

**STATE ENVIRONMENTAL QUALITY REVIEW ACT  
STATEMENT OF FINDINGS**

Pursuant to Article 8 [State Environmental Quality Review Act (SEQR)] of the Environmental Conservation Law (ECL) and 6 NYCRR Part 617, the Region 9 Allegany Sub-Office of the New York State Department of Environmental Conservation (NYSDEC), as the SEQR Lead Agency, makes the following findings:

**Name of Action:** Carroll C&D Management Facility – Carroll Landfill Expansion  
Town of Carroll, Chautauqua County

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

**Project Description:** The proposed action is the construction and operation of a 34.9-acre, double composite liner landfill for the disposal of construction and demolition debris (C&D). The parcel site is approximately 53.9 acres and contains the currently closed three-acre Jones-Carroll C&D Landfill, from which waste will be exhumed and consolidated into the new landfill. The landfill project includes a leachate management system, landfill gas collection and control system, stormwater management and ancillary facilities. The overall project includes C&D debris processing/recycling, yard waste composting, and erosion protection and habitat improvements to Storehouse Run creek. The proposal also includes offsite wetland mitigation and stream restoration and enhancement of an unnamed tributary of 28th Creek in the Town of Ellington. The design capacity for the landfill is 1,000 tons per day (tpd); 330 tpd for the processing/recycling facility; and 3 tpd for yard waste composting . As final grades are achieved, a final cover system will be installed.

**Location:** The Carroll C&D Management facility is located at 309 Dodge Road, in the Town of Carroll, Chautauqua County.

**Department of Environmental Conservation Permits**

- 9-0624-00025/00002 -- ECL Article 27, Title 27; 6 NYCRR 360: Solid Waste Management Facilities
- 9-0624-00025/00008 -- ECL Article 19: Air State Facility
- 9-0624-00025/00011 -- ECL Article 15, Title 5: Stream Disturbance
- 9-0624-00025/00007 -- 6 NYCRR 608.9: Water Quality Certification
- 9-0624-00025/00009 -- ECL Article 17, Titles 7 & 8: State Pollutant Discharge Elimination System
- 9-0624-00025/00010 -- ECL Article 15, Title 15: Water Withdrawal

**Date Final Environmental Impact Statement (FEIS) Accepted:**

The FEIS was accepted by the NYSDEC on November 13, 2019.

**Facts and Conclusions Relied Upon to Support This Decision:**

**Community:** Land use surrounding the project site is largely a mixture of wooded areas, farmland and residential homesites. It is unlikely that the project site would be used for agricultural purposes due to the existing landfill, steep slopes, treed areas and soils that are not conducive to the growing of crops. Groundwater and surface waters used by local residences and agricultural operations will be protected from contamination by the landfill design and stormwater management system.

Community services, including schools, police, fire and emergency services and public utility providers, are expected to experience little to no impacts as a result of the project. During construction and operation of the facility, the project is expected to create approximately 30 to 40 permanent and seasonal job opportunities.

Local roads are proposed to be improved at the cost of Sealand Waste. Trucks traveling to and from the site will be required to meet normal noise and emission standards, and waste loads are required to be covered to prevent waste materials from leaving the bed of the trucks along the truck routes.

Best Management Practices (BMPs) will be employed to mitigate potential nuisance conditions. However, due to the proximity of residential properties to the proposed facility, an adverse impact on property values may occur. As mitigation due to the presence of the facility, Sealand Waste has prepared a Property Value Protection Plan (PVPP) which is included in the draft Host Community Benefit Agreement submitted to the Carroll Town Board. Under the proposed PVPP, Sealand Waste would reimburse property owners within 500 feet of the facility for financial impacts when selling property below the appraised value (as determined in accordance with the terms in the PVPP).

**Groundwater:** The landfill has been designed utilizing a double composite liner system. Groundwater will be drawn down through the use of wells and a trench drain in order to achieve hydrostatic containment known as an intragradient condition. It is here, in the lowermost areas of the landfill liner system where leachate will collect. The landfill will include a groundwater drainage system, or porewater drain, directly below and in contact with the double composite liner system that, while in operation, will collect and recover upward seepage of groundwater, as well as any potential leakage of leachate. Leachate will be collected and pumped to a leachate storage tank. Controls are built into the leachate removal system to prevent leakage and for detection of leaks should one occur within the liner system.

A site-specific groundwater model was developed and calibrated with existing groundwater level measurements. This model was used to trace groundwater flow patterns and to predict the impact of the proposed landfill on the groundwater flow system. Groundwater that flows directly under the landfill site discharges to Storehouse Run and is not expected to constitute a material source of groundwater in adjacent residential wells. The Chautauqua County Department of Health and Human Services coordinated the sampling of several residential water wells adjacent to the project site. These wells were sampled and tested for NYSDEC Solid Waste Management Facility Regulations [6 NYCRR Part 360; (Part 360)] Baseline Parameters to establish existing water quality in those wells. An Environmental Monitoring Plan (EMP) has been developed for the facility to address monitoring requirements for groundwater, surface water and sediment, and leachate. The groundwater monitoring network includes 11 monitoring wells, the porewater drain discharge, and drain tile buried below the existing landfill. The operational groundwater monitoring program will consist of 3 routine and one baseline sampling event per year. Upon closure, the entire landfill will be under the final cover system – a multi-layered system designed to reduce infiltration of precipitation and efficiently convey runoff to designated stormwater sediment basins.

The landfill design meets or exceeds the NYSDEC's regulatory requirements for a C&D landfill. The Construction Quality Assurance/Construction Quality Plan (CQA/CQC) contains detailed steps for qualifying materials, installing, inspecting, testing and approving all aspects of landfill construction. Strict adherence to the CQA/CQC Plan will help to ensure that the landfill containment and leachate recovery systems are properly installed, and the liner system will function as designed. The Operations and Maintenance Manual (O&M) contains on-going procedures that will be put into place

to help ensure that the landfill system components will continue to function properly as designed and installed.

The landfill design, construction performance plans, and methods of operation are expected to reduce significant adverse impacts on the quality of the groundwater to the maximum extent possible. The groundwater monitoring program will document that performance.

**Surface Water:** Storehouse Run, a NYS protected stream, flows from north to south near the landfill's eastern property boundary. In addition, the site contains two surface water drainageways across the western property boundary, and an unnamed tributary to Storehouse Run across the eastern boundary. The predominant on-site water feature is an intermittent drainageway grading down from west to east near the center of the site and discharging to the unnamed tributary.

The majority of the watershed, which drains to a point downstream of the site on Storehouse Run, will not be impacted by development of the facility. Initial site preparations are primarily related to construction of a stormwater management system with features designed to protect surface water quality, while limiting surface water discharge rates from the developing site to less than the pre-construction flow rates. A Stormwater Pollution Prevention Plan detailing sediment and erosion controls necessary to minimize sediment loading to surface waters will be developed and updated as the site is developed in phases. Site activities will be covered under the NYSDEC's State Pollutant Discharge Elimination System (SPDES) regulations, which includes consideration to the temperature of water being discharged to Storehouse Run or its tributaries. Due to the presence of wild trout, the SPDES Permit has been written to reflect the higher C(TS) standard rather than the actual C(T) standard presently assigned to Storehouse Run. The post-development watershed is divided onsite into two categories, contact and non-contact stormwater (stormwater that has not come into contact with waste or leachate) drainage. These waters will be managed separately as the regulatory requirements and potential water quality impacts are different. Non-contact water will be captured and diverted by the non-contact stormwater drainage system to discharge to the Sandberg Road roadside channel. Contact water will be treated by Sediment Basins 1 and 2 and the graded filters before being discharged offsite to tributaries of Storehouse Run or directly to Storehouse Run. Surface water will be sampled on a routine basis in accordance with Part 360 requirements upstream and downstream of the facility's stormwater discharge locations.

There are no state regulated wetlands at the project site. Based on the most recent field study, the site contains 6.36 acres of wetlands and 3,035 linear feet of drainageways that are subject to federal jurisdiction by the U.S. Department of Army, Corps of Engineers (ACOE). The project as presently designed would result in the filling in of 5.76 acres of federal wetlands and 2,844 linear feet of intermittent drainageway under federal jurisdiction. A Wetland and Drainageway Mitigation Plan has been prepared which includes: onsite riparian area creation; onsite restoration and enhancement of Storehouse Run and its tributary; and offsite mitigation at the 28<sup>th</sup> Creek site, which includes both wetland mitigation and stream restoration and enhancement of an unnamed tributary of 28<sup>th</sup> Creek.

A Stream Disturbance Permit pursuant to the NYSDEC's Protection of Waters Regulations (6NYCRR Part 608) is required for all project related disturbances to the bed or banks of Storehouse Run and/or its protected tributary. The permit includes conditions to minimize adverse impacts to Storehouse Run during landfill construction related activities as well as for stream mitigation related activities. All mitigation required as a result of proposed project impacts to federally jurisdictional areas will be subject to review and approval by the ACOE pursuant to the federal Clean Water Act.

**Air and Odor:** Landfill gas will be produced as waste degrades. Another potential source of odor is the yard waste composting operation. There will also be emissions of exhaust from the use of

equipment and particulate matter from the use of unpaved roads by vehicles, waste placement and compaction, excavation and placement of soil and other materials during the construction and operation of the landfill.

The concentration of methane and carbon dioxide (the two largest greenhouse gases emitted due to human activity) emitted from a C&D landfill are relatively low when compared to a municipal solid waste landfill; however, higher levels of hydrogen sulfide gas, an odor that is detectable at relatively low concentrations, are typically higher for C&D landfills than solid waste landfills. The Air Emissions Inventory conducted for all project activities determined that the potential to emit carbon monoxide, hydrogen sulfide and greenhouse gases will require the facility to operate under an Air State Facility Permit. The main mitigation measure to limit emissions and odor for the active landfill is the landfill gas collection and control system to collect and treat landfill gas at the time of treatable gas generation. Control of hydrogen sulfide gas will be achieved through the use of a SulfaTreat Adsorber Vessel system and flaring (burning of the gas). Potential odor impacts from exhuming and relocating the waste in the three-acre landfill can be minimized by limiting the activity to winter months and conducting the activity based on favorable wind direction. A number of other operational measures that control odor to be undertaken are outlined in Section 5.9 of the O&M Manual. An Air Quality Monitoring Plan will be instituted to monitor and document the performance of operation measures that control odor.

Facility operations are the largest contributor of fugitive emissions of particulate matter. These operations include the use of unpaved roads by vehicles, waste placement and compaction, handling of soil/cover material and C&D processing operations. Mitigation of these emissions can be achieved in part through watering of unpaved roads and work areas during dry periods, use of a vacuum and the dust suppression system that covers the processing equipment. Additional BMPs to help control particulate emissions, such as screening berms and/or other windbreak methods, controlling vehicle speed, etc. are listed in the DEIS in Section 5.4.1.2.

The potential air pollution from the landfill has been mitigated to the extent practicable, and the levels of air pollution associated with the landfill are expected to meet state air quality standards and do not indicate cause for health concerns.

**Ecological and Biological:** Specialty studies were conducted to determine the presence of threatened and endangered plant and wildlife species, with none being identified at the project site. One particular study was a mollusk study in Storehouse Run to determine the presence of two identified federally endangered mussels, which included an assessment of the potential mussel habitat that exists. The study determined that neither of the species were present nor was their suitable habitat for these species. There are no known Bald Eagle nests within 3 miles of the landfill site. Eagles are not expected to be significantly disturbed by proposed on-site or off-site project related activities. The northern long-eared bat (NLEB) is a federally listed species which occupies a broad range that includes all of NYS. Limiting the extent and timing of tree clearing will limit potential impacts to the NLEB.

Storehouse Run has wild brown trout in it. The landfill project includes onsite restoration and enhancement of Storehouse Run and its protected tributary, including: streambed and bank stabilization; construction of a waterfall trench pool; and establishment of vegetation on the creek bank and riparian zone through planting of native riparian and upland trees, shrubs and use of seed mixes. The terms of the Stream Disturbance Permit are expected to adequately protect the waterway and minimize the potential for any adverse impacts resulting from the construction of the landfill project which includes the stream habitat enhancement.

Based on the results of the studies conducted, along with the use of appropriate soil and erosion control measures during any construction activity, no significant adverse impacts are expected with respect to ecological and biological resources.

**Traffic and Roadways:** A Traffic Impact Study was conducted, and as detailed in Section 6.4 of the Draft EIS, it has been determined that there are no alternative routes that would be more appropriate than the planned routes in the study. Sealand Waste's commitment to enforce the use of designated routes to the site has been added to Section 4.3 of the O&M Manual. Important local roads in the Town of Carroll in the immediate area of the site include Frew Run Road, Wiltsie Road and Dodge Road. Potential impacts on Wiltsie Road and Dodge Road merit roadway, bridge and traffic safety upgrades. Sealand Waste has committed to make the necessary improvements along with continued maintenance of these roads with no cost to the Town of Carroll or Chautauqua County.

**Noise:** A Noise Analysis Report identified existing land use and noise receptors. Land use in the vicinity of the landfill site is a mix of residential homes, farmland, and wooded lands. Existing ambient noise is primarily generated by residential and agricultural traffic, and by agricultural activities on nearby farmland. Ambient noise measurements were obtained at select locations representative of the general area but did not include noise levels generated by the previously permitted landfilling and recycling activity at the site.

The facility will generate noise during construction and operation of the landfill. With the exception of routine site preparation in the morning hours, most site activities will normally be between 7:00 a.m. and 6:00 p.m. Monday through Friday, and from 7:00 a.m. to 3 p.m. on Saturdays. Waste will be accepted between 7:00 a.m. and 5 p.m. on Monday through Friday and between 7:00 a.m. and 2:00 p.m. on Saturdays. Sealand Waste will establish a No Jake Brake Rule for users of the facility. Propagation distance, topographic features, and man-made features attenuate sound. Man-made features such as berms will reduce the sound pressure level (SPL) at the receptor's location by intersecting the line-of-sight of the receiver of the noise source.

The character of the project was defined in terms of the construction and operational methods, and identification of noise generating equipment and activities. Future noise predictions were completed to evaluate the consistency of the proposed facility operation to the requirements of the Solid Waste Management Facility Regulations. Groups of onsite equipment were modeled based on planned construction activities and sound pressure levels (SPLs) were predicted at select locations to depict the worst-case noise levels for the different aspects of facility construction. Noise abatement measures were included in the models with the goal of limiting the increase in noise levels to 6 dB(A) over ambient or less to sensitive receptors. Operational noise will come from activities such as the excavation of soils in the borrow area, onsite traffic, operations at the working face, the construction and demolition processing operation (CDPO), and operation of the landfill gas management system. Combined construction and operational noise levels were compared to impact thresholds identified in the NYSDEC's program policy titled Assessing and Mitigating Noise Impacts and SEQR requirements.

The noise analysis was completed to determine the need for and the design of mitigation measures to control the SPL at the property boundaries and at sensitive receptors. Planned mitigation measures include operational screening berms, sound barriers, use of an enclosed flare and blower, small crews, equipment speed limitations, and restrictions on the operation of specified equipment and activities.

It was shown that with the addition of sound barriers and the planned operations of onsite activities, adherence to the noise requirements in the Solid Waste Management Facility and SEQR regulations are expected to be met.

**Aesthetics:** The landfill and supporting structures will be visible from certain locations upwards of five miles, with obvious noticeable changes in the visual character of the landscape from the foreground view. Perimeter vegetation will remain where possible for visual screening purposes. The design of the facility incorporates visual and aesthetic considerations to help minimize and/or mitigate for visual impacts, and will focus heavily on visual screening berms, plantings, and the construction of earthworks and drainage structures that are aesthetically compatible with the existing landscape. Select plantings of native trees, shrubs and seed mixes will be utilized around the perimeter of the site and at the site entrance to mitigate visual impacts for residents and travelers on the local roadways. The mechanically stabilized earthen (MSE) berm will consist of MSE baskets with permanent grass vegetation growing on all exposed sides. Post-closure, the peak elevation of the landfill will be 1,976 feet above sea level, essentially the same elevation of the surrounding ridges. At post closure the landfill mound will predominantly be covered with long grass, consistent with the appearance of other agricultural grass crops in the general area. A Visual Resource Assessment report was conducted, which demonstrates that no recreational or cultural resource will experience any significant visual or aesthetic impact.

**Slope Stability:** Construction of the landfill will result in the creation of embankments and slopes with increased loads on the subgrade soils that remain in-place. The structural integrity and overall stability of the landfill and its supporting earth works were considered in great detail, including use of slope stability modeling. In order to ensure that the landfill can meet or exceed the factors of safety established in the Solid Waste Management Facility Regulations, thirteen cross-sections of the site design were analyzed, with the resulting factors of safety of 1.5 or greater, with the facility design considered stable.

**Martz-Kohl Observatory:** During construction and operation of the landfill facility, light, dust and heat emitted from the facility has the potential to adversely affect viewing capabilities of the Martz-Kohl Observatory (Observatory).

One of the primary factors for astronomical viewing is a dark sky, with the optimum time to view the night sky being after twilight and before dawn. Astronomical dusk and dawn are when the sun is between 12 and 18 degrees below the horizon after sunset and prior to sunrise, respectfully. Based on the United State Naval Observatory astronomical twilight times chart, the earliest time to experience optimal viewing during any time of year for this area is approximately 7:25 p.m. and the latest time is approximately 7:04 a.m., which occur during early December and early January, respectfully. With the exception of routine site preparation in the morning hours, most site activities will normally be limited from 7:00 a.m. to 6:00 p.m. Monday through Friday, and from 7:00 a.m. to 3:00 p.m. on Saturdays. From late March through mid-September, the sun will set after normal facility hours. During this time, the latest time for prime viewing being before 5:30 a.m., which coincides with the earliest time stated for the beginning of morning site preparations. During the winter months, optimal observing times and site activities will have some overlap, with the potential for light from the facility affecting the Observatory during prime viewing hours.

Sky glow is the light emitted into the atmosphere and scattered or reflected off dust particles and water droplets as well as the molecules of nitrogen and oxygen that make up the atmosphere. Often, sky glow is associated with light from cities or highly populated areas and becomes an issue for observatories when the contribution is greater than 10% above the natural sky background. The proposed lighting scheme will not be materially different than the lighting used in residential

properties and agricultural operations which are in the vicinity of the Observatory. The City of Jamestown, which has a calculated sky glow of approximately 33.9% above the natural sky background, is in the same general viewing direction from the Observatory as the landfill facility, and the limited quantity of light produced by the facility is not expected to materially affect observations at the Observatory. However, to minimize the possibility that the Carroll C&D Management Facility will emit light during the construction and operation of the facility that may interfere with the observatory's viewing capabilities, Sealand Waste has developed a detailed lighting plan which will be implemented. The facility design will incorporate a minimum number of properly designed low-pressure sodium light fixtures to safely operate around the facility. These lights will be aimed downwards and have a full cut off (100% shielded) so that no light is emitted above the horizontal plane. The use of sodium light fixtures will scatter less in the atmosphere and interfere less with human night vision than white light. The lights will also be on motion detectors in order to only emit light when necessary. To minimize glare from pavement, buildings and other structures which have the potential to reflect light, the facility will use anti-reflective materials, coatings, or dark colors. The landfill will use an enclosed flare rather than a candlestick type flare, with a six-foot diameter, 30-foot high enclosure around it. While the enclosed flare will emit a discernable glow at night, no flame will be visible. With consideration to the facility hours of operation with respect to optimal night viewing time periods, along with the detailed lighting plan in place, the facility is not expected to cause a significant adverse impact on the dark sky needed for astronomical viewing by the Observatory.

Atmospheric turbulence, which is caused by moving air cells with small temperature differences in the atmosphere, can blur the image of astronomical objects being viewed. The facility will have no impact on high atmospheric turbulence which is associated with the jet stream. Surface turbulence, which reportedly accounts for up to half of all observed irregularities in astronomical viewing, is generally caused by the surrounding topography within approximately 0.3 miles. Since the landfill facility is located approximately 1 mile away from the Observatory, the site activities are not expected to contribute to this type of turbulence; however, geographic turbulence, which can be a consideration within about four miles from an observing site and extending upwards approximately one mile, will be a possible contributing factor. Geographic turbulence is affected by the surrounding landscapes which impact the thermal and moisture content of the atmosphere. The temperature on earth's surface varies based on the type of ground cover due to the amount of solar heat absorbed and/or reflected. The surface temperature was determined for the facility based on cover types for existing, operational, and post-closure conditions. During operation of the facility, the amount of solar radiation calculated to be reflected from the light dry soil cover type will be greater than the current conditions, which will result in a lower surface temperature. During post-closure conditions, a long grass condition will dominate the site and since this cover type is predicted to absorb more solar radiation than both the current and operational conditions, there will be a slight increase of surface temperature at the site. However, since this cover type is similar to the grassed agricultural fields proximal to the Observatory, the nearby agricultural fields would be expected to have a greater effect on the air turbulence due to the nearness to the Observatory than the proposed facility. In addition, although there might be a slight increase in surface temperatures due to changes in ground cover post-closure, thermal turbulence near the ground generally quickly dissipates. Looking northwest from the Observatory towards the landfill site, the altitude cut off is 20 degrees above the horizon, which would yield a line of sight located approximately 2,000 feet above the maximum height of the landfill. Therefore, it is not expected that any slight changes in heat convection from the landfill due to changes in cover type would substantially affect the viewing capabilities of the Observatory during any phase of the landfill. Another source of possible heat generation from the landfill results from the decomposition of the landfilled material. Heat generation in landfills is primarily a result of decomposition or reactions and is a function of several factors which include excess oxygen, temperature, moisture, waste compaction, reaction of waste constituents, and waste type. Studies have shown that the hottest temperatures in a landfill are near the middle-depths, and locations near

the surface and perimeter edge of cells have proven to be similar to unheated ground temperatures, affected by climatic and subgrade conditions throughout the life of a landfill. Over time, waste temperatures return to ambient ground temperatures.

Ground vibrations from landfill operations and truck traffic to the landfill pose a potential adverse impact to viewing capabilities and use of instruments at the observatory. Since vibration undergoes a decrease in magnitude from the source of the vibration to the receptor, and the distance between the proposed landfill and the observatory is approximately one mile, no significant adverse impacts to the observatory are expected. In addition, the routes for trucks delivering waste to the proposed landfill are not expected to be closer than one mile to the observatory (see Figure 1-2 in the DEIS) limiting potential impacts from vibration from those vehicles.

**CERTIFICATION OF FINDINGS TO APPROVE:**

Having considered fully the Draft and Final EIS, and having considered the preceding written facts and conclusions relied upon to meet the requirements of 6 NYCRR Part 617.11, this Statement of Findings certifies that:

1. The requirements of 6 NYCRR Part 617 have been met;
2. Consistent with the social, economic and other considerations from among the reasonable alternatives thereto, the action approved is one which minimizes or avoids adverse environmental effects to the maximum extent practicable; including the effects disclosed in the environmental impact statement; and
3. Consistent with social, economic and other essential considerations, to the maximum extent practicable, adverse environmental effects revealed in the environmental impact statement process will be minimized or avoided by incorporating, as conditions to this decision, those mitigative measures which were identified as practicable.

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Charles D. Cranston, Deputy Regional Permit Administrator

5/22/2020

Date



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