Remedial Action Work Plan

Syosset Park
Lots 251 and 252
(BCP Site No. C130002)

December 14, 2020
Presented by Nora M. Brew, P.E.
Walden Environmental Engineering, PLLC

Source: Alternative Analysis Report/Remedial Action Work Plan/Roux Environmental Engineering/November 2020

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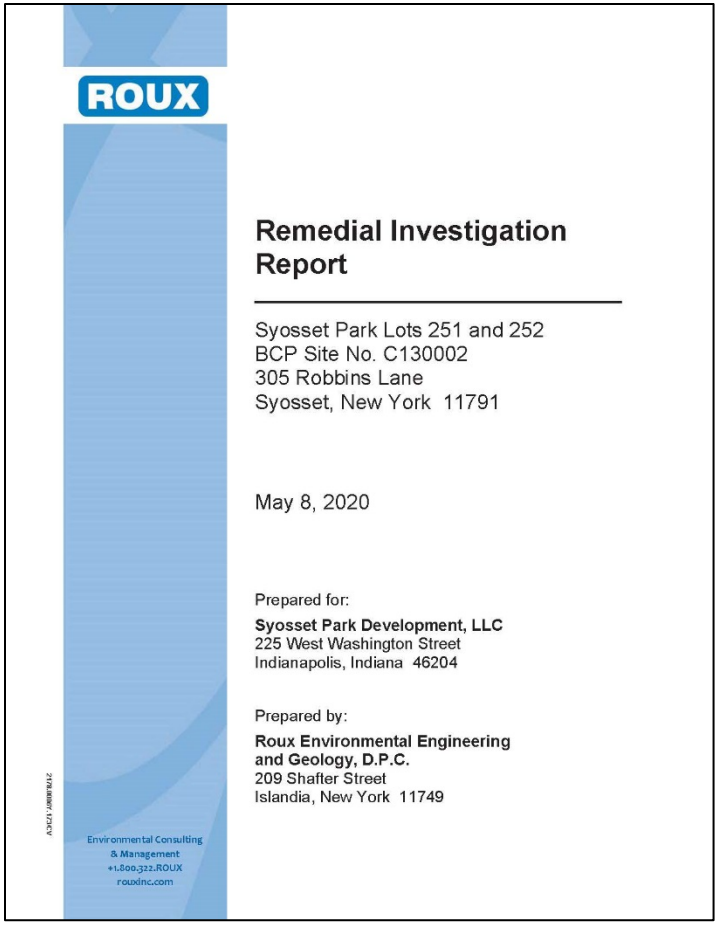
Reports to be Discussed

RIR, May 2020



ROUX

Remedial Investigation Report

Syosset Park Lots 251 and 252
BCP Site No. C130002
305 Robbins Lane
Syosset, New York 11791

May 8, 2020

Prepared for:

Syosset Park Development, LLC
225 West Washington Street
Indianapolis, Indiana 46204

Prepared by:

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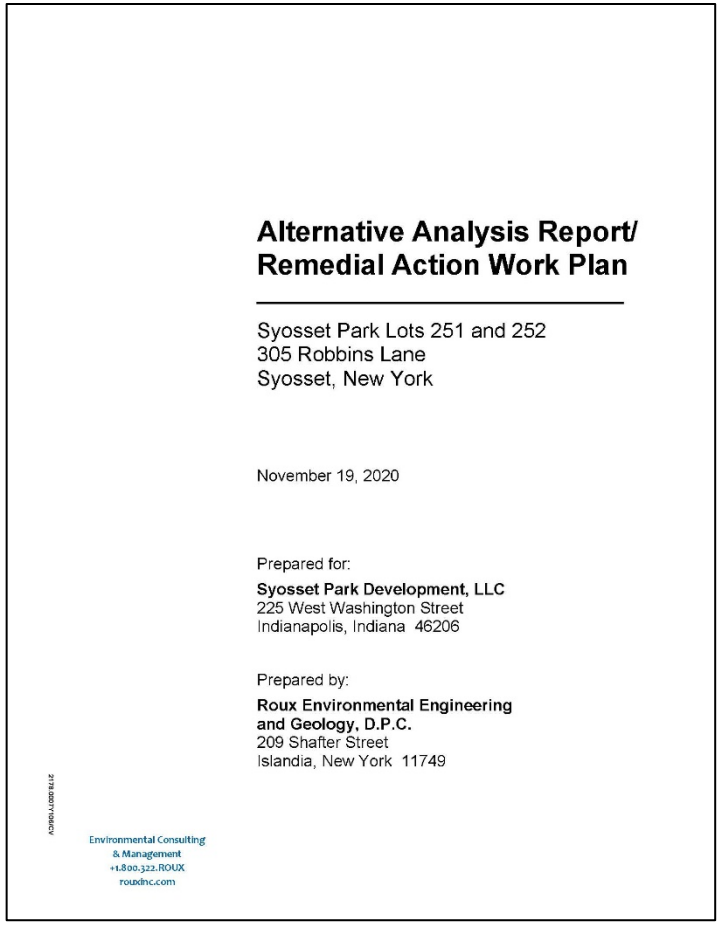
RAWP, November 2020



Alternative Analysis Report/ Remedial Action Work Plan

Syosset Park Lots 251 and 252
305 Robbins Lane
Syosset, New York

November 19, 2020

Prepared for:

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NYSDEC Brownfield Cleanup Program (BCP) Overview

**The following information is excerpted from the NYSDEC website

- **Goal of the BCP**: To encourage private-sector cleanups of brownfields and promote redevelopment.
- Site Owner (Applicant) Applies for Acceptance into the BCP
- Once a site is accepted into the BCP, a Brownfield Cleanup Agreement is executed, whereby the Applicant makes a commitment to undertake remedial activities under DEC's oversight.
- All environmental investigation and cleanup activity at a BCP site must be performed in accordance with work plan and/or design documents approved by DEC

Documents submitted under the BCP include, but may not be limited to, the following:

- **Remedial Investigation Work Plan (RIWP)** describing the investigation plan to determine the nature and extent of contamination within the site boundaries
- **Remedial Investigation Report (RIR)** documenting the remedial investigation results
- **Remedial Action Work Plan (RAWP), Remedial Work Plan (RWP) or Alternatives Analysis Report (AAR)** evaluating and recommending remedial actions to address site contamination

NYSDEC Brownfield Cleanup Program (BCP) Overview

**The following information is excerpted from the NYSDEC website

- Remedy selection is based on the nature and extent of contamination on the site and qualitative exposure assessment as detailed in the RIR.

- DEC considers public comments for final remedy selection, has the applicant revise the RAWP/RWP as necessary, and issues a final **Decision Document** describing the selected remedy. The applicant(s) may then design and perform the cleanup action to address the site contamination, with oversight by DEC and the NYS Department of Health.

Current step

- Following remediation, a **Final Engineering Report (FER)** is submitted to document that the remediation was performed in accordance with the approved RAWP. A **Site Management Plan (SMP)** is included in the FER to detail how contamination remaining at the site will be managed, and to describe any engineering controls installed as part of the remedy.

- The FER must be approved before DEC can issue a **Certificate of Completion**.

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NYSDEC BCP Citizen Participation Milestones

**The following information is excerpted from the NYSDEC website

- **When the NYSDEC Division of Environmental Remediation (DER) deems BCP application complete**
  - DEC issues fact sheet and public notice; 30-day public comment period
- **Before DER Finalizes Remedial Investigation Work Plan**
  - DEC issues fact sheet and public notice; 30-day public comment period
- **Before DER Approves Proposed Remedial Investigation Report**
  - DEC issues fact sheet
- **Before DER Finalizes Proposed Remedial Work Plan**
  - DEC issues fact sheet and public notice; 45-day public comment period
  - DEC may decide to hold a public meeting (not required)
- **Before Applicant Starts Construction**
  - DEC issues fact sheet announcing the start of construction
- **Before DER Approves Final Engineering Report**
  - DEC issues fact sheet announcing the final engineering report
- **Certificate of Completion** (when institutional/engineering controls are used)
  - DEC issues fact sheet within 10 days of issuance of certificate.

Current step – DEC is accepting public comments until January 11, 2021

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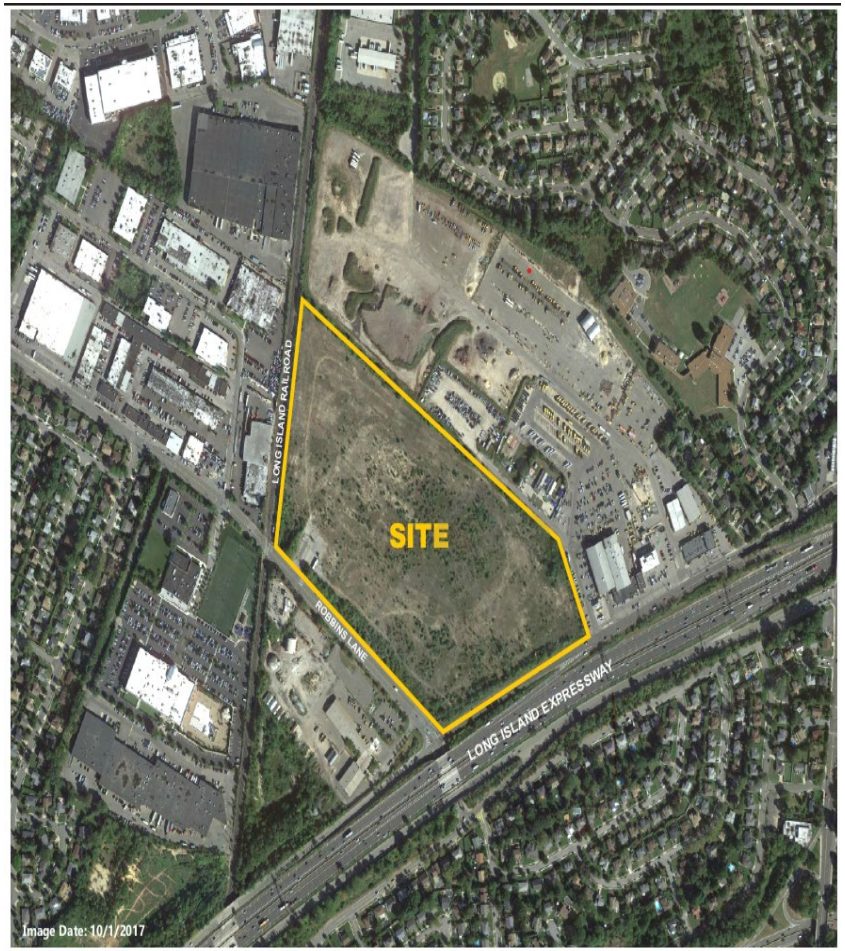
Site Location and Description

Property Name	Syosset Park Lots 251 and 252
Property Address	305 Robbins Lane
Property Town, County, State	Syosset, Nassau County, New York
Property Tax Identification	Section 15, Block H, Lots 251 and 252
Property Topographic Quadrangle	Hicksville, New York
Nearest Intersection	Robbins Lane and Miller Place
Property Acreage	39 acres (total)
Property Shape	Irregular
Property Use	Vacant (majority)
Property Occupancy and Improvements	Mobile office trailer used by security personnel Two small block houses for water service Chain link-around perimeter of Site Vehicular access through asphalt paved entrance along Robbins Lane



Source: Alternative Analysis Report/Remedial Action Work Plan/Roux Environmental Engineering/November 2020

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Site History - Timeline

Early 1950s - Construction of Cerro Wire and Cable Company

Wastewater generated by surface preparation of steel and copper parts was treated inside former buildings, generating non-hazardous iron and lime-based sludge that was dewatered and stored on-site as “filter cake”

1975 to 1979 - Filter cake stored on-site in 200 ft by 400 ft area

Treated wastewater discharged to three on-site wastewater recharge basins, in accordance with a State Pollutant Discharge Elimination System permit issued by NYSDEC

1982 - Site connected to Nassau County municipal sewer system

On-site discharge of treated wastewater ceased

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Site History - Timeline

1983 - Site included on the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites (State Superfund Registry)

As a result of historical industrial operations that impacted the subsurface

March 1984 – Cerro Sold Site to Sy Associates

Cerro continued limited operations

November 1986 - Cerro terminated operations, closed facilities and initiated a Site Decommissioning Program under NYSDEC and NYSDOH oversight

Key activities of 1986 Decommissioning Program (quantities approximate):

- 70,830 cubic yards of filter-cake sludge removed from former sludge area
- 80,000 gal of cyanide solution transported off-site for disposal
- 300,000 lbs of copper scale dried and processed for salvage
- 25,000 gal of copper sulfate and 1,000 gal of sulfuric acid treated with existing on-site treatment and neutralization process, before discharge to Nassau County municipal sewer
- 2,000 gal of wire drawing solution transported off-site for disposal
- 16,000 gal of acid plating solution treated, neutralized and discharged to Nassau County municipal sewer system
- 10,000 gal of soluble oil coolants and threading compounds drummed and transported off-site for disposal
- 75,000 gal of plating solution transported off-site for disposal

Previous Site Investigation/Remedial Activities (1987 to 2005)

This table presents information summarized in the RAWP related to environmental investigation and remedial activities completed at the Site from 1987 to 2005 by various consulting firms on behalf of the site owner.

Year	Activity Description
1987 to 1992	Soil investigations identified three constituents of concern in soil (copper, cyanide and zinc); Groundwater investigations did not identify any adverse groundwater impacts attributable to former site operations; Baseline risk assessment established site-specific soil standards
1992	Soil Excavation - Approx. 170 cubic yards of copper impacted soil excavated from multiple operation areas across site (including the former copper pond and wastewater recharge basins #2 & #3) and disposed of off-site
1994	NYSDEC delisted the site from the State Superfund Registry
1997-1998	Due diligence environmental investigation and soil investigation identify soils impacted by copper and semi-volatile organic compounds (SVOCs) in the rail spur and clarifier areas; groundwater sampling results confirm historic site operations have not adversely impacted groundwater.
2004	Rail Spur and Clarifier Area Soil Excavation - Approx. 810 cubic yards of soil impacted by copper and SVOCs excavated from former rail spur and clarifier area and disposed of off-site
2004-2005	Underground storage tanks (UST) and Debris Removal - 3 petroleum USTs, approx. 2,840 cubic yards of impacted soil and approx. 9,500 tons of debris were removed from beneath former on-site buildings and the UST excavations, and disposed of off-site

Summary of 2015-2019 Site Investigations

Roux Associates, Inc. was retained by the Syosset Park Development LLC in 2015 and has completed the investigations discussed in the table below, based on the information summarized in the RAWP.

Year	Description	Investigation Findings
2015	Soil Investigation - To obtain current baseline soil quality data, supplement previous investigations in consideration of proposed future site use, and to obtain additional data to support the BCP application 59 soil borings installed to depths from 2 ft to 35 ft below land surface (bls) 152 samples analyzed for SVOCs, PCBs, pesticides 168 samples analyzed for metals 218 samples analyzed for VOCs	Copper and SVOC concentrations in soil exceeded NYSDEC Commercial Soil Cleanup Objectives (CSCOs) at multiple site locations. Cyanide concentration slightly exceeded CSCO at one boring location (2 separate depths) SVOCs consisted of polycyclic aromatic hydrocarbons (PAHs).
2016	Groundwater Investigation - samples collected from 5 on-site wells	The data indicate that Site-wide groundwater has not been impacted by former Site operations
2017	BCP Remedial Investigation Soil Vapor Sampling - Conducted at 10 locations around the Site perimeter	VOCs levels not of concern given the anticipated remedial actions and site redevelopment plans
2019	BCP Remedial Investigation Groundwater Sampling – 4 monitoring wells installed (to replace wells that could not be sampled due to a drop in the water table) and sampled	Overall, groundwater sampling results consistent with naturally occurring compounds for the region -no indication of Site-specific groundwater contamination

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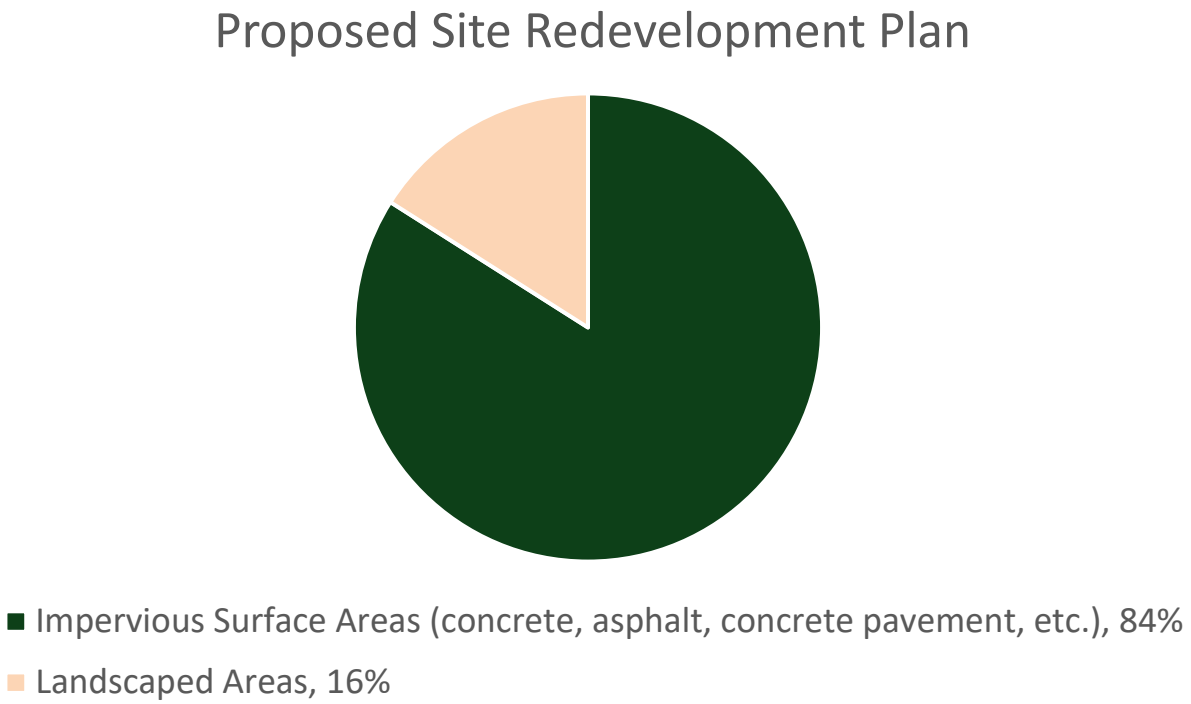
Proposed Site Redevelopment Plan

- The RAWP states that the proposed redevelopment plan for the Site consists of a one-story, 204,169 square foot warehouse building, with remaining areas primarily consisting of paved parking and landscaped zones around the Site perimeter



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NYSDEC BCP Cleanup Tracks

**The following information is excerpted from the NYSDEC website

Remedies in the BCP are selected from four cleanup tracks:

- **Track 1** - No restrictions on the use of the property
- **Track 2** - Restricted use with generic soil cleanup objectives (SCOs) based on the intended use of the property-residential, restricted residential (single family houses not allowed), commercial, or industrial
- **Track 3** - Restricted use with modified SCOs based on the same uses described in Track 2 above

RAWP Proposes Track 4 Commercial Cleanup for Anticipated Warehouse Site Use

- **Track 4** - Restricted use with site-specific soil cleanup objectives, where the shallow exposed soils must meet the generic SCOs used for Track 2 above

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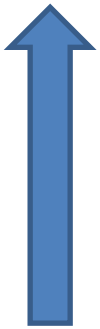
NYSDEC Part 375 Soil Cleanup Objectives (SCOs)

**The following information is excerpted from the NYSDEC website

- SCOs are used as guidelines to evaluate contaminant concentrations in soil and develop remedial measures to eliminate or minimize exposure to contaminants for protection of public health, groundwater, surface water, air, sensitive populations, fish and wildlife
- The appropriate SCO category is determined based on current and reasonably anticipated future use of a Site as well as the cleanup track being evaluated.
- SCO categories are listed below in order from most restrictive to least restrictive

(INCREASING RESTRICTION)



Unrestricted Use

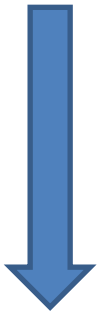
Residential Use

Restricted Residential Use (no single family units)

Commercial Use

Industrial Use

(DECREASING RESTRICTION)



SCOs based on groundwater protection or protection of ecological resources vary based on the properties of individual compounds and soil conditions.

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NYSDEC Part 375 SCOs

Compound	Unrestricted Use SCO (UUSCO)	Residential Use SCO	Restricted Residential Use SCO	Commercial Use SCO (CSCO)	Industrial Use SCO	SCO based on Protection of Groundwater	SCO based on Protection of Ecological Resources
Copper	50 mg/kg	270 mg/kg	270 mg/kg	270 mg/kg	10,000 mg/kg	1,720 mg/kg	50 mg/kg
Benzo (a) Pyrene (Example of SVOC)	1 mg/kg	1 mg/kg	1 mg/kg	1 mg/kg	1.1 mg/kg	22 mg/kg	2.6 mg/kg
Cyanide	27 mg/kg	27 mg/kg	27 mg/kg	27 mg/kg	10,000 mg/kg	40 mg/kg	No Standard

Source: 6 NYCRR Part 375-6.8

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2015 Soil Investigation Results vs. CSCOs

Compound	Total Number of Soil Samples	Contaminant concentrations exceeding CSCOs in 2015 Soil Investigation	Unrestricted Use SCO	Commercial Use SCO	SCO based on Protection of Groundwater
Copper	161	89 samples: non-detect to 50 mg/kg 40 samples: >50 to 270 mg/kg 30 samples: >270 to 1,720 mg/kg 2 samples: >1,720 mg/kg	50 mg/kg	270 mg/kg	1,720 mg/kg
Benzo (a) Pyrene (Example of SVOC)	152	146 samples: non-detect to 1 mg/kg 6 samples: >1 to 22 mg/kg 0 samples: >22 mg/kg	1 mg/kg (1,000 µg/kg)	1 mg/kg (1,000 µg/kg)	22 mg/kg (22,000 µg/kg)
Cyanide	164	162 samples: non-detect to 27 mg/kg 2 samples: >27 mg/kg (max. concentration detected: 28 mg/kg)	27 mg/kg	27 mg/kg	40 mg/kg

Source: Alternative Analysis Report/Remedial Action Work Plan/Roux Environmental Engineering/November 2020

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NYSDEC Identification of Contaminants of Concern

NYSDEC's Standard Decision Document language includes the following statement:

> *"A 'contaminant of concern' is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern."*

DER-10 3.1(b)(3)(ii) states:

> ii. *if one or more applicable SCOs for the protection of public health are exceeded, this alone does not trigger the need for remedial action or define "unacceptable" levels of contaminants in soil. In assessing the need for further investigation or other action, DER will also consider that:*
> *(1) soil SCOs are applicable statewide and do not account for many site-specific considerations which could potentially result in higher levels (e.g. site-specific background conditions);*
> *(2) concentrations of contaminants which are higher than the soil SCGs for the current, future or reasonably anticipated future use of the site are not necessarily a health or environmental concern;*
> *(3) should a soil SCG for the current, future or reasonably anticipated future use of the site be exceeded, the degree of public health and environmental concern depends on several factors, including:*
> *(A) the magnitude by which the concentration exceeds the SCG;*

SCG = NYSDEC Standards, Criteria and Guidance

- NYSDEC's November 2020 Fact Sheet identifies copper and SVOCs as the primary constituents of concern at the Site.

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Remedial Alternatives Evaluated in RAWP

Remedial Alternative	Key Features
Alternative 1 Track 1 Unrestricted Use Cleanup Estimated Cost: $137 million	Excavation and off-site disposal of soil (approx. 636,687 cubic yards) that exceeds UUSCOs and backfilling area with material meeting UUSCOs Timeframe: approx. 4.25 years
Alternative 2 Track 4 Commercial Cleanup Estimated Cost: $6,728,000 plus annual O&M of approx. $17,000/year	- Soil excavation as required for grading and to support redevelopment plans. - Site Cover System to address exposure to soils; cover would consist of building slabs/foundations, asphalt, concrete sidewalks, or 1 foot of clean soil - Site Management Plan and Environmental Easement to ensure integrity of Site Cover System, Site use is restricted and groundwater use is restricted Timeframe: approx. 10 months
Alternative 3 No Further Action Estimated Cost: $150,000	Site would remain in current state with no additional controls Timeframe: less than one month

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Remedial Alternatives Evaluation

The RAWP evaluates and compares the three alternatives based on the following criteria:

- Protection of human health and environment
- Compliance with standards, criteria and guidelines (SCGs)
- Short-term effectiveness and impacts
- Long-term effectiveness and permanence
- Reduction of toxicity, mobility and volume of contaminated material
- Implementability
- Cost effectiveness
- Community Acceptance
- Land use

Based on the evaluation, the RAWP identifies Alternative 2: Track 4 Commercial Cleanup as the Preferred Remedy for the Site.

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Applicant/Owner's Preferred Remedial Action (Alternative 2)

NYSDEC released the Draft Remedial Work Plan and a November 2020 Fact Sheet outlining the following components of the proposed commercial use remedy:

- Placement of a cover system, including a demarcation layer over areas without hardscape (buildings, asphalt, or concrete) to address contamination remaining above DEC's commercial use SCOs to prevent potential exposure to contamination;
- Importing clean material that meets the established soil cleanup objectives for use as cover material;
- Implementing a Health and Safety Plan and Community Air Monitoring Plan during all ground intrusive activities;
- Implementing Site Management Plan (SMP) requirements for long-term maintenance of the remedial systems; and
- Recording an Environmental Easement to ensure proper use of the site and to confirm that the engineering controls remain in place.

Remedial Alternatives Evaluated in RAWP/Potential Impacts on School Sites

Remedial Alternative	Description/Impacts
Alternative 1 Track 1 Unrestricted Use Cleanup	Description: • Soil with contaminant concentrations exceeding UUSCOs would be removed from the Site. Potential Impacts on School Sites: • Over 50,000 truckloads of soil would be removed from the Site under this alternative. • Trucks and heavy equipment involved in implementing the remedy would generate truck exhaust, dust, noise, traffic and other disturbance to school sites over the estimated 4.25 year remedial timeframe.
Alternative 2 Track 4 Commercial Cleanup	Description: • Site Cover System would prevent direct contact with soils exceeding the CSCOs and reduce contaminant mobility. • On-site reuse of soil would reduce the volume of material hauled off-site compared with Alt. 1. • Remedial timeframe is significantly less than the Alt. 1 timeframe (estimated 10 months vs. 4.25 years), and would cause less disruption to school sites. Potential Impacts on School Sites: • Trucks and heavy equipment involved in construction would generate truck exhaust, dust, noise, traffic and other disturbance to school sites over the estimated 10 month remedial timeframe.
Alternative 3 No Further Action	Description: • No construction activity or soil disturbance; no disruption to school sites. Potential Impacts on School Sites: • Soils exceeding the SCOs would remain uncovered; Site development would be prohibited.

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Potential Construction Phase Impacts Associated with the Preferred Remedy (Alternative 2)

The RAWP estimates that construction of the Preferred Remedy would be completed in 10 months, however no construction schedule details are presented in the document.

Activities at the Site during the construction phase would pose a number of concerns and risks to the District, in particular South Grove Elementary School. These concerns include, but may not be limited to the following:

- Fugitive dust emissions
- Air quality and odors
- Stormwater runoff
- Erosion and sediment control
- On-site soil disturbance during excavation, grading, material transport and stockpiling
- Fill material transportation to the Site
- Traffic control/truck routes
- Construction scheduling/school disruption
- Noise

Construction Work Plans Discussed in RAWP

While the RAWP discusses a number of plans that would be implemented during remedial construction at the Site, it does not provide complete plans to address many of the potential impacts noted on the previous slide.

Comprehensive plans must be prepared and implemented to address Site-specific conditions and specify appropriate work practices, monitoring, corrective actions and other protocols to be carried out during Site remediation in order to minimize impacts to the District and in particular, South Grove School.

The RAWP includes the following plans:

- **Health and Safety Plan (including Community Air Monitoring Plan)** - The Site-specific HASP is included in Appendix C of the RAWP. This plan will govern on-Site worker safety requirements mandated by Federal OSHA. An initial review of the HASP indicates this plan is comprehensive (with the exception of the CAMP) and has been prepared in accordance with industry standards.

- **Community Air Monitoring Plan** – A CAMP is included within the HASP in Appendix C of the RAWP, describing the air monitoring proposed to evaluate ambient air quality during construction. An initial review indicates that the CAMP is based on the New York State Department of Health Generic Community Air Monitoring Plan and lacks Site-specific details to provide adequate protection during the project.

- **Quality Assurance Project Plan** - The Project-specific QAPP is provided as Appendix D of the RAWP and includes all procedures to be followed for sampling and analysis associated with remedial construction. An initial review of the QAPP indicates this plan is comprehensive and has been prepared in accordance with industry standards.

- **Citizen Participation Plan** - The NYSDEC-approved CPP for this project (dated October 2017) is attached in Appendix E of the RAWP, detailing the program to keep the public apprised of Site activities. This plan has not been updated to reflect the current proposed future Site use.

Construction Work Plans Discussed in RAWP – 2

The following plans are not comprehensive or are not included in the RAWP:

- **Stormwater Pollution Prevention Plan** – The RAWP states that, since the area of disturbance will exceed one acre, a SWPPP is required; this plan will be prepared by VHB under separate cover and submitted to the Town of Oyster Bay and NYSDEC.

- **Erosion and Sediment Control Plan** – An Erosion and Sediment Control Plan was not included in the RAWP.

- **Soil/Materials Management Plan** – The SoMP included in Section 5.4 of the RAWP provides an overview of methods to be utilized during construction, including soil stockpiling, materials reuse on-Site, soil transportation, backfill from off-Site sources, and dust control. A comprehensive stand-alone SoMP was not included in the RAWP.

- **Dust Control Plan** – The RAWP (Section 5.4.8) mentions a dust control plan as part of the SoMP, however a comprehensive stand-alone Dust Control Plan was not included in the RAWP.

- **Traffic Control** – The RAWP (Section 4.2.5) outlines traffic control measures to be implemented during the project. A detailed Traffic Control Plan was not included in the RAWP.

The remainder of this presentation will discuss the protective measures that are recommended to be included in the project construction plans to ensure maximum protection of the District's school sites.

Construction Concerns Related to Potential Impacts on School Sites

Dust Generated During Construction

- The CAMP lacks the following necessary details:
  - Immediate notification to the District of any air monitoring dust action level exceedances so the District can take appropriate action to protect students and staff at South Grove School (approx. 950 ft from the Site).
  - Inclusion of a comprehensive plan to be carried out by an independent inspector.
  - Implementation of more aggressive controls such as misting systems.
  - Sufficiently stringent plans to evaluate dust concentrations (higher frequency than 15-minute average concentrations) so corrective actions can be immediately taken before the fugitive dust concentrations reach levels of concern.

Excavation and Soil Handling

- Residual soil contamination remains throughout the Site and soils must be handled properly in accordance with applicable regulations.
- The RAWP lacks a comprehensive stand-alone SoMP that provides adequate detail on the proposed excavation and soil handling procedures.
- The RAWP lacks a comprehensive stand-alone Dust Control Plan that provides adequate detail on the proposed methods to reduce dust generation and runoff.

Stormwater Runoff Concerns

- Once sediment contained in the runoff from the construction Site dries, it will become dust with the potential to migrate off-site.
- The RAWP lacks the required comprehensive Storm Water Pollution Prevention Plan (SWPPP) and Erosion and Sediment Control (E&SC) Plan to address runoff and erosion during construction.
- The proposed project will greatly reduce the ability of stormwater to infiltrate naturally.
- The proposed on-site stormwater management system described in the RAWP consists of recharge basins and subsurface drainage systems.
  - How will the applicant/owner manage the volume of stormwater on-site in accordance with Nassau County Department of Public Works (NCDPW) requirements?

Construction Concerns Related to Potential Impacts on School Sites – 2

Traffic Control

- Construction would result in increased traffic from construction workers and truck traffic.
- The RAWP lacks a comprehensive Traffic Control Plan to address traffic/truck impacts associated with the project.

Noise and Vibration Concerns

- The RAWP does not acknowledge the American National Standards Institute standards for classroom noise.
- The RAWP lacks a plan for noise and vibration mitigation.

Construction Schedule

- The RAWP lacks a detailed construction schedule.

Monitoring and Inspection

- Independent third-party inspections during construction would be advisable to document compliance with these plans and facilitate corrective action when necessary.

Conclusion

Written comments on the RAWP, the proposed remedy and any associated concerns can be submitted to NYSDEC until the RAWP public comment period ends on January 11, 2021.

Questions?

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