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To:	Michael Cruden and Brianna Scharf New York State Department of Environmental Conservation Division of Environmental Remediation 625 Broadway, Albany, New York 12233-5060
From:	Stefanie Pantazis and Howard Nichols
Subject:	Jimmy's Dry Cleaners – Site No. 130080 Climate Change Vulnerability Screening
Date:	February 28, 2025
CC:	P. Long – NYSDEC D. Glass, J. Magda, M. O'Donnell – TRC

This climate change vulnerability screening memorandum has been prepared for the New York State Department of Environmental Conservation (NYSDEC) to identify potential Site impacts from climate change hazards. In particular, the potential for adverse impacts due to climate change on the engineering controls at the Jimmy's Dry Cleaners Site (the "Site"), located at 61 Nassau Road, Roosevelt, New York have been evaluated. A completed NYSDEC Climate Change Screening Checklist is included as an attachment to the memorandum.

The Site is in the NYSDEC Inactive Hazardous Waste Disposal Site Remedial Program, identified as Site No. 130080, and is a Class 2 site. The Site is located within Climate Region 4, which encompasses New York City and Long Island, as defined by the Responding to Climate Change in New York State technical report prepared by the New York State Energy Research and Development Authority (NYSERDA), commonly referred to as the ClimAID Report.

The approximately 0.25-acre lot was formerly the site of a dry-cleaning facility. Multiple impacted media have been documented at and around the Site, including soil, groundwater, soil gas, and indoor air, including at off-site properties. Constituents of concern (COCs) are chlorinated volatile organic compounds (VOCs), primarily tetrachloroethene (PCE). The engineering control for the Site consisted of a soil vapor extraction (SVE) system, which has been decommissioned. With the exception of the former system shed, there are currently no structures at the Site, and the lot is used to stage vehicles and store equipment. Institutional controls are also in place for the Site, including a site management plan and environmental easement. Photographs of the Site ECs can be found in Attachment 2.

The SVE system, constructed as an Interim Remedial Measure, began operating in 2002, and was replaced by a more extensive system in 2015. The upgraded SVE system consisted of three vapor extraction wells installed to target source area soil, and six vapor extraction wells installed to target soil/soil gas/indoor air near adjacent residences. An in-situ chemical oxidation (ISCO) remedy was also implemented between 2015 and 2017 to treat groundwater contamination, along with soil excavation and off-site disposal for a limited area. As summarized in the May 4, 2022, *Soil Vapor Extraction System Pulsing Completion Report*, 2021 SVE sampling results indicated that PCE and total VOCs concentrations were sufficiently low to consider suspending SVE operations. The system remained in operation until September 2022, at which time NYSDEC and TRC determined SVE operations had sufficiently removed the significant sources of VOCs within the effective area of influence, and SVE operations were terminated. The SVE system on-site components were removed in 2024. Contaminant concentrations continue to be monitored via groundwater sampling at the Site and neighboring properties.

The Site is close to sensitive receptors, which according to the U.S. Environmental Protection Agency, include, but are not limited to, hospitals, schools, and daycare facilities. The lot is adjacent to a residential neighborhood to the west, however the lot bordering the Site to the west is vacant. Across Taylor Avenue to the north lies another residential neighborhood, and approximately 0.2 miles to the east lies the Roosevelt Children's Academy Preschool.

According to the DECinfo Locator, the Site lies within a disadvantaged community (DAC) and potential environmental justice area (PEJA) with a 99.52% minority population. As the area is low-income, the community may be vulnerable to increases in extreme temperature events if access to adequate heating and cooling is limited. With more extreme temperature events, the electrical grid may become overloaded, and grid failure may occur due to overload or damage from severe storm events. However, the Site remedy is not expected to be impacted by these climate hazards, nor is the Site expected to impact the surrounding area since there is no active system and associated energy use, and it is not believed that thresholds of concern need to be lowered to account for climate impacts.

A summary of climate change vulnerability screening results is shown in the table below.

Climate Change Vulnerability Screening Summary Table

Potential Climate Hazard	Relevant to the Site Location	Projected Change	Potential to Impact Remedy	Is Remedy/Site Already Resilient?
Precipitation[1]	Yes	+1 to +13%	No	N/A
Temperature (Extreme Heat[2] or Cold Weather[3] Impacts)	Yes	Extreme Heat: ▪ Baseline - 18 days ▪ 2050s - 32 to 57 days Cold Weather: ▪ Baseline - 71 days ▪ 2050s - 37 to 52 days	No	N/A
Sea Level Rise	No	N/A	N/A	N/A
Flooding	Yes	Flooding intensity predicted to increase due to increased precipitation[4]	Yes	Yes
Storm Surge	No	N/A	N/A	N/A
Wildfire	No	N/A	N/A	N/A
Drought	No	N/A	N/A	N/A
Storm Severity	Yes	Predicted to increase due to rising temperatures[5]	Yes	Yes
Landslides	No	N/A	N/A	N/A
Other Hazards: Seismic	Yes	Intensity VII[6]	Yes	No

[1] Mean annual precipitation change by the 2050s, ClimAID Region 4.
[2] Number of days per year with maximum temperature exceeding 90°F, ClimAID Region 4.
[3] Number of days per year with minimum temperature at or below 32°F, ClimAID Region 4.
[1,2,3] Horton, R., D. Bader, C. Rosenzweig, A. DeGaetano, and W. Solecki. 2014. Climate Change in New York State: Updating the 2011 ClimAID Climate Risk Information. New York State Energy Research and Development Authority (NYSERDA), Albany, New York.
[4] USEPA. (2016). What Climate Change Means for New York (No. EPA 430-F-16-034). U.S. Environmental Protection Agency. Retrieved from U.S. Environmental Protection Agency website: https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-ny.pdf
[5] NOAA State of the Science FACT SHEET: How Changing Climate Affects Extreme Events, March 2021 citing Knutson, T. R., S. J. Camargo, J. C. L. Chan, K. Emanuel, C. H. Ho, J. Kossin, M. Mohapatra, M. Satoh, M. Sugi, K. Walsh, and L. Wu, 2020: Tropical Cyclones and Climate Change Assessment: Part II. Projected Response to Anthropogenic Warming. Bull. Amer. Meteor. Soc., 101(3), DOI:10.1175/BAMS-D-18-0194.1.

[6] FEMA Resilience Analysis and Planning Tool (RAPT). Retrieved from: https://www.fema.gov/about/reports-and-data/resilience-analysis-planning-tool

Precipitation

Screening for potential climate hazards, as shown in the above table, has indicated that the Site location may experience increases in precipitation. Mean annual precipitation in the region is expected to rise anywhere from 1% to 13% percent by the 2050s. As the SVE system has been decommissioned and removed, and no cover system is present that would be at risk of erosion due to increased precipitation, the Site remedy is not expected to be impacted by this climate change hazard.

Temperature

The Site location may also be vulnerable to increases in both extreme heat and extreme cold temperature events. Electrical grid failure due to overload may occur as a result of these extreme temperature events. Due to the completion of treatment and the decommissioning and removal of the SVE system, extreme temperatures do not pose a threat to the Site ECs which are expected to remain protective of human health and the environment in the event of power loss.

Sea Level Rise, Flooding, Storm Surge, and Storm Severity

Sea level rise and storm surge are not expected to impact the Site, since the Site is located inland and approximately 34 feet above mean sea level; however, the Site may be susceptible to localized flooding due to increases in precipitation, associated runoff, and severe storm events. The Site may be especially susceptible to flooding due to the relatively low permeability of the surrounding paved areas. Flooding could impact the groundwater monitoring well network. Severe storm events, which are predicted to increase due to rising temperatures, may also lead to damage of the electrical grid and loss of power to the system. Severe storm events include extreme precipitation events, defined by the ClimAID report as rainfall of more than 2 inches per day. Storms involving high-speed winds may also pose a risk to Site infrastructure. According to the National Weather Service, wind gusts during storms are considered damaging when above 58 mph, and very damaging above 75 mph.

The SVE system was decommissioned and removed in 2024, and therefore no mitigation for the system is needed at the Site. The groundwater monitoring network may be vulnerable to the impacts from these climate change hazards. The condition of the groundwater monitoring well covers should be routinely inspected and maintained on an annual basis and as needed basis after severe weather events.

Wildfire, Drought, Landslides, and Seismic Activity

Potential climate hazards such as wildfires, drought, and landslides are not expected to have an impact on the Site, but the Site location does have the potential to be impacted by seismic activity. Per FEMA's Resilience Analysis and Planning Tool (RAPT), the Site is designated as Intensity VII on the Modified Mercalli Intensity (MMI) Scale. Intensity VII is described on the MMI scale as negligible damage to buildings of good design and construction, slight to moderate damage in well-built ordinary structures, and considerable damage in a poorly built or badly designed structure. Currently no structures are in place at the Site, apart from the former SVE system shed. As the system components have been removed, damage to the surrounding electrical grid infrastructure will have no impact on the protectiveness of the Site remedy. To confirm the Site remedy remains protective, post-incident inspection should be conducted, and repairs made as needed to maintain the groundwater monitoring well network.

Summary of Conclusions

While potential climate change vulnerabilities associated with flooding, storm severity, and seismic activities were identified, provisions in the Site Management Plan to inspect and maintain the

groundwater monitoring wells following storm events, floods, and annually are sufficient and provide adequate resilience for the remedy.

Attachment

Attachment 1 – Climate Change Screening Checklist

Attachment 2 – Site Photographs

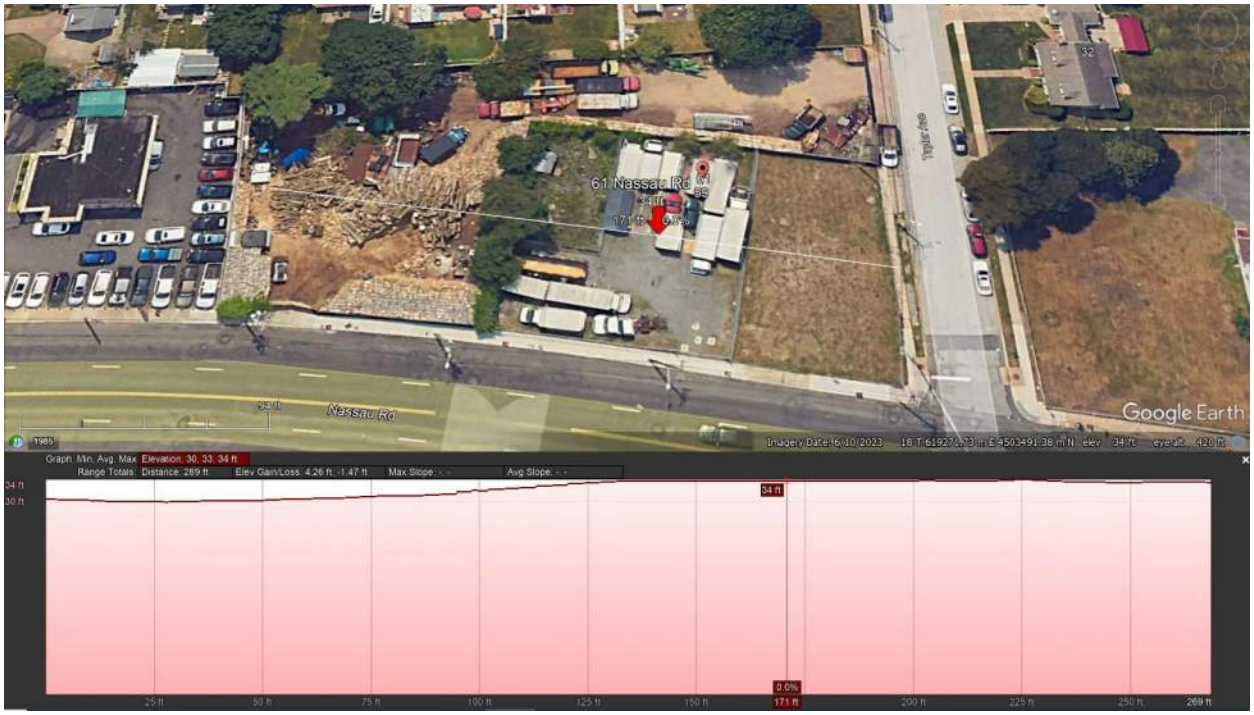
ATTACHMENTS

ATTACHMENT 1

New York State Department of Environmental Conservation
Climate Change Screening Checklist
Jimmy's Dry Cleaners, Site No. 130080

Background Information

- **Project Manager:** Brianna Scharf
- **Site Name:** Jimmy's Dry Cleaners
- **Site Number:** 130080
- **Site Location:** 61 Nassau Road, Roosevelt, New York 11575
- **Site Elevation (average above sea level):** Approximately 34 feet above sea level (Google Earth)



- **ClimAID Region:** Region 4—New York City & Long Island

- **Remedial Stage/site classification:** Class 2

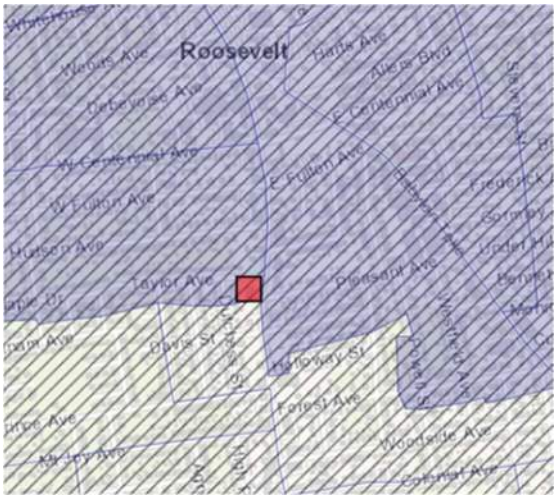
- **Contamination - Media Impacted/ Contaminants of Concern:** Soil, Groundwater, Soil Gas, Indoor Air – COCs: Volatile Organic Compounds (VOCs), primarily tetrachloroethene (PCE)

- **Proposed/Current Remedy**: Remediation of VOCs was performed with the installed SVE system, with past actions including excavation and off-site disposal of Site soils and in-situ chemical oxidation (ISCO) injections utilizing sodium permanganate. The SVE system served as the Site engineering control; however, the SVE system was shutdown in September 2022, and was decommissioned in 2024. Remedial actions successfully achieved soil cleanup objectives for restricted residential use and residual contamination is being managed under a Site Management Plan. The aboveground components of the SVE system were housed in a pre-manufactured shed and consisted of a moisture separator, two regenerative blowers, blower effluent discharge piping, and two granular activated carbon (GAC) vessels. Additional SVE system components included on-site SVE wells on the property surrounding the system shed, off-site SVE wells, off-site soil vapor monitoring (SVM) points, and underground piping which connected the SVE wells and SVM points to the aboveground components within the system shed. In 2021, as summarized in the May 4, 2022, *Soil Vapor Extraction System Pulsing Completion Report,* sampling showed results indicating concentrations of PCE and total VOCs were low, therefore pulsing operations were conducted to assess the SVE system performance and determine if SVE system operations succeeded in reducing VOC contamination to levels where SVI mitigation was no longer required. The results of the assessment recommended SVE system shut down and confirmatory sampling, the SVE system has not operated since September 2022, and the system was decommissioned and removed in 2024. Contaminant concentrations are monitored via groundwater sampling.

- **What is the predicted timeframe of the remedy? Will components of the remedy still be in place in 10+ years?:** The SVE system was decommissioned and removed in 2024.

- **Is the site in proximity to any sensitive receptors? (e.g. wetlands, waterbodies, residential properties, hospitals, schools, drinking water supplies, etc.) :** Yes, properties to the north and west of the Site include residential properties. A preschool is located within 0.2 miles of the Site, to the east.

- **Is the site in a disadvantaged community (DAC) or potential environmental justice area (PEJA)?** (Use DECinfo Locator: DECinfo Locator (ny.gov))



☒ **Yes** ☐ **No** ☐ **N/A**

If the site is in a DAC or PEJA, will climate impacts be magnified? If yes, list how and why.

☐ **Yes** ☒ **No** ☐ **N/A**

Should thresholds of concern be lowered to account for magnification of impacts? If yes, indicate how lower thresholds will be used in the screening.

☐ **Yes** ☒ **No** ☐ **N/A**

Climate Screening

Climate Change Vulnerability Screening Summary Table*

Potential Climate Hazard	Relevant to the Site Location (Yes/No/NA)	Projected Change (Reference data source/Model)[3]	Potential to Impact Remedy (Yes/No)	Is Remedy/Site Already Resilient? (Yes/No)[4]
Precipitation	Yes	+1 to +13%[5]	No	N/A
Temperature[2] (Extreme Heat or Cold Weather Impacts)	Yes	Extreme Heat: ▪ Baseline - 18 days[6] ▪ 2050s - 32 to 57 days[6] Cold Weather: ▪ Baseline – 71 days[7] ▪ 2050s - 37 to 52 days[7]	No	N/A
Sea Level Rise	No	N/A	N/A	N/A
Flooding	Yes	Flooding intensity predicted to increase due to increased precipitation[8]	Yes	Yes
Storm Surge	No	N/A	N/A	N/A
Wildfire	No	N/A	N/A	N/A
Drought	No	N/A	N/A	N/A
Storm Severity	Yes	Predicted to increase due to rising temperatures[9]	Yes	Yes
Landslides	No	N/A	N/A	N/A
Other Hazards: Seismic	Yes	Intensity VII[10]	Yes	No

* A list of potential data sources is provided at the end of this document.

[1] If the first column is No --> The rest of the columns will be N/A, as the hazard is not applicable to the site.

[2] Extreme Heat: periods of three or more days above 90°F. Extreme Cold: Individual days with minimum temperatures at or below 0°F or 32°F, depending on the region of New York State assessed. For ClimAID Region 4, 32°F is appropriate (NYSERDA ClimAID report).

[3] List the projected change in specific terms or units, e.g. inches of rain fall, feet of sea level rise, etc.

[4] If final column is Yes, provide reasoning; if the final column is No --> Climate Change Vulnerability Assessment (CCVA) required.

TRC Data Sources:

[5] Mean annual precipitation change by the 2050s, ClimAID Region 4.

[6] Number of days per year with maximum temperature exceeding 90°F, ClimAID Region 4.

[7] Number of days per year with minimum temperature at or below 32°F, ClimAID Region 4.

[8,9,10] Horton, R., D. Bader, C. Rosenzweig, A. DeGaetano, and W.Solecki. 2014. Climate Change in New York State: Updating the 2011 ClimAID Climate Risk Information. New York State Energy Research and Development

Authority (NYSERDA), Albany, New York.
[8] USEPA. (2016). What Climate Change Means for New York (No. EPA 430-F-16-034). U.S. Environmental Protection Agency. Retrieved from U.S. Environmental Protection Agency website: https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-ny.pdf
[9] NOAA State of the Science FACT SHEET: How Changing Climate Affects Extreme Events, March 2021 citing Knutson, T. R., S. J. Camargo, J. C. L. Chan, K. Emanuel, C. H. Ho, J. Kossin, M. Mohapatra, M. Satoh, M. Sugi, K. Walsh, and L. Wu, 2020: Tropical Cyclones and Climate Change Assessment: Part II. Projected Response to Anthropogenic Warming. Bull. Amer. Meteor. Soc., 101(3), DOI:10.1175/BAMS-D-18-0194.1.
[10] FEMA Resilience Analysis and Planning Tool (RAPT). Retrieved from: https://www.fema.gov/about/reports-and-data/resilience-analysis-planning-tool

Required Next Steps (If no further action is required, provide justification):

The on-Site SVE system operations have been terminated, the SVE system has been decommissioned and on-site system components have been removed, apart from the system shed. Provisions in the Site Management Plan to inspect and maintain the groundwater monitoring wells following storm events, floods, and annually are sufficient and provide adequate resilience for the remedy.

Potential Data Sources (not an exhaustive list) from Superfund Climate Resilience: Vulnerability Assessment | US EPA

NYSERDA ClimAID report – Responding to Climate Change in New York State (ClimAID) - NYSERDA

FEMA National Flood Hazard Layer | FEMA.gov

NOAA National Storm Surge Risk Maps - Version 3 (noaa.gov)

Department of Agriculture Forest Service Wildfire Risk to Communities

EPA Climate Change Indicators in the United States

EPA Climate Resilience Evaluation & Awareness Tool (CREAT) | U.S. Climate Resilience Toolkit

EPA National Stormwater Calculator

National Integrated Drought Information System U.S. Drought Portal

National Interagency Coordination Center National Interagency Fire Center

National Oceanic and Atmospheric Administration Coastal Services Digital Coast

- Resources to help communities assess coastal hazards, such as the Sea Level Rise Viewer for visualizing community-level impacts of flooding or sea level rise and downloadable LIDAR data

National Oceanic and Atmospheric Administration National Centers for Environmental Information website

National Oceanic and Atmospheric Administration Sea Level Trends

National Weather Service Climate Prediction Center

National Weather Service National Hurricane Center

National Weather Service Sea, Lake, and Overland Surges from Hurricanes (SLOSH)

National Weather Service Storm Surge Hazard Maps

U.S. Federal Government Climate Resilience Toolkit: The Climate Explorer

U.S. Army Corps of Engineers Climate Preparedness and Resilience

U.S. Geological Survey Coastal Change Hazards Portal

U.S. Geological Survey Landslide Hazards Program

U.S. Geological Survey National Ground-water Monitoring Network Data Portal

U.S. Geological Survey National Climate Change Viewer

U.S. Geological Survey National Water Dashboard

U.S. Geological Survey StreamStats

NYS Department of State Assess | Department of State (ny.gov)

NYSERDA NY Costal Floodplain Mapper Home Page (ny.gov)

NYSDEC Costal Erosion Hazards Coastal Areas Regulated By The CEHA Permit Program - NYDEC

NYSDOH Heat Index health.ny.gov/environmental/weather/vulnerability_index/county_maps.htm

ATTACHMENT 2

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New York State Department of Environmental Conservation
Jimmy's Dry Cleaners Site – Site No. 130080
Site Photographs

Photo 1: Main perimeter fencing at Jimmy's Dry Cleaners Site, facing southwest.

Photo 2: SVE system enclosure and perimeter fencing, facing northwest.

Photo 3: SVE system enclosure exterior with control panels and electrical components (right), facing west.

Photo 4: SVE system enclosure exterior with control panels and electrical components (left) and soil vapor recovery piping (right), facing southeast.

Photo 5: SVE system influent piping manifold (left), moisture knock-out tank (center) and blower (right) within system enclosure.

Photo 6: SVE system carbon vessels within system enclosure.

Photo 7: Groundwater monitoring wells within main gate of perimeter fencing, facing southwest.

Photo 8: Soil vapor monitoring well (SVM-1).