tanks, reporting of any petroleum spills associated with USTs and appropriate closure of these petroleum spills in compliance with applicable local, State and Federal laws and regulations.
  10. Transportation and off-Site disposal of all soil/fill material at licensed or permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-Site.
  11. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of Track 4 SCOs.
  12. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.
  13. Performance of all activities required for the remedial action, including acquisition of required permits and attainment of pretreatment requirements, in compliance with applicable laws and regulations.
  14. Dewatering is not expected to be required; however, may be required when excavating the elevator pit. Dewatering, if required, will be performed in compliance with city, state, and federal laws and regulations. Extracted groundwater will either be containerized for off-site licensed or permitted disposal or will be treated under a permit from New York City Department of Environmental Protection (NYCDEP) to meet pretreatment requirements prior to discharge to the sewer system.
  15. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.
  16. Submission of a Remedial Closure Report (RCR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and lists any changes from this RAWP.

If Track 1 UU SCOs are not achieved, the following construction elements will be implemented as part of new development and will constitute Engineering and Institutional Controls (ECs and ICs):

17. As part of development, an engineered composite cover system will be installed consisting of a 12-inch-thick concrete building slab, underlain by 3-inch rigid insulation, followed by a 9-inch clean granular sub-base beneath all building areas.
18. As part of development, a vapor barrier system consisting of vapor barrier beneath the building slab and outside of sub-grade foundation sidewalls will be constructed to mitigate soil vapor migration into the building. The vapor barrier system will consist of a 46-mil GCP Applied Technologies PREPRUFE® 300R vapor barrier membrane below the slab throughout the full building area and a 60-mil GCP Applied Technologies BITUTHENE® 4000 waterproofing membrane outside all sub-grade foundation sidewalls. All welds, seams and penetrations will be properly sealed to prevent preferential pathways for vapor migration.
19. As part of development, an active suction point style sub-slab depressurization system (SSDS) will be installed. The SSDS would consist of four (4) suction pit venting zones beneath the approximately 7,406 square foot building footprint in accordance with the USEPA Handbook for Sub-Slab Depressurization for Low-Permeability Fill Soils and ANSI/AARST Radon Mitigation Standards for Schools and Large Buildings which recommend a separate vent loop for every 2,000 to 4,000 square feet of the slab area. A SSDS would include the installation of vertical vapor extraction/collection pits within a continuous gravel envelope laid out beneath the foundation slab across the entire building footprint. The extraction points would be connected and manifolded to transitional header piping on the first floor extending to a single riser which will extend to the roof. A 16-inch by 16-inch gravel envelope surrounding each extraction point would be backfilled with clean, virgin mined 3/4 inch to 1 inch gravel (e.g., bluestone) to grade beneath the vapor barrier which will act as a gas permeable layer. The riser would be extended to the roof through chase-way locations and will extend at least 3-feet above the roof line. The active SSDS required will achieve a pressure differential of at least 0.02 inches of water to provide an adequate safety factor for long-term and seasonal variation. The system will consist of a single stage high pressure blower capable of a 20-inch water column operating vacuum fitted to the risers penetrating the roof line and will be

hardwired into the building's electrical system to prevent accidental shut off and maintain continuous operation. The blower are capable of moving up to 272 cubic feet per minute (cfm) of air. **Figure 10** and **Figure 11** shows a proposed suction-pit SSDS layout and design details. Final design and specification for a final SSDS design is reliant upon the results of performance monitoring conducted through permanent monitoring points installed through the foundation slab.. A pre-startup shakedown test of the SSDS will be performed to determine the exact ROI of each suction point, and the rooftop fan will be specified based on this testing to ensure adequate negative pressure in the rear half of the building. The active SSDS is an Engineering Control for the remedial action. The remedial engineer will certify in the RCR that the active SSDS was designed and properly installed to establish a vacuum in the gas permeable layer and a negative (decreasing outward) pressure gradient across the building slab to prevent vapor migration into the building.

20. Submission of a RCR that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, lists any changes from this RAWP, and describes all Engineering and Institutional Controls to be implemented at the Site.
21. Submission of an approved Site Management Plan (SMP) in the Remedial Closure Plan (RCR) for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of Engineering and Institutional Controls and reporting at a specified frequency.
22. The property will continue to be registered with an E-Designation at the NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls in this RAWP and a requirement that management of these controls must be in compliance with an approved SMP. Institutional Controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.
23. Recorded a Declaration of Covenants and Restrictions with the property deed with the County Clerk that includes a listing of Engineering Controls and Institutional Controls and a requirement that management of these controls must be in compliance with an approved Site Management Plan (SMP). Institutional Controls including the following: (1) prohibition of vegetable gardening and farming in residual soil; (2) prohibition of the use of groundwater beneath the site without treatment rendering it safe for the intended use; (3) prohibition of disturbance of residual soil unless it is conducted in accordance with the SMP; and (4) prohibition of higher levels of land usage than the restricted residential uses addressed by this Remedial Action without prior notification and approval by OER.

**Description of Selected Remedy for Air Quality**

The elements of the remedial action selected for Air Quality for the 439 West 36th Street site are as follows:

In order to satisfy the requirements of the E-designation, electric equipment will be utilized at the site for space heating, hot water, and/or HVAC systems. The following equipment will be utilized:

<b>Equipment Type</b>	<b>Number of Units</b>	<b>Location</b>	<b>Make/Model Number</b>
Electrical heat pump systems with condensers	13	Above 12 <sup>th</sup> floor roof	Mitsubishi #PURY-EP96TNU-A
Electrical indoor air handler fan coil units (fresh air for apartments)	One per residential apartment	Inside apartments	Mitsubishi #PEFY-P08NMAU-E4 # PEFY-P12NMAU-E4 # PEFY-P15NMAU-E4 # PEFY-P18NMAU-E4
Electrical ceiling mounted split-type heat pump systems	One per lobby and recreation space	Inside lobby and recreational spaces	Mitsubishi #PEFY-P24NMAU-E4
Electrical condenser	1	Above 12 <sup>th</sup> floor roof	Mitsubishi #PURY-EP144TNU-A
Electrical energy recovery ventilators (fresh air for corridors)	2	Above 12 <sup>th</sup> floor roof	Swegon GOLD RX-12 and RX-25

Equipment Type	Number of Units	Location	Make/Model Number
Electric hot water heaters	One per residential apartment	Inside apartments	A. O. Smith FPTU-50

Due to there being no fuel oil or natural gas being proposed, no stacks will be required.

**Description of Selected Remedy for Noise**

The elements of the remedial action selected for Noise for the 439 West 36th Street site are as follows:

The following windows will be installed:

Façade Floor Range	OITC Rating	OITC Certification	Manufacturer and Model	Glazing
North and south facades (2 <sup>nd</sup> to 12 <sup>th</sup> floors and roof)  West façade (9 <sup>th</sup> to 12 <sup>th</sup> floors and roof)  Residential and recreation spaces	35 (required 35)	ASTM E-90 Lab Test Report(s): G23301AC236033 in <b>Appendix G</b> . Full assembly ASTM E90 test report to be provided to OER prior to purchase and installation.	Fixed Window  BCG 95 Series  RED	2 5/16" IG (7/16" laminated exterior, 15/32" air space, 5/16" annealed glass, 25/32" air space, 5/16" annealed interior)
North and south facades (2 <sup>nd</sup> to 12 <sup>th</sup> floors)  Residential	36 (required 35)	ASTM E-90 Lab Test Report(s): 221212010SHF-001-R1, window comparison drawings and letter from manufacturer in <b>Appendix G</b> .	Casement window  BCG Series 95  BLUE	2 5/16" IG (7/16" laminated exterior, 15/32" air space, 5/16" annealed glass, 25/32" air space, 5/16" annealed interior)
West façade  Residential	36 (required 35)	ASTM E-90 Lab Test Report(s): 221212010SHF-001-R1, <b>Appendix G</b> .	Awning Window  BCG Series 95  YELLOW	2 5/16" IG (7/16" laminated exterior, 15/32" air space, 5/16" annealed glass, 25/32" air space, 5/16" annealed interior)

Façade Floor Range	OITC Rating	OITC Certification	Manufacturer and Model	Glazing
North façade (2 <sup>nd</sup> to 12 <sup>th</sup> floors) South and west facades  (9 <sup>th</sup> to 12 <sup>th</sup> floors and roof) South façade  Residential  1 <sup>st</sup> Floor Commercial	36 (required 35)	ASTM E-90 Lab Test Report(s): 221212010SHF-001-R1, and window comparison drawings and letter from manufacturer in <b>Appendix G.</b>	Swing Door  BCG Series 95  PINK	2 5/16" IG (7/16" laminated exterior, 15/32" air space, 5/16" annealed glass, 25/32" air space, 5/16" annealed interior)
North and South façade  1 <sup>st</sup> Floor  Commercial	30 (required 30)	ASTM E-90 Lab Test Report(s): TL10-576, in <b>Appendix G.</b>	Storefront Window  U.S. Aluminum FT601 Flush-Out  GREEN	1 1/16" IG (7/32" monolithic glass, 17/32" air space, 5/16" laminated glass)

AMV for this project will be achieved by:

1. **Central System:** Installing thirteen (13) PURY-EP96TNU-A model split systems with condensing systems manufactured by Mitsubishi Electric Corp. on the 12th floor roof, and Mitsubishi Electric Corp. air handling units (model #s PEFY-P08NMAU-E4, PEFY-P12NMAU-E4, PEFY-P15NMAU-E4, and PEFY-P18NMAU-E4) in each residential living and bedroom space. Fresh air intakes are located on the 12th floor roof and air handling units and associated ducting will provide fresh air to each bedroom and living room in each residential unit. In all cases, the rate of outside air (cfm) delivered to each habitable space (bedrooms and living spaces) will meet or exceed that specified in the 2014 New York City Mechanical Code table MC 403.3.1.1. These rates will be the greater of 0.35 air changes per hour or 15 cfm per person, representing the outdoor ventilation otherwise provided by the operable windows.

2. **Compliance with Mechanical Code:** Providing outside air to commercial spaces and common areas such as lobbies and corridors in accordance with the 2014 NYC Mechanical Code.

The remedies for Hazardous Materials, Air Quality, Noise E Designation described above conforms to the promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration OER guidance, as appropriate.

01/10/2024

Date



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01/10/2024

Date



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