



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
Boundary Modification Report



3/10/2023

Site Code: 558008	Site Name: Kingsbury Landfill
City: Kingsbury	Town: Kingsbury
Region: 5	County: Washington
Current Classification: 04	Proposed Site Size: 25.5
Current Site Size (acres): 25.50	Extra Details: Landfill
Significant Threat: Previously	Site Type:
Priority ranking Score: 140	Project Manager: Jenelle Gaylord

Summary of Approvals

Originator/Supervisor: Jeffrey Dyber **03/10/2023**

Regional Hazardous Waste Remedial Engineer: :

BEEI of NYSDOH:

CO Bureau Director: Michael Cruden, Director, Remedial Bureau **03/10/2023**
E:

Assistant Division Director: Janet Brown, P.E.:

Site Description

Location:

The Kingsbury Landfill Site is a 25.5-acre site located in a rural area. The site is located on Burgoyne Avenue near the intersection of Pine Street in the Town of Kingsbury, Washington County, New York.

Site Features:

The site is a closed landfill. The former landfill has been capped and is now covered with grass. A treatment building is located on-site which houses the leachate collection and treatment system (LCTS). The landfill is surrounded by woods, grasses and two ponds. Glens Falls Feeder Canal Trail bike path and the Feeder Canal border the site to the south.

Current Zoning and Land Use:

The landfill is currently inactive and is zoned commercial. The parcels surrounding the landfill are zoned agricultural. The nearest residence is approximately 600 ft west of the site on Burgoyne Avenue.

Past Use of the Site:

The Kingsbury Landfill operated as a municipal landfill from 1930 to 1985 and received both solid and hazardous wastes. The General Electric Company (GE) disposed of an estimated 1,900 tons of hazardous waste at the landfill. The primary contaminants of concern are polychlorinated biphenyl (PCBs). PCB contamination was evaluated off-site in Cutters Pond and Brown Pond. Contamination was discovered in Brown Pond and subsequently remediated via excavation.



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Operable Units:

The site was divided into two operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination. Operable Unit 1 (OU1) is the on-site landfill area and impacted groundwater. OU2 consists of off-site soil and sediment. The off-site portions consist of a feeder/tow canal for the Champlain Canal (located to the south/southwest of the landfill), Cutter Pond (located to the east), and a small unnamed pond, referred to here as Brown Pond (located to the north).

Site Geology and Hydrogeology:

The site lies within the Hudson-Champlain Lowland, a broad bedrock depression formed in the Middle Ordovician Snake Hill Formation. The bedrock depression became a depositional outlet for retreating Wisconsin Stages glaciers. The area was occupied by a series of lakes where sand, silt and clay were deposited in broad deltas formed by Glacial Lake Hudson.

Groundwater flow is to the east-southeast through the sand aquifer. Depth to groundwater ranges from 2 to 10 feet below ground surface (bgs) across the site.

Contaminants of Concern (Including Materials Disposed)	Quantity Disposed
OU 01	
polychlorinated biphenyls (PCB)	0.00
trichloroethene (TCE)	
benzene	
vinyl chloride	
chlorobenzene	
cis-1,2-dichloroethene	
1,4-dichlorobenzene	
1,3-dichlorobenzene	
1,1-dichloroethane	
1,1 dichloroethene	
methylene chloride	
dichlorodifluoromethane	
xylene (mixed)	
naphthalene	
antimony	
arsenic	
chromium	
copper	
iron	
lead	
manganese	
magnesium	
sodium	
nickel	
OU 02	
polychlorinated biphenyls (PCB)	



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Analytical Data Available for : Groundwater, Surface Water, Soil, Sediment

Applicable Standards, Criteria or Guidance exceeded for:
Groundwater, Soil

Site Environmental Assessment

This site is a properly closed landfill. The primary contaminants of concern are polychlorinated biphenyls (PCBs) in Browns Pond sediments and volatile organic compounds (VOCs) and PCBs in on-site soil and groundwater. Residual contamination in the soil, groundwater, and sediment is being managed under a Site Management Plan.

Site Health Assessment

Remedial activities undertaken at the site have effectively reduced the potential for exposure to site-related contaminants and measures are in place to ensure that these measures remain protective in the future.

Remedy Description and Cost

Remedy Description for Operable Unit 01

Based on the past site investigations and completion of multiple IRMs consisting of a cutoff wall, impermeable cap, and upgradient drain, the Department is proposing No Further Action with Site Management as the remedy for Operable Unit 01. The recent investigation data indicate this Operable Unit does not pose a significant threat to human health or the environment and satisfies the remedial objectives described in Section 6.5. To ensure the remedy remains effective in protecting human health and the environment and complies with the New York State standards, criteria, and guidance, site management activities shall continue in accordance with the current Site Management Plan.

Total Cost

Remedy Description for Operable Unit 01A

Installed in 1989, the soil-bentonite groundwater cut-off wall (slurry wall) and the low permeability clay cap and cover system are meant to effectively cut off the waste mass and leachate from the surrounding environment. The slurry wall is constructed of a soil bentonite mixture and surrounds the waste mass forming a barrier to leachate escaping into permeable soils. The wall elevation and depth of construction varies to match the geologic conditions encountered. The depth of slurry wall placement is controlled by the underlying clay surface, with trenching terminating six feet into the underlying clay to create a low permeability seal. The slurry was placed without failing any required quality control testing, but was required to be extended deeper in areas to address localized permeable soils. A soil cap was installed at the site consisting of a 42-inch layer of compacted clay, a 12-inch layer of silty loam, and a 6-inch layer of



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top soil. The cap was designed to restrict infiltration of precipitation into the landfill. The compacted soil cap depends on a vegetative cover to maintain the cohesion of the soil. Rip-rip filled drainage ditches channel runoff away from the landfill towards the east.

Total Cost

Remedy Description for Operable Unit 01B

In 1988 and 1989, the Interim Leachate Collection and Treatment System (ILCTS) was installed to evacuate and treat leachate from the landfill in response to leachate seeps appearing along the junction of the cap and cut-off wall. The ILCTS was designed to reduce the leachate head in the landfill thereby protecting the integrity of the engineered cap and cover system and mitigating the potential for leachate release into the environment. The ILCTS was designed for a maximum capacity of 30 gallons per minute (gpm), which was estimated to be sufficient to maintain the leachate elevation at or below the 202-foot action level to prevent seeps. In the treatment system, leachate from the landfill is first aerated to oxidize the iron, then chemically treated with sodium aluminate and a polymer to remove the precipitated iron, and finally polished by activated carbon to remove PCBs. The ILCTS was first operated in 1991 removing and treating almost two million gallons of leachate. The leachate collection system was renovated in response to operational problems in 1995 and again in 2008. The ILTS was operated by Earth Tech and IEG in 2002, 2003 and 2005, removing and treating approximately two million gallons of leachate in each 3-month operating season.

The ILCTS operated continuously from 2009 until 2019. In April 2011, an inspection indicated that both the shallow and deep drains lines were partially to completely blocked with sediment. An effort was made in 2011 to drawn down the leachate level in the landfill in order to access the drain lines which had become clogged. The pumping rate was increased from approximately 3 gpm to almost 10 gpm in August 2011, but further discussions on drain lancing with NYSDEC resulted in the postponement of the operation pending a review of other alternatives. The treatment system was shut off on September 9, 2019 to conduct a rising head test and install an upgradient drain to alleviate leachate mounding within the slurry wall. The system is currently offline.

Total Cost

Remedy Description for Operable Unit 02

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department selected No Further Action (NFA) as the remedy for the site. The Department believes that the NFA remedy is protective of human health and the environment and satisfies the remediation objectives.

Total Cost



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Remedy Description for Operable Unit 02A

The remedial investigation indicated that the soil along the banks of Brown Pond, directly to the north of Kingsbury landfill, was contaminated with PCBs up to 1.3 ppm, exceeding the soil clean-up objective (SCO) for protection of ecological resources for PCBs. From October 17, 2011 to October 29, 2011 an IRM was conducted to remove the contamination from the banks and sediment of Brown Pond.

The elements of the IRM were:

Surface water from the pond was pumped from the area prior to excavation work, and treated using a granular activated carbon/duplex bag filter assembly. Once sample results confirmed acceptable treatment, the water was discharged to the east side of the pond down slope towards Cutter Pond. Approximately 80,000 gallons of water was treated and discharged during this IRM.

Sediment was removed to a depth of 2 feet from the north and west lobes of the pond. Sediment was removed to a depth of 7 feet in the south lobe. Bank soil was removed to a depth of 1 to 2 feet in selected areas of the pond banks. Sampling confirmed that remaining levels of PCBs were below 1 ppm. Approximately 266 tons of PCB contaminated material was handled, transported and disposed of off-site at a permitted landfill. Excavation endpoints are shown in Figure 4. Following excavation, the pond was backfilled with clean material to restore original bottom contours.

Total Cost

Remedy Description for Operable Unit 01C

In October 2022, an 8-inch upgradient gravity drain was installed to decrease the volume of water entering the landfill, alleviate leachate mounding within the landfill, and reduce slurry wall leaks down and side gradient of the landfill. Groundwater flow upgradient of the landfill is redirected to Cutter's Pond and regulated under a State Pollutant Discharge Elimination System (SPDES) permit equivalent. The drain will reduce groundwater mounding pressure behind the slurry wall and will stabilize water levels within the slurry wall, alleviating the need to restart the ILCTS.

Total Cost \$5,574,490

OU 00 Site Management Plan Approval: 11/01/1998 Status: ACT



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Basis for Boundary Change

Request to correct the site acreage from 9.8 to 25.5 acres. The current site acreage is reflective of the area consisting of the clay cap. However, this excludes easement areas and areas with engineering controls (access road, fencing, treatment building etc.). The acreage correction includes all property within the fenced landfill.

