

Youngs Landfill – Phase II Environmental Site Assessment

STONE
ENVIRONMENTAL
100% EMPLOYEE-OWNED

Services / Expertise

EPA-Funded Brownfield Redevelopment
BRELLA
Site-Specific Quality Assurance Project Plan
Site-Specific Health and Safety Plan
Phase II Environmental Site Assessment

Markets

Regional Planning Commissions
Commercial Developer

Project Location

Highgate, Vermont

Date Completed

2011 and 2019 - current

Project Owner

Northwest Regional Planning Commission

Project ID#

19-125a

Project Manager

Katrina Mattice, PE

Project Team

Dan Voisin
Laura Rajnak
Jodie Wright
Sarah Rathay

Subconsultants

Con-Test/Pace Analytical Laboratories
Platform Environmental Drilling
US Ecology, Inc (former National Response Corporation)
Holt Gilmour Survey Associates



The former construction office and residential apartment on the Young landfill property. Photo by Stone Environmental

THE Youngs Landfill started operation as a solid waste landfill in 1967. The landfill accepted solid waste from customers from eleven nearby towns and the City of St. Albans. Industrial waste was also accepted from Fonda Container Division and Union Carbide, both formerly located in St. Albans, Vermont, Vermont Precision Tools located in Swanton, Vermont, and Missisquoi Division Saxon Industries and Boise Cascade Corporation, both formerly located in Sheldon Springs, Vermont. Commercial waste was accepted from North Country Dry Cleaners located in Fairfax, Vermont. In 1985, the Young Landfill was closed under the jurisdiction of the Vermont Department of Environmental Conservation (VT DEC) Solid Waste program and was not allowed to accept any material except for construction debris.

Environmental assessment has been performed on the Young Landfill starting in 1989. Stone performed a data gap analysis in 2019 to review all historical files and identify data gaps that still require assessment. Previously, in 2011, Stone performed a limited site investigation to assess groundwater in the known source areas, including the unlined landfill, solvent trench area and burn dump.

A partial Phase II ESA was performed by Stone in 2020, and a Site-Specific Quality Assurance Project Plan (SSQAPP) was prepared for the work that was reviewed and approved by the Environmental Protection Agency (EPA). Contaminants of concern that have been identified through three decades of environmental assessment include petroleum and chlorinated volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, dioxins and furans, polychlorinated biphenyls (PCBs), 1,4-dioxane, and per- and polyfluoroalkyl substances (PFAS).

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The 2020-2022 Phase II ESA investigation methods included groundwater assessment with tracked mounted Geoprobe, surface soil assessment with incremental sampling methodology (ISM) and construction of temporary roads to access remote areas of the landfill. Using piezometers and a manometer board, a tributary on the landfill that is headwaters of the Kelly Brook was assessed to determine if the tributary was gaining or losing relative to groundwater. Porewater samples were collected in the tributary at locations that were gaining relative to groundwater. Following contaminated groundwater plume delineation and evaluation of the transport of the contaminated groundwater offsite, point of compliance monitoring wells were installed at the leading edge of both the chlorinated VOC, 1,4-dioxane and PFAS dissolved phase plume. The compliance wells are intended to monitor trends in groundwater contamination and provide a boundary to reclassify groundwater as an institutional control.

A property boundary survey was performed by Holt Gilmour Survey Associates, indicating the landfill is encroaching on an adjoining property. Stone is coordinating with Northwest Regional Planning Commission, VT DEC, the Town of Highgate, the prospective purchaser, and the adjacent property owner as the project moves forward to an Evaluation of Corrective Actions Alternative (ECAA). The redevelopment plan for the property includes a 2.0-megawatt solar farm to support a nearby industrial park. The ECAA will appropriately design cleanup alternatives that will address the releases at the Site in synchronicity with the Site redevelopment plan.