

APPENDIX F

Visual Resource Assessment, Rev 1



VISUAL RESOURCE ASSESSMENT

**CARROLL LANDFILL EXPANSION
CARROLL, NEW YORK**

Prepared on behalf of:

Sealand Waste, LLC
85 High Tech Drive
Rush, NY 14543

Prepared by:

DAIGLER ENGINEERING P.C.
1711 Grand Island Blvd.
Grand Island, New York 14072-2131

January 2012

Revised October 2015

VISUAL RESOURCE ASSESSMENT

CARROLL LANDFILL EXPANSION CARROLL, NEW YORK

Prepared on behalf of:

Sealand Waste, LLC
85 High Tech Drive
Rush, New York 14543

Prepared by:

DAIGLER ENGINEERING P.C.
1711 Grand Island Blvd.
Grand Island, New York 14072-2131

January 2012
Revised October 2015

VISUAL RESOURCE ASSESSMENT

Carroll Landfill

Sealand Waste, LLC

TABLE OF CONTENTS

1	INTRODUCTION.....	1-1
1.1	PROPOSED LANDFILL DESCRIPTION	1-1
1.2	APPROACH.....	1-2
1.3	METHODOLOGY	1-2
2	LANDSCAPE AND SETTING.....	2-1
2.1	TOPOGRAPHY AND DRAINAGE	2-1
2.2	VEGETATION.....	2-1
2.3	TRANSPORTATION.....	2-2
2.4	POPULATION	2-2
2.5	LAND USE.....	2-3
2.6	EXISTING SITE	2-3
3	VIEWSHED AND RESOURCE INVENTORY	3-1
3.1	VIEWSHED MAPPING.....	3-1
3.2	RESOURCE INVENTORY	3-1
3.2.1	<i>National Register Eligible or Listed Historic Sites.....</i>	<i>3-2</i>
3.2.2	<i>Parks, Recreational Areas, and Open Spaces</i>	<i>3-2</i>
3.2.2.1	<i>South Valley State Forest and Allegheny National Forest</i>	<i>3-2</i>
3.2.2.2	<i>Audubon Center and Sanctuary</i>	<i>3-3</i>
3.2.2.3	<i>Tom Erlandson Overlook Park</i>	<i>3-3</i>
3.2.2.4	<i>Homestead Park Campground</i>	<i>3-3</i>
3.2.2.5	<i>Pennsylvania State Gaming Lands.....</i>	<i>3-3</i>
3.2.2.6	<i>Cable Hollow Golf Course.....</i>	<i>3-3</i>
3.2.2.7	<i>Hidden Valley Camping Area.....</i>	<i>3-4</i>
3.2.3	<i>Resources of Local Interest.....</i>	<i>3-4</i>
3.2.3.1	<i>Frewsburg Central School District.....</i>	<i>3-4</i>
3.2.3.2	<i>Willis C. Hale Town of Carroll Park</i>	<i>3-4</i>
3.2.3.3	<i>Martz Observatory</i>	<i>3-4</i>
3.3	VIEWSHED ANALYSIS	3-4
3.3.1	<i>Windshield Survey.....</i>	<i>3-4</i>
3.3.2	<i>Site Inspections</i>	<i>3-5</i>
4	IMPACT ANALYSIS.....	4-1
4.1	BASIS OF EVALUATION	4-1
4.1.1	<i>Visual Character.....</i>	<i>4-1</i>
4.1.1.1	<i>Existing Landscape</i>	<i>4-1</i>
4.1.1.2	<i>Proposed Landscape.....</i>	<i>4-1</i>
4.2	RELEVANT FACTORS.....	4-3
4.2.1	<i>Landscape</i>	<i>4-3</i>

VISUAL RESOURCE ASSESSMENT

Carroll Landfill

Sealand Waste, LLC

TABLE OF CONTENTS

4.2.2	Viewer Groups	4-4
4.2.3	Distance Zones.....	4-4
4.2.4	Duration and Frequency of View.....	4-5
4.3	PROJECT VISIBILITY.....	4-5
4.3.1	General	4-5
4.3.2	Visibility at Inventoried Aesthetic Resources	4-6
4.3.2.1	Marshall Martz Observatory	4-6
4.3.2.2	Homestead Park Campground	4-6
4.3.2.3	Other Inventoried Resources.....	4-7
4.3.3	Local Community Visibility.....	4-8
4.4	SUMMARY	4-9
5	MITIGATION.....	5-1
5.1	DESIGN AND SITING	5-1
5.2	MAINTENANCE.....	5-1
6	CONCLUSION	6-1

List of Figures

follows page

Figure 1-1	Site Location	1-1
Figure 3-1	Project Viewshed	3-1
Figure 3-2	Summary of Windshield Survey.....	3-5

List of Attachments

Attachment 1 Line-of-Sight Profiles

1 INTRODUCTION

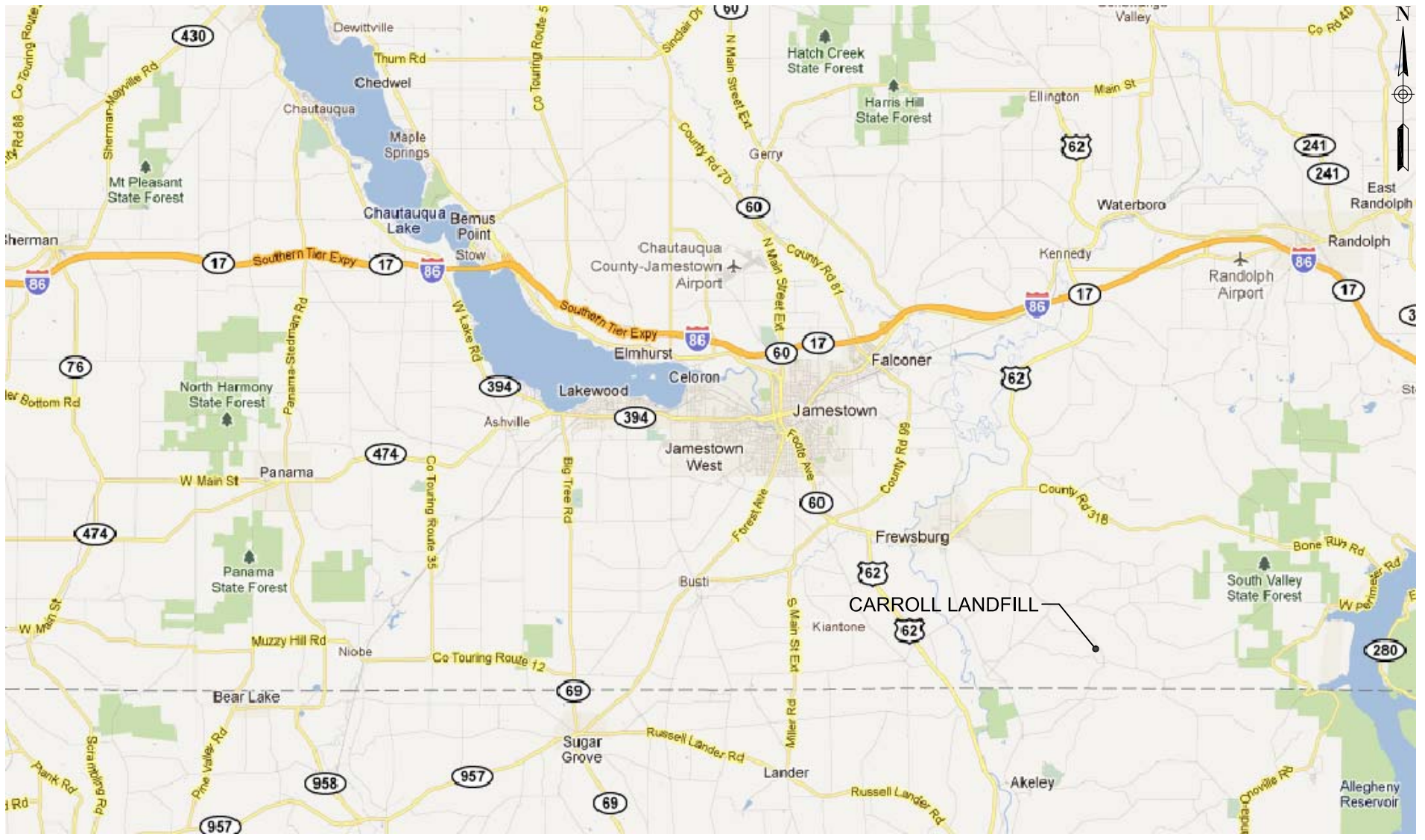
Sealand Waste, LLC (Sealand), a private enterprise headquartered in Rush, New York, is proposing to purchase the 54.1-acre parcel of land containing the existing Jones Carroll Landfill, a Construction and Demolition (C&D) Debris landfill in the Town of Carroll, Chautauqua County, New York. Sealand intends to continue the land disposal activity beyond the three acre limit identified in the most recent New York State Department of Environmental Conservation (NYSDEC) Permit (#9-0624-00025/00002-0 expired October 31, 2007). In support of the land disposal operation, the facility will also include stormwater and leachate management infrastructure and C&D waste recycling and yard waste composting operations. The site location is shown in Figure 1-1.

The purpose of the Visual Resource Assessment (VRA) is to provide an objective assessment of the visual character of the project, then to identify and assess potential visual and aesthetic impacts to the surrounding visual environment. Feasible measures to mitigate potentially adverse aesthetic impacts associated with the operation, closure and post-closure periods can then be identified and evaluated for suitability.

1.1 PROPOSED LANDFILL DESCRIPTION

During the majority of the landfill life, portions of the site will be operational, while other areas will have either not been yet disturbed, or will be graded and covered. Landfill side slopes will extend toward the center plateau of the footprint at a nominal grade of 3H:1V. The grading plan shows somewhat rounded corners, and is described as oblong, being neither square nor rectangular.

Aesthetically speaking, operationally active areas are similar in appearance to a construction site given the earth tone backdrop with predominantly yellow earthmoving equipment and trucks. The interior areas of the landfill base will be excavated; and the soil used to construct the perimeter screening berms. Once at final grade, the screening berms will be seeded and mulched to provide for an erosion resistant grassy slope. Individual landfill cells will be constructed and subsequent fill progression will be undertaken in sequentially planned and controlled phases. This fill sequencing requires that outside slopes of the fill be brought to grade in a manner that shields the operation from sight to the maximum practicable degree. Daily cover includes an



DAIGLER ENGINEERING P.C.
engineering • science • design
 1711 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072

MODERN LANDFILL, INC.		SITE LOCATION			FIGURE 1-1
SCALE: Not To Scale	REVISION # 0	CARROLL LANDFILL EXPANSION PROJECT			
January 2012		TOWN OF CARROLL	CHAUTAUQUA COUNTY	NEW YORK	

earth-like cover approximately 6-inches in thickness that will be placed over the landfilled material as needed. As operations progress, areas of the site that are not active will be graded to provide suitable drainage controls, and then groomed, seeded, mulched and tended to promote vegetation growth. During the closure and post-closure phase, the restored site and final cover system will experience an improvement in vegetative health with time. In areas where closure operations are complete, the intention is to return the property to green space with sufficient ecological diversity so as to preserve wildlife resources.

1.2 APPROACH

Six principal steps were taken to assess the visual and aesthetic impacts of the proposed project, as follows:

1. Identify sensitive aesthetic resources;
2. Define the project landscape character and visual setting;
3. Identify geographic areas from which portions of the project might be seen (viewshed);
4. Identify representative viewpoints for more detailed visual assessment;
5. Evaluate the nature of the visual impacts and aesthetic effects of the project; and,
6. Identify opportunities to mitigate adverse impacts.

1.3 METHODOLOGY

The VRA process follows the basic NYSDEC Program Policy “Assessing and Mitigating Visual Impacts” (DEP-00-2), and State Environmental Quality Review (SEQR) criteria. The character and the visual setting of the existing landscape are the baseline against which impacts are evaluated. The VRA determines the potential visibility of the facility, and describes the difference between the visual characteristics of the landscape setting with and without the project in place. The assessment considers the visual impact in terms of how much can be seen and the aesthetic impact, regarding how the view will be perceived. The objective is to reveal impacts; and if warranted, incorporate an effective mitigation strategy.

The study area for this VRA extends to a five-mile radius from the project center (hereafter referred to as the “five-mile radius study area” or “study area”) as identified in the NYSDEC Policy. As discussed in this report, more than five miles distant from the site ordinary

atmospheric and linear perspective will significantly diminish any visual impact from the proposed development.

2 LANDSCAPE AND SETTING

2.1 TOPOGRAPHY AND DRAINAGE

The site is located in the glaciated uplands area of southeastern Chautauqua County and the Southern New York Section of the Appalachian Plateau physiographic province. Glaciers sculpted the top of bedrock surface in this region to produce numerous northwest- and northeast-trending troughs filled with glacial and post-glacial sediments. The overriding physical features of the terrain in the region include broad, flat-bottomed valleys separated by large tracts of uplands. The topography of the uplands is rolling, with irregular hills that rise approximately 700 feet above the valley floors. The uplands in turn are dissected by many narrow, steep-sided valleys containing swiftly flowing streams.

Maximum elevations within one mile of the site are generally at 2000 feet above mean sea level (amsl). The lowest ground surface elevations in the southern portion of the county near the site are about 1200 feet amsl where the Conewango Creek valley crosses into Pennsylvania. The highest elevations in the county occur southeast of the site in the unglaciated, extreme southeastern corner of the county at approximately 2100 feet amsl.

The 54.1-acre property lies on the northwest face of a northeast trending valley in the uplands, with ground slopes ranging from 5 to 15 percent and steeper. Ground elevations range from about 1890 feet amsl in the northwestern corner of the site, down to about 1710 feet amsl at the southeastern quadrant. The site is nearly bisected from west to east by an intermittent drainage way that enters the property from the west, and discharges into an unnamed tributary of Storehouse Run. The unnamed tributary enters Storehouse Run, approximately 75 feet downstream. Storehouse Run discharges to Conewango Creek, which drains southward to the Allegheny-Ohio-Mississippi River system.

2.2 VEGETATION

The area surrounding the site is largely undeveloped mixed and deciduous forest and scattered rural development. Where it exists, site vegetation is dominated by young, even age mixed and deciduous forest, successional old field, successional shrubland, conifer plantation, and wetland.

The dominant overstory trees in the study area include red maple, sugar maple, black cherry, birch, white ash, and eastern cottonwood. The dominant tree in the spruce/fir conifer plantation is the Norway spruce. Shrubland plants and trees include grey dogwood, bush honeysuckle, brambles, common buckthorn, hawthorn, apple, red maple, black cherry, and white ash. In the successional old field, asters, Queen Anne's lace, Canada goldenrod, red clover, timothy, orchard grass, wild strawberry, and thistles dominate. Cultivated fields are actively worked in the vicinity of the site, with seasonal vegetation consistent with typical crop field conditions.

The central portion of the site includes the closed landfill and stump/brush burial area, both having a vigorous grassy meadow vegetative cover. Further to the north, disturbed unvegetated areas associated with the former land disposal, recycling, and mining operations are mixed with deciduous forest and shrubland.

2.3 TRANSPORTATION

Traffic traveling on major highways in Chautauqua County primarily use New York Interstate Route 86, New York Route 62 and New York State Route 60. Important local roads in the immediate area of the site include Frew Run Road (Chautauqua County Route 34), Wiltsie Road, and Dodge Road. Frew Run road is a two lane asphalt paved roadway. Town roads Wiltsie and Dodge are oil and gravel paved collector roads, with a predominance of local traffic.

NY Route 62 is a main arterial with an annual average daily traffic (AADT) volume of around 4,300 vehicles per day (vpd). For Frew Run Road, the AADT approximately two miles north of Wiltsie Road is nearly 1,400 vpd. Wiltsie and Dodge Roads experience an AADT of about 500 vpd and 130 vpd respectively.

2.4 POPULATION

The Town of Carroll is 33.4 square miles and rural in nature, with a population of about 3,500. Of this, about 1,900 live in the Village of Frewsburg. Outside the Village, the average population density is about 50 persons per square mile. This population density compares with 106 persons per square mile for the Town and Village together, 127 persons per square mile for Chautauqua County, and 411 persons per square mile for New York State.

2.5 LAND USE

The site is located in the southern tier of New York, an area that is largely rural and undeveloped in character. The region offers a number of cultural, recreational, and entertainment attractions and is home to popular vacation destinations at parks and other recreational facilities. All season outdoor recreational activities include boating, hiking, skiing, camping, hunting, and fishing. Most resorts, restaurants and tourist attractions are clustered near waterfront areas including Chautauqua Lake and the Allegheny reservoir; however, the Martz Observatory, Erlandson Overview Park and the Audubon Center and Sanctuary are located inside the study area.

Jamestown, New York, the most populated city in the region, is approximately ten miles northwest of the site. Villages and Hamlets are scattered throughout the county and surrounding areas. The population center nearest the site is the Village of Frewsburg, New York approximately five miles to the northwest. The Village has developed and maintains residential housing, churches, banks, stores, schools, and an assortment of light industrial and commercial establishments. Most services are located along NY Route 62. Moderate to high density residential development with mature and well maintained vegetation is found throughout the Village. Activities are related to business, educational, local shopping, and residential uses.

Outside developed areas the landscape is a patchwork of forested areas, crop field, pasture, and rural homes. Built features include low density single family residential, seasonal homes, and farmsteads.

Portions of the project site's eastern and southern property boundaries are shared with residential homeowners. Beyond the residential properties to the east lie the South Valley State Forest, the Allegheny Reservoir, and Allegany State Park. Beyond the residential properties to the south lie very low density residential development and predominantly forested ridges and valleys leading to the Allegheny National Forest.

2.6 EXISTING SITE

Entrance to the site is through a gated access point near the northeastern corner of the property. This main access road leads to the existing landfill and the staging areas. The dominant landscape feature on the project site is the existing landfill and its support areas. In October and November 1989, Jones-Carroll, Inc. first applied for a 6 NYCRR Part 360 permit to construct

and operate the existing landfill, and in December 1989 the initial permit was issued. The NYSDEC continued to issue renewal permits during the operational life of the landfill, with the last permit expiring on October 31, 2007. Landfilling continued to the summer of 2007, when the landfill was closed by Jones-Carroll, Inc. and the final cover system was completed.

The landfill, containing approximately 62,000 cubic yards of soil and waste material, is doglegged in shape, and at the ground surface is roughly 700 feet in length east to west and 200 feet wide north to south, covering about three acres. The elevation of the final cover system across the majority of the landfill ranges between 1785 feet and 1805 feet amsl, with a peak elevation of approximately 1810 feet amsl. At this time the landfill has the appearance of an open meadow, as the final cover supports a vigorous growth of fescue, clover, and rye grasses.

In support of past landfill and recycling operations, areas adjacent to the landfill have been used for the burial of stumps and land clearing debris, equipment staging and repair, field offices, stockpiling of metal scrap, cover soil mining, access roads, and drainage control structures. Heavy equipment, specifically a dump truck, is still staged at the site. A stockpile of concrete and brick debris remains adjacent to the closed landfill. A metal pole building, formerly housing tools and equipment for equipment repairs, is situated in the northeast corner of the site near the entrance gate. The pole building is wired for electrical power, but there is no power available in the building at this time.

3 VIEWSHED AND RESOURCE INVENTORY

3.1 VIEWSHED MAPPING

The viewshed map was prepared to determine the areas where the proposed project might be visible, and especially to assist in determining the potential visibility of the proposed project from the identified aesthetic, cultural, and community resources.

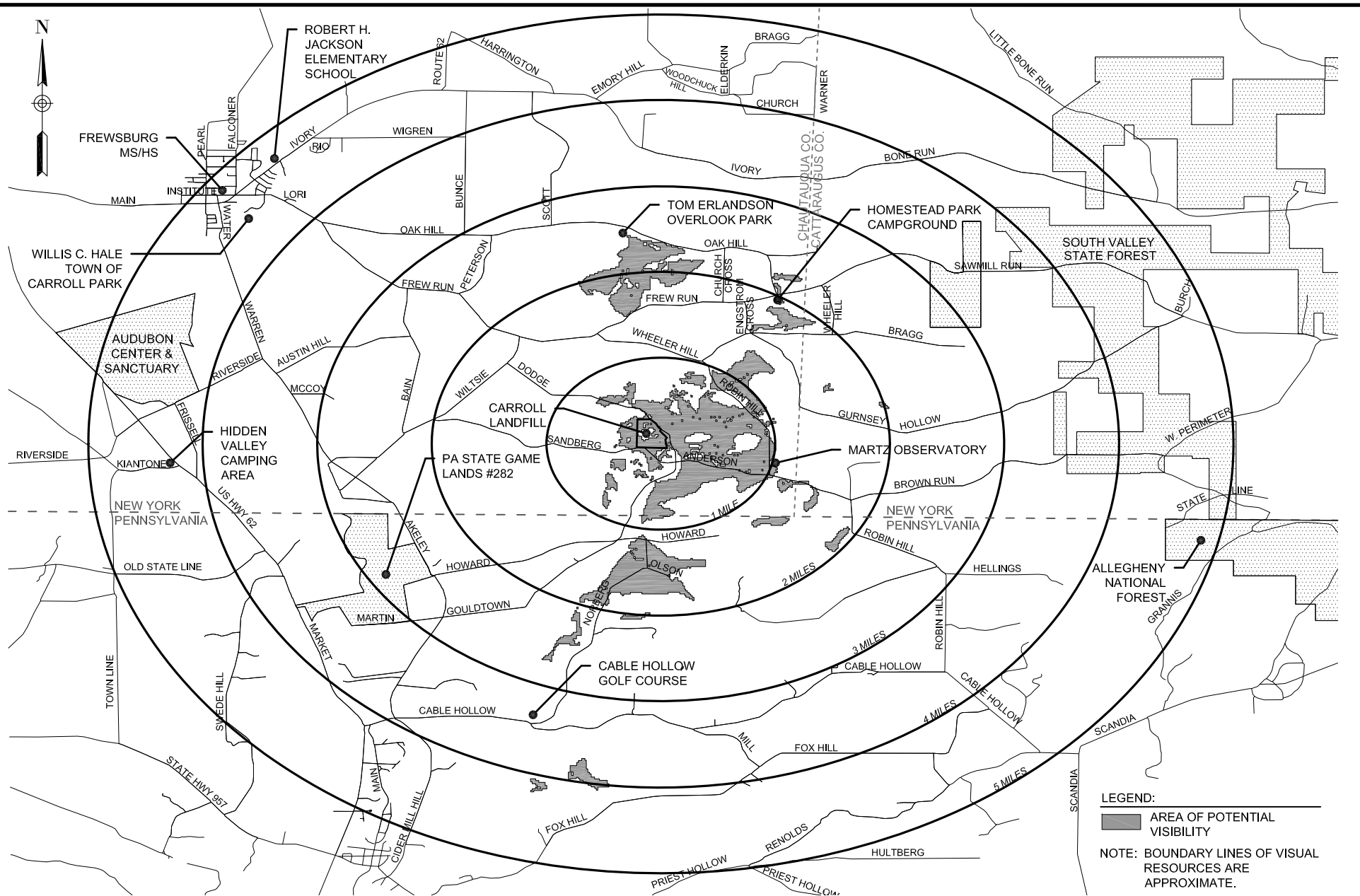
For this VRA, the viewshed maps were generated using ArcGIS 9.0 and ArcGIS 3D Analyst and publicly available digital elevation models (DEM) obtained through the United States Geologic Survey (USGS) from its National Elevation Dataset (NED) based on 1:24,000-scale USGS topographic maps. A treeless viewshed was chosen to identify the maximum potential geographical area over which the project might possibly be visible.

For the purpose of this assessment, the project site was elevated 200 feet to simulate full build conditions. This provides for a very conservative approach because the final grades of the landfill will not result in increases of that magnitude over the entire property. The land form simulated in the viewshed analysis is essentially a 200-foot high extension of the shape of the site as described by the property boundary line, and this greatly overestimates the visibility of the proposed landfill at final grade.

The results of the viewshed analysis are presented in Figure 3-1. The five mile radius bands and the approximate site property boundary are shown in the figure. Shown with shading are the areas identified by the viewshed analysis where there is a potential for visibility of the proposed project. The areas shown to have a potential for visibility of the proposed project is considered very conservative in that a treeless condition viewshed mapping was used to conservatively represent the worst case visibility scenario. Forests, even deciduous forests, are known to provide a substantial visual buffer in all seasons, and the screening effect of vegetation on distant views serves to significantly reduce the visibility of the project from what is indicated on Figure 3-1.

3.2 RESOURCE INVENTORY

Prior to evaluating potential impacts, an inventory of aesthetic, cultural and community resources was made to determine their location with respect to the project, and allow for an evaluation of



LEGEND:
 AREA OF POTENTIAL VISIBILITY

NOTE: BOUNDARY LINES OF VISUAL RESOURCES ARE APPROXIMATE.

DAIGLER ENGINEERING P.C.
engineering • science • design
 1711 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072

SEALAND WASTE, LLC		PROJECT VIEWSHED			FIGURE 3-1
SCALE: Not To Scale	REVISION # 0	CARROLL LANDFILL EXPANSION PROJECT			
January 2012		TOWN OF CARROLL	CHAUTAUQUA COUNTY	NEW YORK	

the number and type of potential observers that may be affected. The following areas were considered for the inventory:

1. National Register Eligible or Listed Historic Sites;
2. Parks, Recreational Areas and Open Spaces; and,
3. Resources of Local Interest.

Published data complimented with additional research and fieldwork produced the following inventory of aesthetic, cultural, and community resources. The locations of each resource are as shown in Figure 3-1.

3.2.1 National Register Eligible or Listed Historic Sites

In Chautauqua County, there are 20 sites listed in the State and National Register of Historic Places, none of which are within the five-mile radius study area. The closest listed site in the county is the Busti Grist Mill & Museum located ten miles from the site on Lawson Road in the Town of Busti, and given sheer distance, no significant visual impact is likely. Parts of Warren County, Pennsylvania are within the study area, and there are 11 sites within Warren County that are listed in the National Register of Historic Places; however, none of these sites are located within the study area.

There are 41 historic sites in Chautauqua County that have either been determined eligible, or are in the determination of eligibility process for the State and National Register of Historic Places. None of the eligible or potentially eligible sites are located within a five-mile radius of the site or in the vicinity outside the study area.

3.2.2 Parks, Recreational Areas, and Open Spaces

3.2.2.1 South Valley State Forest and Allegheny National Forest

The South Valley State Forest begins approximately four miles northeast of the site, and is situated on 4,427 acres in the southwest corner of Cattaraugus County. Recreational activities in the state forest include hunting, hiking, horseback riding, and snowmobiling. Allegheny National Forest begins in Pennsylvania approximately four to five miles southeast of the site, encompassing 513,325 acres of forest land. Allegheny National Forest is a popular destination for environmental enthusiasts and campers, and is well suited for viewing the natural resources

and beauty of the general area. Both forests can be accessed through a number of roads throughout Cattaraugus County in New York and several counties in Pennsylvania.

3.2.2.2 Audubon Center and Sanctuary

The Audubon Center and Sanctuary is a 60-acre wetland preserve located at 1600 Riverside Rd within the four and five mile radius bands west of the project site. The Sanctuary maintains over five miles of trails and a 3-story nature center containing interactive displays and live animals. It also hosts a number of programs and events for children and adults throughout the year, providing an educational and natural resource for the region.

3.2.2.3 Tom Erlandson Overlook Park

The Tom Erlandson Overlook Park is located approximately 2.1-miles north of the site on Oak Hill Road in the Town of Carroll. The maximum elevation at the park is 2040 feet amsl, the second highest elevation in Chautauqua County. Access to the park is seasonal, and it is officially open May through November. This overlook has a 1.2 mile hiking trail, and is equipped with restrooms and a picnic area.

3.2.2.4 Homestead Park Campground

The Homestead Park Campground is located about two miles northeast of the site at 79 Frew Run Road. The campground offers daily and seasonal camping. Onsite facilities include a small convenience store, playground, in-ground swimming pool, and recreational pavilions.

3.2.2.5 Pennsylvania State Gaming Lands

Pennsylvania has over 300 State Game Lands totaling 1.4 million acres that are designated for hunting and trapping opportunities throughout the state. State Game Lands #282 is located between the two and four mile radius bands of the study area. It is approximately 434 acres in size and is approximately two miles east/southeast of the site. The most common point of entry is on Akeley Road, in Russell, Pennsylvania.

3.2.2.6 Cable Hollow Golf Course

The Cable Hollow Golf Course is an 18 hole public golf course, located approximately 3.5 miles from the site at 405 Norberg Road, Russell, Pennsylvania. It is open seasonally, typically from April to November.

3.2.2.7 Hidden Valley Camping Area

The Hidden Valley Camping area is located at 299 Kiantone Road. This facility provides over 200 sites for daily and long term camping. The campground is due west of the site.

3.2.3 Resources of Local Interest

3.2.3.1 Frewsburg Central School District

The Frewsburg Central School District has two facilities along the five mile band of the study area. The Frewsburg Middle School and High School is located at 26 Institute Street in Frewsburg. The Robert H. Jackson Elementary School is located at 135 Ivory Street, also in Frewsburg. The middle school/high school grounds include a football field with a running track, tennis courts, and a baseball diamond. The Robert H. Jackson Elementary School grounds include two baseball diamonds and large open recreational fields.

3.2.3.2 Willis C. Hale Town of Carroll Park

The Carroll Town Park is located on Parkway Drive, near the village center of Frewsburg. The park includes two baseball diamonds, basketball courts, parking areas, picnic areas, a playground, and a gazebo.

3.2.3.3 Martz Observatory

The Martz Observatory is located approximately 1.1 miles east of the site. The Martz Observatory is home to a 24-inch telescope and provides educational services to amateur astronomers, school children, and universities. The Martz Observatory regularly hosts public viewing nights, sometimes accompanied by a visiting lecturer.

3.3 VIEWSHED ANALYSIS

Once the conservative viewshed mapping and resource identification was available, a series of field investigations were completed to confirm the areas from which the proposed project might be seen. This work included a windshield survey and inspections at the aesthetic, cultural, and community resources in the study area.

3.3.1 Windshield Survey

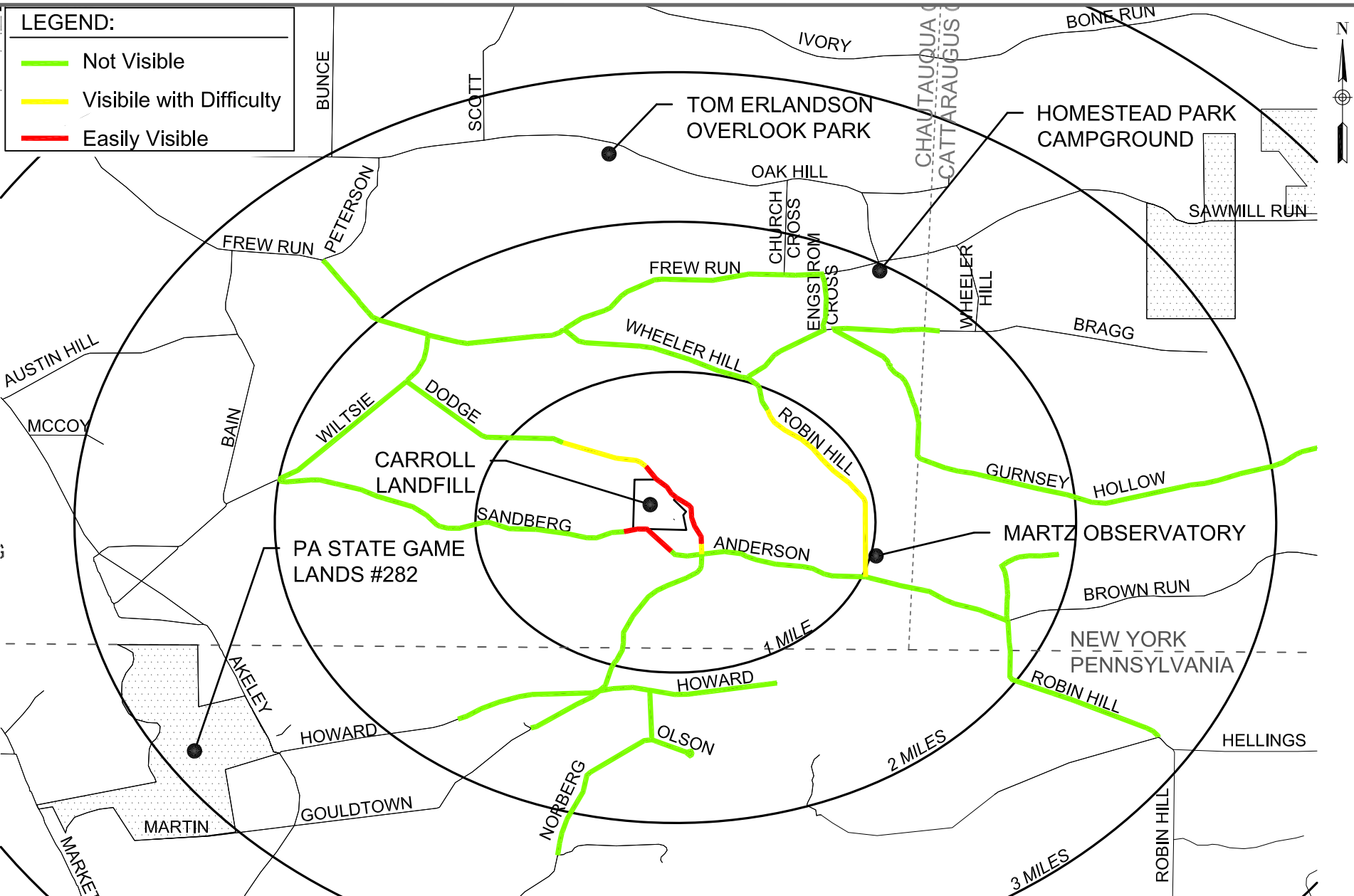
A windshield survey was completed to help determine whether, and to what extent, the proposed landfill would be visible to an observer from a given location. Three large weather balloons, a

spotter and two markers, were set at varying elevations above the site. A red balloon was set to approximate elevation 1990 feet amsl to simulate the final height of the completed landfill. A purple balloon was set to approximate elevation of 1840 feet amsl to represent the mean high existing grade of the site. Finally, a blue spotting balloon was set to an elevation of approximately 2200 feet amsl to assist in locating the two marker balloons. The balloons were fixed to the ground and were supervised by a second technician throughout the field investigation.

With the aid of the weather balloons, the windshield survey was completed on the afternoon of April 14, 2011. The air was calm and the sky was partly cloudy. Project visibility was determined during the windshield survey by travelling the roads shown in color on Figure 3-2. Green lines signify areas where the proposed landfill will not be visible. Yellow lines signify areas where the proposed landfill might be seen with difficulty (with binoculars or through trees). Finally, red lines signify where the view of the proposed landfill is unobstructed and visible to the unaided eye.

3.3.2 Site Inspections

Aesthetic, cultural, and community resources identified by the inventory and inside the study area were inspected while the weather balloons were airborne to determine whether the proposed project would be visible.



DAIGLER ENGINEERING P.C.
engineering • science • design
 1711 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072

SEALAND WASTE, LLC		SUMMARY OF WINDSHIELD STUDY CARROLL LANDFILL EXPANSION PROJECT			FIGURE 3-2
SCALE: Not To Scale	REVISION # 0				
January 2012		TOWN OF CARROLL	CHAUTAUQUA COUNTY	NEW YORK	

4 IMPACT ANALYSIS

4.1 BASIS OF EVALUATION

The visual and aesthetic impacts of the proposed project have been evaluated in light of the visual character of the project, the viewer groups, the distance from the project, and the frequency and duration of the view.

4.1.1 Visual Character

The visual character of a landscape is defined by patterns, forms, and scale relationships created by lines, colors, and textures. The effect the project has on these patterns, forms, and landscape scale will determine its overall impact.

4.1.1.1 Existing Landscape

In large scale, the form of the existing landscape in the study area can be described as rolling. On a smaller scale, the character of the landscape ranges between the expansive views an observer will have from an open ridge line, to somewhat abrupt foreground views when in a forested valley. Landscape patterns are defined by somewhat winding edges that form the topographic ridges and valleys and by the color and texture changes between the forested scrubland and agricultural fields.

The existing site features including the landfill, the staging area, and the pole barn are similar in form to the surrounding landscape. The landfill presents as a sloping mound with smooth corners. The existing landscape provides for irregular horizontal and semi-vertical lines formed by the sloping ground, steeper slopes, and topographic ridges. The red pole barn is similar in construction to other buildings in the area.

The existing landscape color changes with the seasons from the predominant green of spring and summer, to the red-orange-yellow and earth tone colors of fall and the white/earth tone of winter.

4.1.1.2 Proposed Landscape

The visual landscape at an operating landfill evolves with time to the point of closure, when the restored landscape will be complete. While the predominant feature will be the landfill, other important components of the landscape include the leachate storage and transfer structures, the C&D processing operation, and the yard waste composting operation. The significant

components contributing to the visual character of the facility include the leachate storage tank, the shop, the scale house, the stationary equipment associated with the recycling operation, material stockpiles, and access roads.

Because the landfill is similar in form to the existing landscape, the landfill is expected to be compatible with the texture, hue, and brightness of the surrounding landscape. Color and texture contrasts between the natural landscape and the operating facility are minimal, and will decrease significantly with increasing distance from the site. The 300,000 gallon leachate storage tank will be a blue colored, glass-fused-to-steel, aboveground storage tank. The buildings will consist of mobile office trailers and steel pole barn. Permanent stationary equipment will include the conveyors and screens for the recycling operation. Many of the basic visual elements of the project are considered in character with the local landscape; for instance, the leachate storage tank is the same tank style and fabrication used on a working farm for many silos, manure treatment/storage, and other purposes.

During the majority of the landfill's life, portions of the site will be operational, while other areas will have not yet been disturbed, or will have been graded, covered, vegetated, and restored. At final grade the landfill will take on a shape, height, and grade not inconsistent with the surrounding landscape. Landfill side slopes will extend toward the center plateau of the footprint at a nominal grade of 3H:1V. The peak elevation of the landfill at 1987 feet amsl is consistent with the elevation of the ridges to the west (1965 feet amsl) and to the east (2060 feet amsl). The grading plan for the completed facility, as provided on Sheet PD-7 of Part 360 Permit Application submitted to the NYSDEC in January 2012, shows the landfill as a slightly oblong shape, being neither square nor rectangular, with somewhat rounded corners and a sloping edge along the western, northern, and eastern slopes formed by the access road.

Aesthetically speaking, operationally active areas are similar in appearance to a site development construction project given the earth tone backdrop, soil excavations and embankments with predominantly yellow earthmoving equipment and trucks. C&D waste by nature is predominantly earth tone in color. The interior areas of the landfill base will be excavated and largely blocked from view. The soil excavated from the basal areas will be used to construct perimeter screening berms. Once the berms are at final grade, the perimeter screening berms

will be planted with grass and herbaceous vegetation and mulched to provide for an erosion resistant visual barrier. Individual landfill cells will be constructed and subsequent fill progression will be undertaken in sequentially planned and controlled phases as shown on Sheet PD-19 of the Permit Drawings. This fill sequencing design is such that at any elevation the outside slopes of the landfill will be brought to grade first, in a manner that shields views of the operation to the maximum practicable degree. This perimeter screening berm would typically be maintained at a height ten to 13 feet above the adjacent fill elevation

As operations progress, areas of the site and the landfill that have achieved design elevations will be graded to provide suitable drainage and erosion control, and then groomed, seeded, mulched, and tended to promote and maintain vegetation growth. During the post-closure phase in any area, the restored site and final cover system will experience continuing maturity and improvement in vegetative health with time. In areas where closure operations are complete, the intention is to return the property to green space with sufficient ecological diversity so as to preserve wildlife resources.

4.2 RELEVANT FACTORS

A few relevant factors have been selected to provide a framework useful in gauging the level of impact, as follows:

- Landscape;
- Viewer Groups;
- Distance; and,
- Duration and Frequency of View.

A description of each factor and the considerations made during impact analysis are detailed below. Use of these factors was made in the assessment of project visibility presented in Section 4.3.

4.2.1 Landscape

Stark differences in landscape between the project and the surrounding terrain will generate a higher sensitivity to visual quality. When the landscape elements of the project and the existing landscape are similar, the sensitivity to visual quality will be reduced.

4.2.2 Viewer Groups

Local residents will view the project from homes, local roads, and yard areas. Except for travelers, local viewers are likely to be stationary and can have frequent and/or prolonged views of the project. Local viewers know the existing landscape well, and are likely very sensitive to any changes.

Roadside views are often constrained by foreground and middle ground vegetation; however, through travelers will view the project intermittently from various locations on area roadways. While the winding nature of the area roadways will force drivers to focus primarily on the roadway in front of them, passengers will have the opportunity to view the project from areas void of topographic or vegetative screens. Except for the immediate foreground views from Dodge and Sandberg Roads, the travelers view of the project will be peripheral, intermittent, and of relatively brief duration.

Recreational users are visitors that may be involved in outdoor recreational activity, as well as those who come to the area to enjoy cultural, scenic, and open space resources in the area. A greater number of recreational users will be present in good weather compared to overcast or rain days and more will be present on weekends and holidays than on weekdays. The sensitivity of recreational users to visual quality is variable. Visitors with a relatively low familiarity with the landscape are expected to have a lower sensitivity to the visual change than are local residents. For those who believe the rural character should be preserved, a higher sensitivity to visual quality is assumed. Visitors coming from less rural areas, or residents who moved from such areas, are assumed to be relatively desensitized to construction activity. For them, the presence of the landfill may have little aesthetic impact on their recreational experience.

4.2.3 Distance Zones

Distance affects the apparent size and contrast of an object and its surroundings. From the foreground, the sense of form, line, color, and texture is highest. At foreground distances up to ½ mile, viewers will typically have a high recognition of detail and any impact will be the greatest.

The middle ground is defined between ½ mile to three miles, where elements begin to visually merge, and textures become muted by distance but remain identifiable. Scale is perceived in

terms of identifiable features such as buildings and landforms. The contrast of color and texture are perceived in a broader based or regional context.

The background zone lies between three to five miles from the project. At this distance landscape elements lose detail and become less distinct. Atmospheric conditions change colors to blue-greys and surface characteristics are lost. Visual emphasis is on the edges of one land form against the other with a strong skyline element.

4.2.4 Duration and Frequency of View

The length of time a view is encountered is an important measure in characterizing visual impact and aesthetic perception. Stationary views from fixed viewpoints offer sufficient time to interpret and understand the surroundings and the view. Long term exposure to a view is where a stationary observer is likely to see the project on a regular basis. Short term exposure would occur where a stationary observer is visiting, such as at a local residence or a recreational facility.

Moving observers have less time to cognitively experience a particular view. For travelers, the greater the contrast of a landscape element with the surrounding landscape, the greater the potential for viewer attention. The moving observer will perceive any change in less detail than a stationary observer.

4.3 PROJECT VISIBILITY

4.3.1 General

For a majority of the viewshed, the landfill operation will occur below the horizon, blocking the landfill from view. As shown in Figure 3-1, the greatest potential for viewing the landfill lies within the three mile band and especially in the immediate vicinity of the site. For the most part, the areas where there is significant visibility potential are heavily forested, so the likelihood of viewing the landfill from any one location is greatly diminished.

The project will contrast sharply with commonly recognized features and texture of the landscape in the foreground and the landfill will be a dominant visual element. However, when viewed from middle ground and background vantage points, the perceived scale, color, and spatial dominance of the project will be significantly less.

Specifically, the area north and east of the site between Dodge and Robin Hill Roads, south of the landfill at Norberg and Olson Roads, and north of the landfill between Frew Run and Oak Hill Road offer the best potential to view the expanded landfill.

4.3.2 Visibility at Inventoried Aesthetic Resources

The project is located more than two miles from the inventoried resources with two exceptions, the Marshall Martz Observatory (Martz), which is located about 5,000 feet due east of the site, and Homestead Park Campground about 10,000 feet northeast of the site. These exceptions are considered individually below. All other resources are considered collectively in Section 4.3.2.3.

Line-of-sight profiles were generated for key views using the United States Geological Services seamless server online data program. Copies of these profiles are included in Attachment 1 of this report.

4.3.2.1 Marshall Martz Observatory

During a leaves off condition, the marker and red (i.e., landfill final grade) weather balloons were visible from the Marshall Martz Observatory only through binoculars or a camera's zoom function. The landfill final grade balloon was nearly consistent with the horizon/tree line, suggesting the landfill will barely break the horizon.

As shown by the viewpoint profile for Martz, the treeless topographic profile indicates project visibility at the Observatory; however, the landfill operation will largely be blocked from view by the interceding forested ridge. From a height of 30 feet at the Martz Observatory, and assuming an average tree height of 60 feet, approximately the upper 100 - 120 feet of the landfill is likely to be visible above the tree line to users of the facility.

Considering that Martz is generally not open to the public during daytime operating hours, views of the active facility will be limited. As an astronomical observatory, visitors are at the facility after dark, when the landfill will be closed and dark. These mitigating factors diminish to some degree the aesthetic and visual impacts from the site.

4.3.2.2 Homestead Park Campground

Although the treeless viewshed shown in Figure 3-1 indicates that the project site may be visible from the Homestead Park Campground, the campground is mostly surrounded by thick

vegetation and forests. Given the close proximity of this treeline, the project site will likely be completely obscured from users of the campground. No significant visual or aesthetic impact will be evident at this location.

4.3.2.3 Other Inventoried Resources

The South Valley State Forest is located about four miles east the project center and a small portion of the Allegheny National Forest is within the five mile band. The thick stands of wooded vegetation that are the South Valley State and Allegheny National Forests provide a high degree of privacy for those accessing and using the forests. The viewshed map indicates no visibility from these areas. Therefore, it is anticipated that the landfill expansion will have no impact on either the South Valley State Forest or the Allegheny National Forest during the active or post-closure life of the landfill.

The Tom Erlandson Overlook Park is located on Oak Hill Road, north of the site. The project viewshed shows the Park on the edge of potential visibility. Several visits were made to this location in an attempt to locate the weather balloons; however, the balloons were not visible. It was reasoned that the forested ridge and valley pattern blocked the view of the balloons. The line-of-sight profile for the Tom Erlandson Overlook Park indicates that the site line from the park to the project site will allow unobstructed views of the landfill operation. Again, this assumes a treeless condition. Currently, there is a tree line approximately 250 feet from the overlook's primary viewing platform and a prominent treed ridge line just north of Dodge Road that intercepts a large portion of the proposed landfill. Assuming an average tree height of 60 feet, the landfill may not be visible from the Tom Erlandson Overlook Park.

From the Park broad views are dominated by forested ridges and valleys, patch-worked with working farms and old fields stretching out to the horizon. Scattered residential structures and farmsteads dot the landscape, and seasonally variant colors meld with distance. At this distance and elevation, the landfill will be below the horizon and it will be virtually indistinguishable from the adjacent other land, visually merging with the surrounding landscape. The broad view from the park will have a strong skyline element. Therefore, it is anticipated that the landfill expansion will have no significant negative impact on views from the Tom Erlandson Overlook Park.

There are no expected visual impacts for the users of the Hidden Valley Camping Area, or the Pennsylvania State Gaming Lands. Justification for the lack of potential impact is due to the intervening topographic ridges and the blocking of any view by the mature mixed deciduous forests that predominates the landscape in this area.

The Cable Hollow Golf Course, located south of the New York State line is screened by a large ridge at its northern boundary in the direction of the landfill. There are no anticipated visual impacts associated with this location as a result of the project.

The Willis C. Hale Town of Carroll Park is not expected to be visually impacted from the project due to an intervening large ridge immediately south of the park and distance to the site. Site visits to the Frewsburg MS/HS and the Robert Jackson Elementary School, and investigations into the Audubon Center and Sanctuary, yielded similar conclusions with respect to distance and intervening topography. There are no potential visual impacts associated with the project at these locations.

4.3.3 Local Community Visibility

The local community includes residential buildings and wooded lots, forested areas, meadows, and agricultural fields. The area most directly affected by views of the project will be in the immediate vicinity of the site, and the most significant visual change is likely associated with removal of vegetation and the construction of the perimeter embankments for the landfill. This activity will occur in close proximity to the property boundary and will affect the general landscape near the surrounding homes. The introduction of the perimeter embankments at the site will generate an obvious disruption of the landscape in the foreground. The well defined and engineered slopes of the facility will contrast with the natural more random texture of the existing site. For a limited number of close-in observers, the perimeter berms will become a dominant visual element.

When viewed from the middle ground and background areas, the landfill will present a muted feature not inconsistent with the character of the surrounding landscape. Ground disturbing activities at these distances will not appear significantly different than the agricultural operations.

4.4 SUMMARY

Based on the above discussion, the project will be visible at certain foreground, middle ground, and background locations. Because of the similarity in the form, color, and texture of the project with the natural landscape, no significant adverse impacts to the visual character of middle ground and background views is anticipated. However, it is also evident that some striking changes in the visual character of the landscape will occur in the foreground at certain locations. Mitigation strategies are presented in Section 5.

5 MITIGATION

5.1 DESIGN AND SITING

Land disposal facility operation is predominantly a continuous effort in earthwork engineering; that is, constantly altering the shape and grade of the ground from inception to post-closure. This activity involves clearing, grubbing, excavating, filling, grading, and restoring the land. It is because the process is earthwork based that the character of the facility landscape is similar in form, texture, and color to the existing landscape elements in the vicinity of the site. The inherent and effective mitigation will focus heavily on visual screening berms, creative plantings, and the construction of earthworks and drainage structures that are aesthetically compatible with the existing landscape.

Visual screening of the landfill operation can be achieved by obstructing a view of the project with a visual buffer. For this site, soil berms are proposed to be located along the property boundary. Upon each additional lift of waste placed above the perimeter screening berms, an approximate ten to 13 foot high berm constructed of waste material will first be placed at the outside limit of fill forming the final outside slope of the landfill. The outside slope will be soil covered by the end of the day, and the interim cover of a minimum of 12 inches of soils and six inches of topsoil will be placed. Weather permitting, the topsoil will be planted with grass and herbaceous vegetation, creating a visual barrier that progressively screens views of the waste placement operation.

To help soften foreground views of the site, disturbed areas at the site boundary will be restored with native woody vegetation and plantings. The landscaping plan for the site includes selected plantings at the gate and along the perimeter screening berms to include deciduous and evergreen vegetation. In addition, the development plan minimizes the amount of artificial lighting, and intends to use non-specular materials to the degree practicable.

5.2 MAINTENANCE

Sealand will implement a policy of maintenance practices that will afford a clean and healthy appearance. Perimeter areas will be policed and a routine trimming and maintenance of the perimeter landscape will enhance the visual character of the site.

6 CONCLUSION

As summarized in the report, the visual patterns and composition of the proposed landfill expansion are similar to past practices at the site and are somewhat consistent with the existing landscape elements. While landfills can be relatively large and visible, the natural topography and vegetative screening in the study area limits the overall visibility of the project, with the most significant visual change occurring in the immediate vicinity of the site.

Landfill visibility will be most pronounced at adjacent properties on Dodge and Sandberg Road, where the perimeter screening berms will become a dominant foreground feature. Through the windshield survey, viewshed analysis, and field reconnaissance, less striking impacts are likely for residents in the vicinity of the landfill, and possible commuters along local roads, such as Sandberg Road.

Mitigation efforts will be primarily in the form of a developed landscape plan and landfill maintenance. Through the use of perimeter screening berms, progressive lift berming and selective planting of grasses, herbaceous vegetation and trees, the visibility and contrast of the proposed facility will be limited to the maximum extent practicable.

The NYSDEC policy regarding significant aesthetic impacts states that:

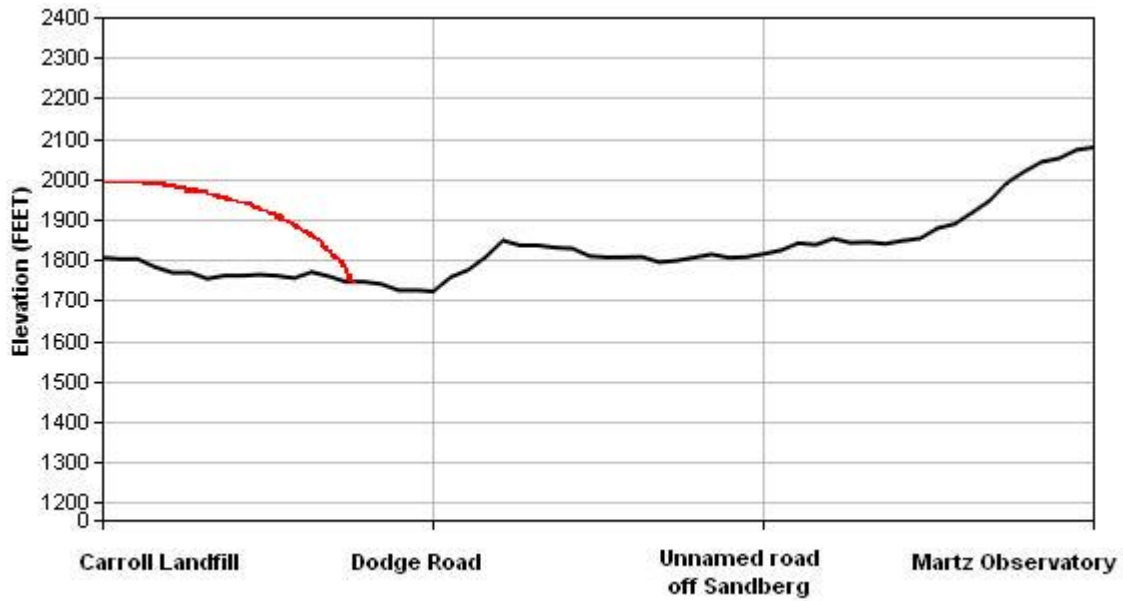
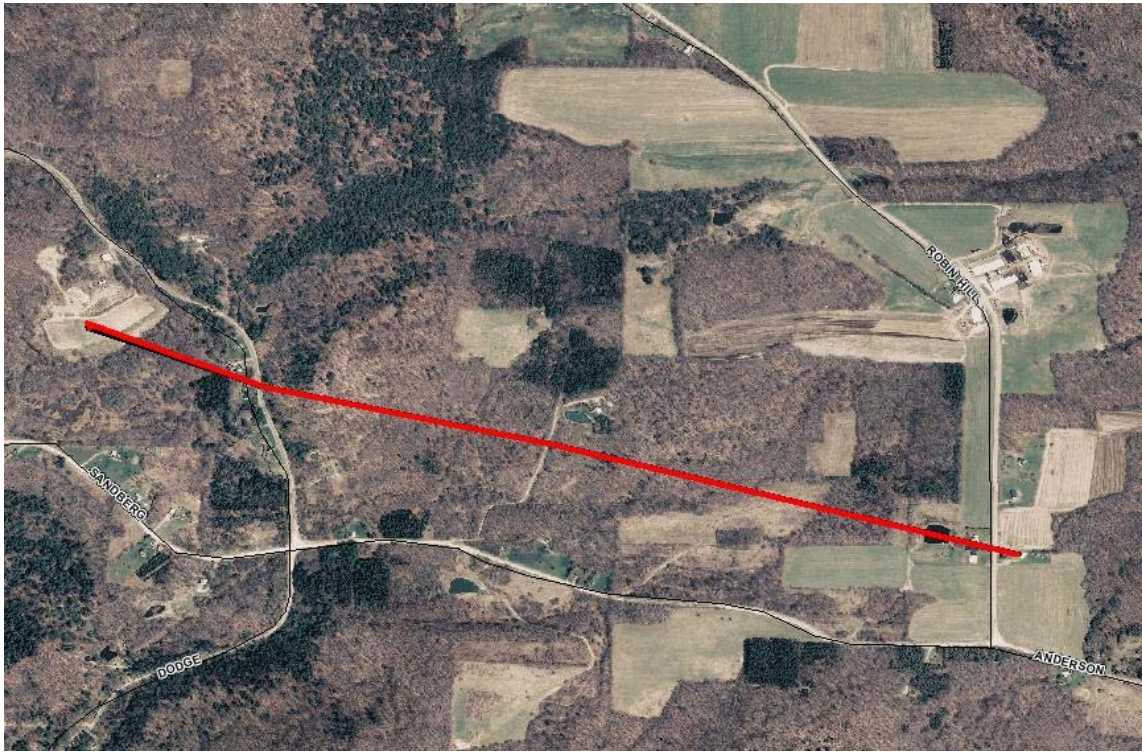
“Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Significant aesthetic impacts are those that may cause a diminishment of the public enjoyment and appreciation of an inventoried resource, or one that impairs the character or quality of such a place. Proposed large facilities by themselves should not be a trigger for a declaration of significance. Instead, a project by virtue of its siting in visual proximity to an inventoried resource may lead staff to conclude that there may be a significant impact.”

No inventoried resource will experience a significant visual or aesthetic impact. By the above definition, no significant aesthetic impact will result from implementing the project.

ATTACHMENT 1

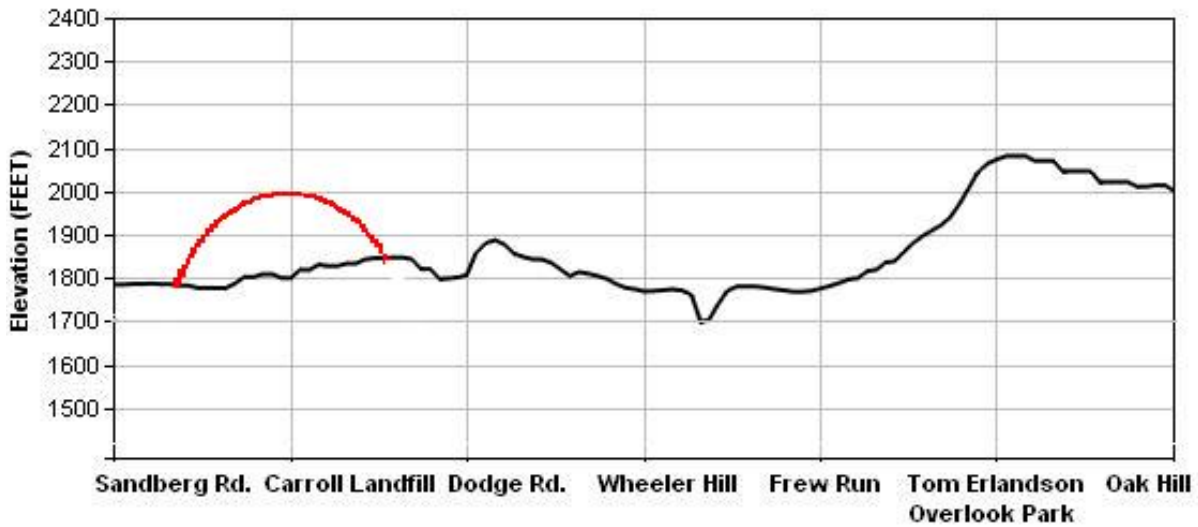
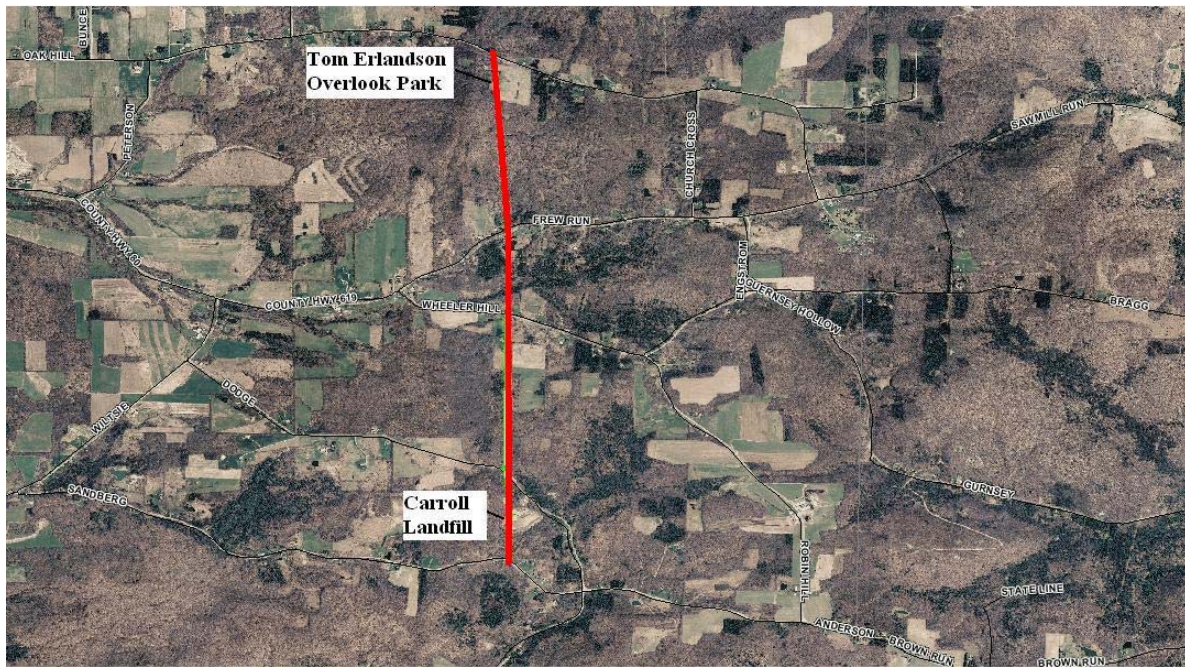
Line of Sight Profiles

Carroll Landfill to Martz Observatory



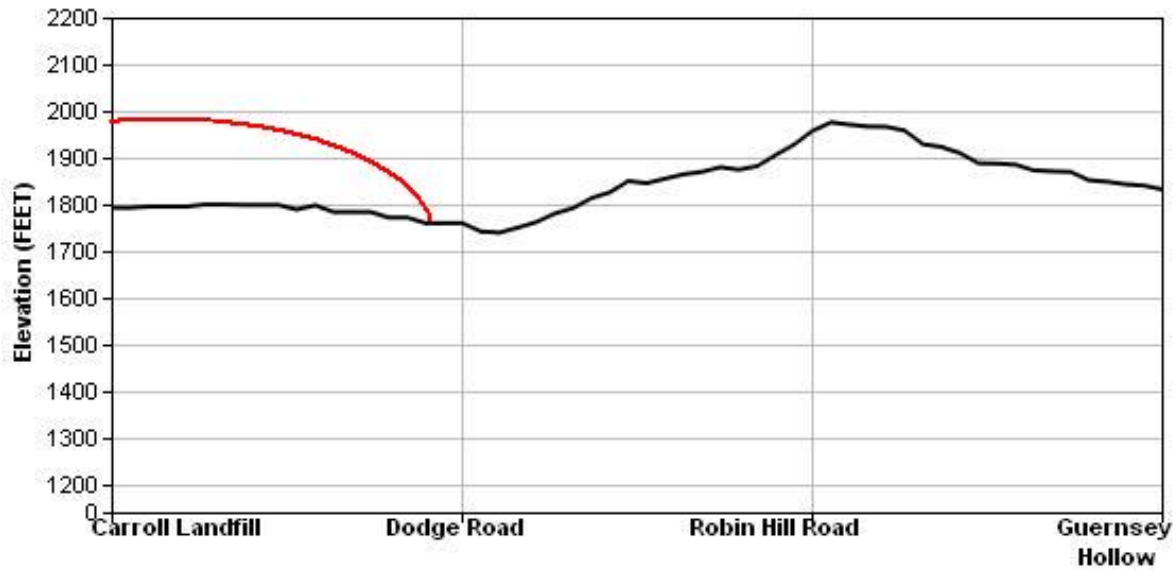
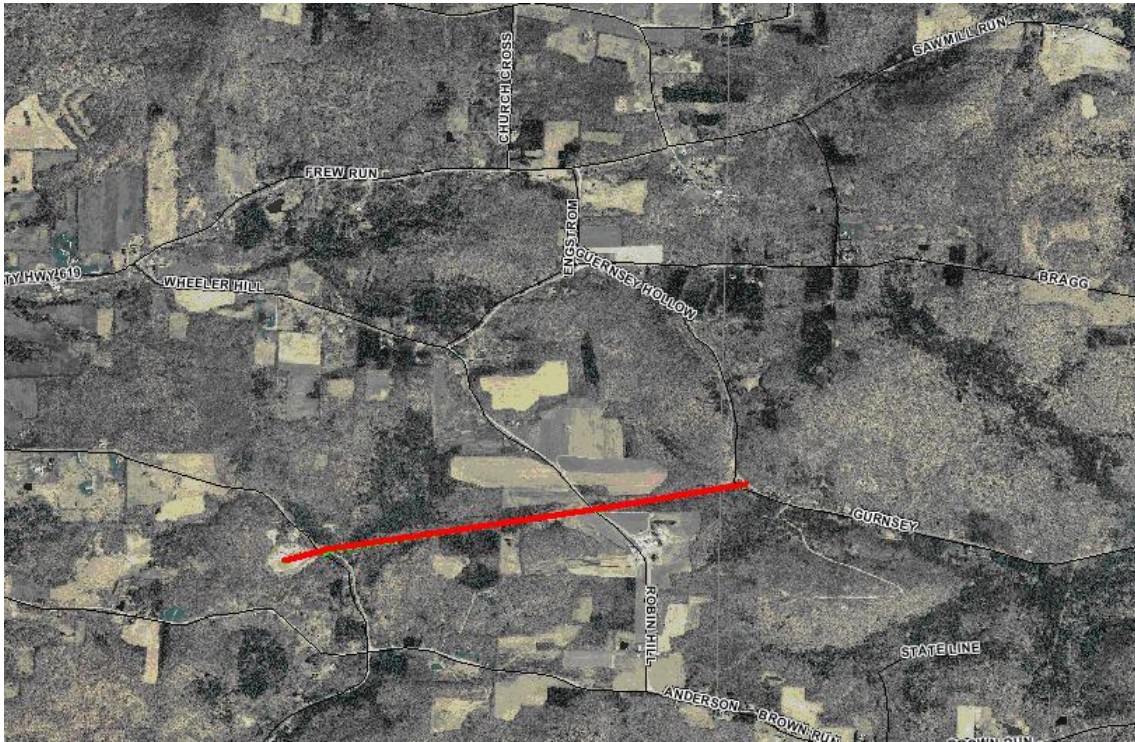
Elevation Profile

Sandberg Road to Oak Hill Road



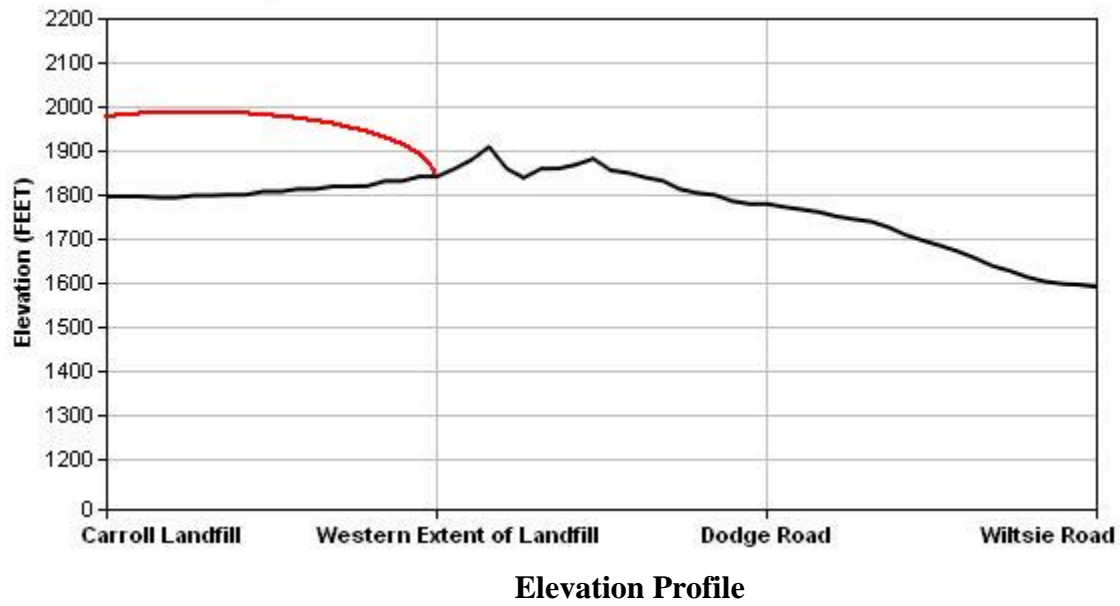
Elevation Profile

Carroll Landfill to Guernsey Hollow

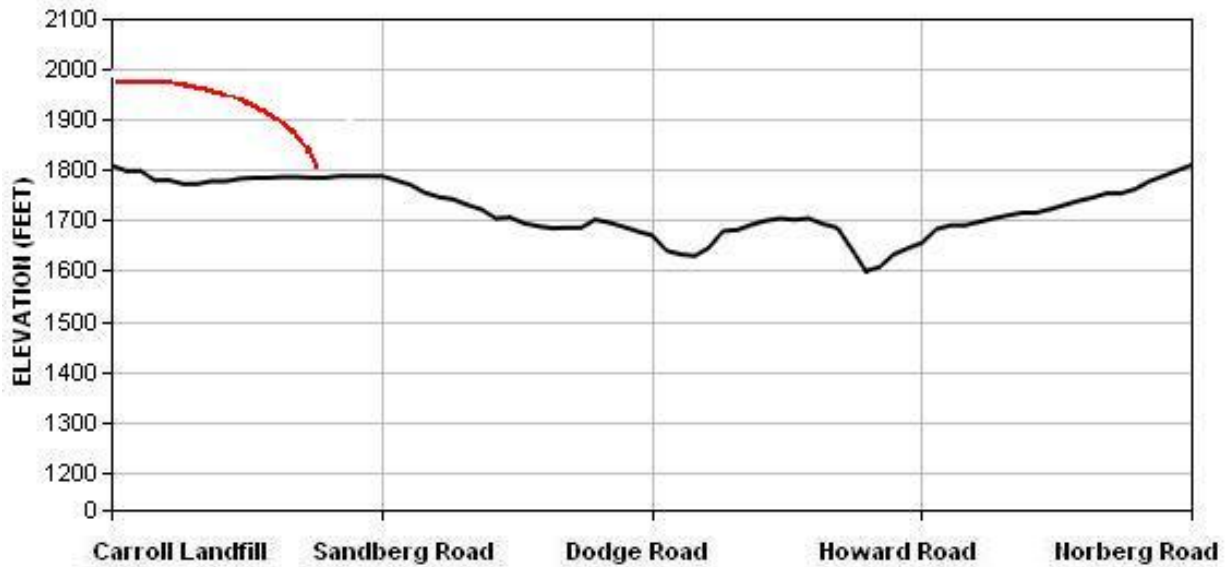
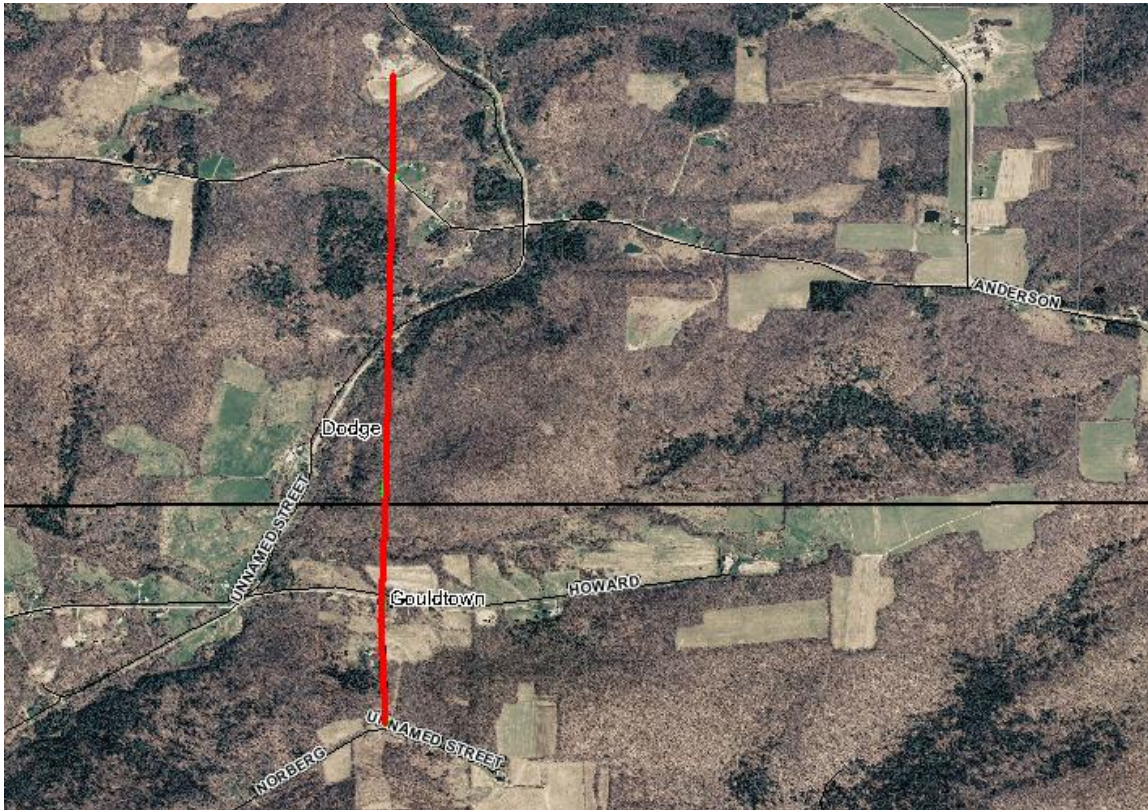


Elevation Profile

Carroll Landfill to Wiltsie Road



Carroll Landfill to Norberg Street (Pa.)



Elevation Profile

Carroll Landfill to County Route 33

