



**Rose Valley Landfill
Town of Russia, Herkimer County, New York**

Ecological Work Plan

NYSDEC Site No. 622017

Prepared for

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233



**Department of
Environmental
Conservation**

Prepared by

EA Engineering and Geology, P.C.
Washington Station
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Syracuse, New York 13202

September 2025

Revision No.	Description of changes	Date Revisions Completed	Author(s)

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A handwritten signature in black ink, appearing to read "Donald Conan".

Donald Conan, P.E., P.G., Program Manager

September 5, 2025

Date

A handwritten signature in black ink, appearing to read "Adam Etringer".

Adam Etringer, Project Manager

September 5, 2025

Date

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LIST OF ACRONYMS AND ABBREVIATIONS

EA	EA Engineering and Geology, P.C.
ft	Foot (feet)
NYSDEC	New York State Department of Environmental Conservation
P.E.	Professional Engineer

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1. BACKGROUND AND RATIONALE

This Ecological Work Plan has been prepared as a guidance document for ecological restoration work that EA Engineering and Geology, P.C. (EA), under New York State Department of Environmental Conservation (NYSDEC) Work Assignment (WA) No. D009806-34, are proposing to be performed at the Rose Valley Landfill Site landfill cap area; hereinafter referred to as the Site (**Figure 1-1**). The principal purpose of this document is to define, detail and provide rationale for field activities associated with ecological restoration to be completed at the Rose Valley Landfill Site.

1.1 SITE LOCATION

The Site is located in the Town of Russia, Herkimer County, New York and is identified as Section Block and Lot No. 089.1-2-29.2 on the Herkimer County Tax Map (**Figure 1-1**). The Site is an approximately 91-acre area and is bounded to the east by Military Road, to the west by Bromley Road, and to the southwest by Rose Valley Road.

1.2 SITE DESCRIPTION

The Rose Valley Landfill is a privately owned, unlined landfill that was open from 1963 to 1985. The Site is currently restricted from public access and is not in use.

The landfill area is about 17 acres in size and is located on the side of a hill that has approximately 120 feet (ft) of relief. A steep, 60-ft. high sand embankment extends above the landfill to the west. The Site is characterized by high relief, with sharp drops in elevation from southwest to northeast and a moderate, even south to southwest slope. The gradient across the western portion of the property is less severe, sloping in the opposite direction. The area surrounding the Site is sparsely populated, with few known permanent residents.

1.3 CURRENT CONDITIONS

At a June 2024 site inspection conducted by a qualified biologist, it was observed that the Site was dominated by native plant species that include Canada goldenrod (*Solidago canadensis*), common milkweed (*Asclepias syriaca*), Indian hemp (*Apocynum cannabinum*), red clover (*Trifolium pratense*), and bird vetch (*Vicia cracca*), as well as non-native red fescue (*Festuca rubra*). The presence of invasive plant species at the Site was found to be minimal. Several species of native pollinators (bees and butterflies) and several species of birds were also observed at the Site. The Site was determined to be a good candidate for ecological restoration via the addition of native plant species, being a largely flat landfill cap that is inaccessible to the public.

In October 2024, the landfill cap area was mowed to a short height in preparation for ecological restoration activities to take place onsite, and to maintain the engineered landfill cap system by impeding the growth of dense or woody vegetation. Prior to the mowing of the landfill cap, no major areas of concern of invasive plant species were noted, and it was noted that the plant cover across the landfill cap was relatively homogenous in terms of plant species cover.

An easily accessible and relatively flat area of the landfill cap was deemed an appropriate location for conducting experimental ecological restoration activities within two experimental test plots. The location of the proposed plots may be modified following the next site inspection based on site conditions. Additional plots may be installed in subsequent years once the success of the initial test plots are assessed.

1.4 ECOLOGICAL RESTORATION OBJECTIVES

The Site was deemed by the NYSDEC project manager and EA personnel to be a good candidate site at which the addition of native plant species could bolster native biodiversity. This plan proposes a schedule of action to be taken onsite to attempt to increase native biodiversity by adding native plant species in a seed mix, which could potentially attract native insect pollinator species and bird species to the site, and outcompete non-native and invasive plant species once established.

The primary objective of the proposed ecological restoration is to increase native biodiversity onsite, in terms of plant and pollinator (bee, butterfly, and bird) species. Section 2 describes the proposed scope of work, and **Table 1** presents a proposed schedule.

2. SCOPE OF WORK

This plan proposes designating two areas, each measuring approximately 50' x 50' to create test plots where a native seed mix will be applied to encourage the addition of native plant species that may attract pollinators. The plan also includes the installation of a bat house to attract native bat species such as the little brown bat (*Myotis lucifugus*), following appropriate recommendations. Landscaping throughout the project area will focus on native pollinator-attracting plant species.

2.1 SOLARIZATION

The proposed method of preparing the soil for the application of a native seed mix is solarization. Solarization is a method of controlling the growth of vegetation by placing a clear plastic sheet on top of moist, cultivated soil during periods of high ambient temperature (Fotlz Joran et al.). Solar energy is trapped beneath the plastic sheet and causes the top layer of soil to heat up. This process can kill existing vegetation during the summer months and prevent new growth by impacting the viability of existing seeds. The plastic sheet is removed during the late fall months, and the seed mix is immediately added to the soil. This method does not require herbicides, allowing specific areas to be targeted and avoiding additional unwanted death to non-target vegetation. **Table 1** describes this process and the associated maintenance in further detail, along with a multi-year plan. This plan includes additional methods of encouraging native species presence onsite, including the installation of a bat house. **Figure 2-1** depicts the proposed plot areas. Additional plots may be installed in subsequent years following the evaluation of the success of a test plots.

2.2 PROPOSED SCHEDULE

Table 1-1. Proposed Schedule

Proposed Schedule	Landfill Cap	Additional
2024		
Fall (Late September-Early October)	Mow entire landfill cap as short as possible to reduce potential for woody vegetation growing on the cap.	
	Coordinate with EA's Site Specialist and choose two 50' long X 50' wide plots for Fall 2025 seeding of a native upland meadow/pollinator seed mix. Plots should be located on flat or gently sloped areas that will ideally receive direct sunlight during the day.	
2025		
Spring	Cultivate soil within test plots using minimum-till equipment or rototiller set to shallow (<3") depth to prepare seed bed in plots for fall seeding.	Recommended seed mix will be determined by EA's Site Specialist in the spring and provided to Contractor.
	Cover plot areas with Clear UV-stable plastic (6 mil thickness) in accordance with Solarization	Contractor to coordinate purchase and delivery of

Proposed Schedule	Landfill Cap	Additional
	techniques described in "Organic Site Preparation for Wildflower Establishment" (Jordan et al. n.d.).	native seed mix in spring/summer to ensure availability of seed prior to fall seeding.
Late Spring/ Summer/Early Fall	Check plastic approximately monthly in each plot for rips or punctures. Promptly use greenhouse repair tape to patch up any damage.	
	Regularly mow around the perimeter of the plastic to control weeds around the plots, avoiding damage or spread of mowed materials on the plastic.	
	Perform maintenance check on entire landfill cap and remove any invasives if needed.	
	If necessary, mow other areas of the landfill cap to control woody vegetation.	
Late Fall	EA's Site Specialist will assess weed growth beneath the plastic at the test plots to determine if plastic needs to remain in place over the winter or into second season to kill aggressive perennial non-native weeds or grasses such as red fescue.	
	If approved by EA's Site Specialist, remove plastic. If not approved for removal, continue to check and maintain plastic monthly until removal is approved.	
	Remove any perennial weeds by hand within plots, minimizing soil disturbance while removing weeds.	
	Immediately broadcast native upland meadow/pollinator seed mix by hand or using equipment within plot.	
2026		
Spring	Mow entire landfill cap (excluding test plots) to a reasonable height to reduce potential for woody vegetation growing on the cap. Avoid spreading mower clippings into plots.	Install habitat box for bats (bat house) in optimal areas onsite. Further guidance to be provided by EA's Site Specialist.
Entire First Growing Season (Plots only)	In early spring, inspect the plot for signs of seed sprouting and plant growth. If needed, water plot one time weekly during periods of drought from Early April to Mid-June.	Perform maintenance checks on bat house per schedule to be provided by EA's site specialist
	Whenever overall vegetation within the plot reaches 18"-24" in height, trim meadow to 8" using a brush hog mower or string trimmer to reduce competition on slower growing native perennials from fast-growing perennials or weeds.	
	Trimming should cease by mid-September and remaining stems of native perennials should remain over winter as habitat for overwintering beneficial insects and seed sources for birds.	

Proposed Schedule	Landfill Cap	Additional
Early/Mid-Summer	Perform maintenance check on other areas of the landfill cap and remove any invasives.	
Late Fall	Perform maintenance check on landfill cap grasses, flowers, shrubs, etc.	
2027+		
Spring	Mow entire landfill cap (excluding test plots) to a reasonable height to reduce potential for woody vegetation growing on the cap. Avoid spreading mower clippings into plots.	
Entire Second & Subsequent Growing Seasons (Plots Only)	Prior to new spring growth reaching 2" in height, trim any remaining material from the previous year close to the ground to allow the soil to warm more quickly, stimulating emergence and growth of native seedlings and reducing shrub invasion.	Perform maintenance checks on habitat boxes per schedule to be provided by EA's site specialist, depending on type of box installed.
	Perform plot checks approximately monthly and hand-pull problem weeds and invasive species within plots, especially vines and spiny plants before they become established and are harder to remove.	
	If plots have heavy infestation of weed species in the second growing season, trim the meadow to 8" using a brush hog mower or string trimmer similar to the first growing season. Trimming should cease by mid-September.	
Early/Mid-Summer	Perform maintenance check on other areas of the landfill cap and remove any invasives.	
Late Fall	Perform maintenance check on landfill cap grasses, flowers, shrubs, etc.	

2.3 PROPOSED SEED MIX

The selected restoration areas will be applied with a native seed mix as detailed in **Table 1**. The recommended seed mix preliminarily selected for the site is comprised of 25+ native wildflower species, though it will be requested that this mix is customized so that it only includes native species. Examples of native species that will be requested in the seed mix are listed in **Table 2**.

As noted in the Proposed Schedule (**Table 1**) above, in the spring prior to fall seeding of the test plots, EA's Site Specialist will provide final recommendations for the native seed mix to the Contractor. The final recommendations will include the names of each species to be included in the mix, which may be adjusted from the list below based on the availability of specific species. In addition, the overall quantity in terms of pounds per acre of seed mix to be applied within the plots, and the percentage of each species within the mix will be provided to the Contractor. The recommended mix may also include a companion cover crop such as a grain oat or cereal rye species to provide quick stabilization in the plots and protect the native seed while it germinates and becomes established over the next 1-3 years. It should be noted that some species within these native seed mixes take longer to germinate and may not begin to appear until several years after seeding.

Table 2-1. Proposed Seed Mix

Common Name	Scientific Name
Little Bluestem, Fort Indiantown Gap-PA Ecotype	<i>Schizachyrium scoparium, Fort Indiantown Gap-PA Ecotype</i>
Virginia Wildrye, Madison-NY Ecotype	<i>Elymus virginicus, Madison-NY Ecotype</i>
Indiangrass, PA Ecotype	<i>Sorghastrum nutans, PA Ecotype</i>
Deertongue, Tioga	<i>Panicum clandestinum, Tioga</i>
Partridge Pea, PA Ecotype	<i>Chamaecrista fasciculata, PA Ecotype</i>
Blue Vervain, PA Ecotype	<i>Verbena hastata, PA Ecotype</i>
Oxeye Sunflower, PA Ecotype	<i>Heliopsis helianthoides, PA Ecotype</i>
Roundhead Lespedeza, RI Ecotype	<i>Lespedeza capitata, RI Ecotype</i>
Golden Alexanders, PA Ecotype	<i>Zizia aurea, PA Ecotype</i>
Wild Senna, VA & WV Ecotype	<i>Senna hebecarpa, VA & WV Ecotype</i>
Swamp Milkweed, PA Ecotype	<i>Asclepias incarnata, PA Ecotype</i>
Butterfly Milkweed, PA Ecotype	<i>Asclepias tuberosa, PA Ecotype</i>
Heath Aster, PA Ecotype	<i>Aster pilosus, PA Ecotype</i>
Boneset, PA Ecotype	<i>Eupatorium perfoliatum, PA Ecotype</i>
Narrowleaf Mountainmint	<i>Pycnanthemum tenuifolium</i>
Calico Aster	<i>Aster lateriflorus</i>
Common Milkweed, PA Ecotype	<i>Asclepias syriaca, PA Ecotype</i>
Flat Topped White Aster, PA Ecotype	<i>Aster umbellatus, PA Ecotype</i>
Wild Bergamot, Fort Indiantown Gap-PA Ecotype	<i>Monarda fistulosa, Fort Indiantown Gap-PA Ecotype</i>
Gray Goldenrod, PA Ecotype	<i>Solidago nemoralis, PA Ecotype</i>
Great Blue Lobelia, PA Ecotype	<i>Lobelia siphilitica, PA Ecotype</i>
Square Stemmed Monkeyflower, PA Ecotype	<i>Mimulus ringens, PA Ecotype</i>
Hoary Mountainmint	<i>Pycnanthemum incanum</i>
White Goldenrod, PA Ecotype	<i>Solidago bicolor, PA Ecotype</i>
Early Goldenrod, PA Ecotype	<i>Solidago juncea, PA Ecotype</i>

2.4 BAT HOUSE INSTALLATION

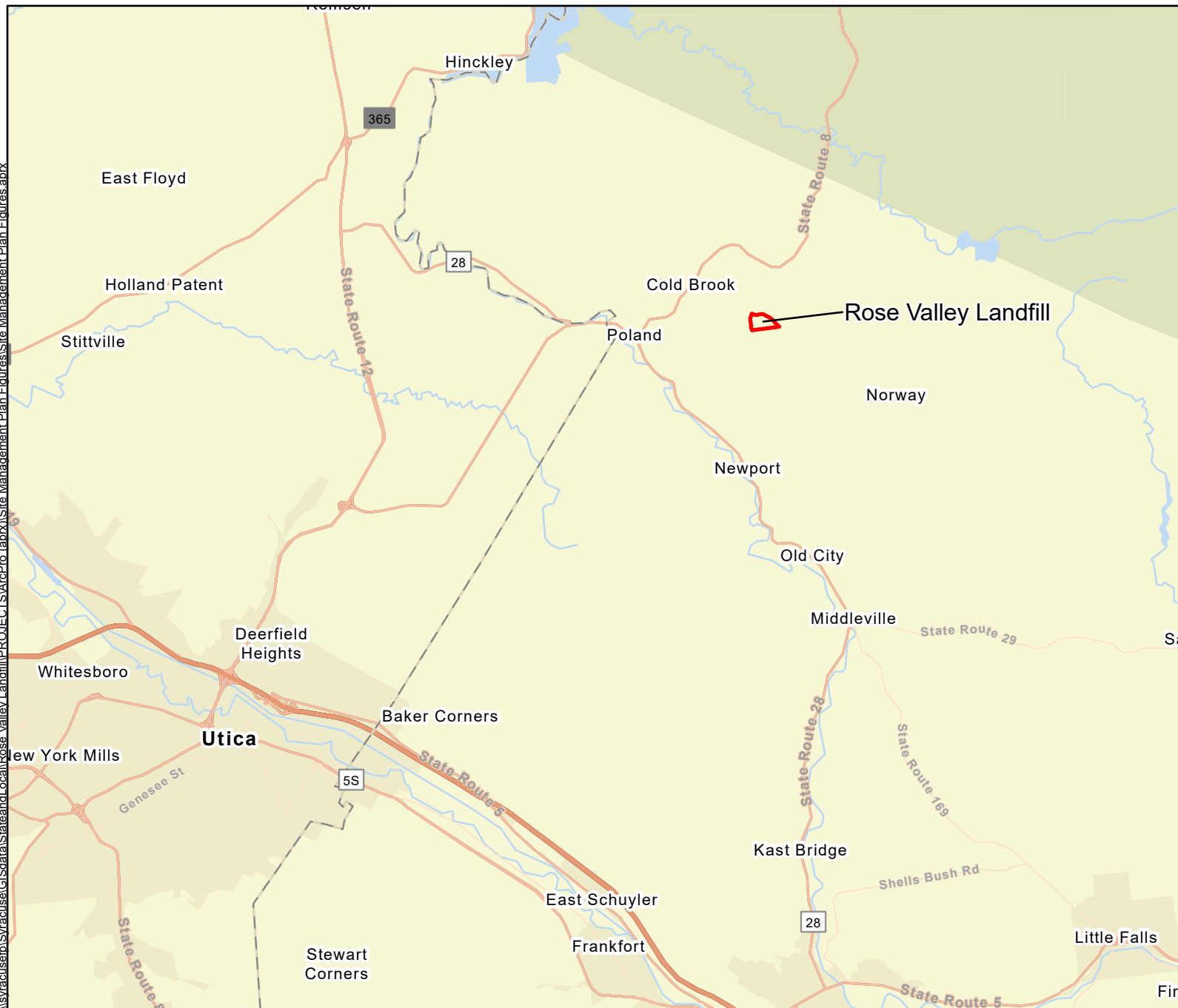
In addition to creating plots of native plant species, a bat house will also be added to the site, following the introduction of the experimental plots, to encourage the nesting of bats to increase biodiversity. There are nine species of bats that live at least part of the year in the northeastern United States, the most common being the little brown bat (Brittingham 2024). Bats reside in a variety of ecosystems, including wetlands, fields, and forests, and play an important role in ecosystems by feeding on insects. The bat house will be placed appropriately onsite according to relevant recommendations from the New Jersey Agricultural Experiment Station and Penn State Extension. The bat house will be painted and placed on top of a post approximately 12 feet above the ground and in an area that will receive at least 6-8 hours of direct sunlight per day (Kerwin 2017). It will be placed near a water source/wetland area, and face south/southeast to receive optimal sunlight. A house that meets relevant size and design recommendations will be chosen. The house will be inspected periodically per the Proposed Schedule (**Table 1**).

3. REFERENCES

- Brittingham, M. 2024. A Homeowner's Guide to Northeastern Bats and Bat Problems. PennState Extension. <https://extension.psu.edu/a-homeowners-guide-to-northeastern-bats-and-bat-problems>.
- Jordan, S. F., J. K. Cruz, K. Gill, J. Hopwood, J. Fowler, E. Lee-Mäder, and M. Vaughn. n.d. *Organic Site Preparation for Wildflower Establishment*. The Xerces Society for Invertebrate Conservation. Accessed March 2025. https://xerces.org/sites/default/files/2018-05/16-027_02_XercesSoc_Organic-Site-Preparation-for-Wildflower-Establishment_web.pdf.
- Kerwin, K. and B. Maslo. 2017. Rutgers New Jersey Agricultural Experiment Station. Guidance for Siting and Installing Bat Roost Boxes (Fact Sheet FS1269). New Brunswick, New Jersey. Retrieved from <https://njaes.rutgers.edu/fs1269/>.

Figures

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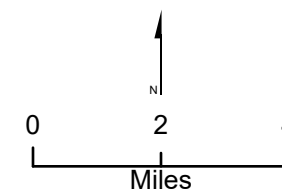


VICINITY MAP



Legend

 Site Boundary



Map Date: 6/10/2025
Projection: NAD 1983 (2011) State Plane
New York East FIPS 3101 (US Feet)



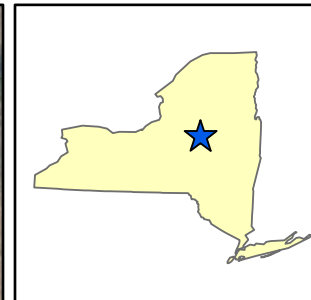
Figure 1-1 Site Location

Rose Valley Landfill
Russia, New York

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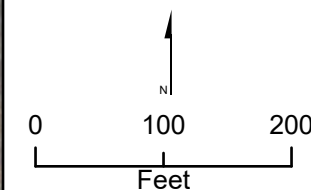


VICINITY MAP



Legend

-  Landfill Cap
-  Detention Pond
-  Approximate Proposed Plot Location (50' x 50')
-  Fence
-  Jersey Barrier
-  Gate
-  Approximate Proposed Bat House Location (Facing S/SE)



Map Date: 6/10/2025
Projection: NAD 1983 (2011) State Plane
New York East FIPS 3101 (US Feet)



Figure 2-1
Proposed Landfill Cap
Layout
Rose Valley Landfill
Russia, New York