

SECTION 4.0
UNAVOIDABLE ADVERSE IMPACTS

4.1 TOPOGRAPHY, GEOLOGY & SOILS

The natural landscape within the Expansion Area will be modified to a landfill slope. Although a significant modification to the site itself, it is less so relative to the adjacent landfill and represents a very modest expansion with most of the impact area occurring as overflow of the existing landfill. It is also noted that a portion of the Expansion Area has been previously disturbed by the construction of ancillary facilities associated with existing landfill operations. In addition, the relocation of some of these facilities will occur on residential lands to the east that are also mostly disturbed lands.

No significant erosion and sedimentation impacts are anticipated due to implementation and maintenance of the Stormwater and Pollution Prevention Plan (SWPPP).

4.2 WATER RESOURCES

The Eastern Expansion will be designed in accordance with the Part 360 regulations and therefore will have a double composite liner and leachate collection system that will protect the groundwater. An aquifer variance report has been prepared and is included with the Part 360 Permit application, which is incorporated by reference herein. With the implementation of the Habitat Restoration, Enhancement & Mitigation Plan, water quality and aquatic habitat will be vastly improved over current conditions.

As discussed in Sections 2.8 and 3.2, runoff from the mobile home park, rerouted drainage from disturbed lands west of the mobile home park, and previous agricultural ditching and draining have created poor water quality in the stream that flows along the northern boundary of the Rapp Road Landfill and through the Expansion Area and State lands to the east. Under the Plan, historic stream corridors will be re-established, wetlands will be recharged to cease the decomposition of organic soils, and new wetlands will be created, all of which will contribute to better water quality. Additionally, the conversion of the mobile home park to stream and wetland corridors and pine barrens habitat will reduce the peak stormwater runoff from existing conditions, despite construction of the Eastern Expansion.

4.3 ECOLOGY

The Eastern Expansion will unavoidably impact approximately 5.05 acres of primarily forested wetland (although degraded from agricultural ditching and draining) and the loss of approximately 7.4 acres of Appalachian oak-pine forest. However, of all the areas investigated by the project team's highly experienced and respected restoration ecologists, the proposed Eastern Expansion area is the least significant natural community. No threatened and endangered species or other species of concern were identified in this area during site investigations nor is the habitat for these species present or of sufficient quality to warrant its use by these species.

Wetland impacts and other ecological impacts of the expansion will be compensated through the implementation of the Habitat Restoration, Enhancement & Mitigation Plan, a comprehensive ecological restoration plan that will focus on improved water quality, re-establishment of stream and wetland corridors, and reconnection of pine barrens communities east and west. This will include the conversion of the landfill to pine barrens habitat. This will be a very significant effort (beneficial impact) that will provide lasting results and meet important APBPC habitat goals that would otherwise require funding not readily available to the Commission.

4.4 ALBANY PINE BUSH PRESERVE

The proposed Eastern Expansion would eliminate the opportunity for the APBPC to acquire the City-owned Expansion Area as proposed in the 2002 Management Plan. This area is identified in the 2002 Management Plan as area 15b. Although the APBPC staff have expressed their belief that a portion of this land is restorable to pine barrens, the predominance of sizeable oaks on the upland islands, the proximity of upland directly adjacent to existing landfill operations, and the significant wetland component suggests the intent for this land is as a buffer and habitat linkage. This assumption is supported by the 2002 Management Plan that ranks the parcel high for both linkage and buffer and very low for establishment as pine barrens, Karner blue butterfly habitat, and water resources (Environmental Design & Research, P.C. 2002, Table 11, p. 65 and Figures 12-17).

The implementation of the Habitat Restoration, Enhancement & Mitigation Plan will more than compensate for the conversion of the Expansion Area to landfill. The significant habitat restoration work within the mobile home park alone will provide an important linkage goal for

APBPC that might otherwise be unattainable without another very sizable outside funding source. Additionally, the Plan envisions the ultimate conversion of the closed landfill to pine barrens. Therefore, although the Expansion Area will be modified both topographically and ecologically from its current condition, there remains a viable opportunity to integrate this area back into Pine Bush communities and further enhance the east-west connection between existing Preserve lands.

4.5 LAND USE & COMMUNITY CHARACTER

Active landfills are typically not considered a compatible land use with residential uses. However, the landfill is an existing use that has been in operation for well over 30 years. Expansion of the landfill will provide 6-7 years of additional operations after which time portions of the landfill that include the Expansion Area will be converted to pine barrens, a much more compatible use. However, it is not anticipated that the proposed expansion will have any greater impacts on land use and community character than current conditions. Additionally, the current major community issue, odor, is being addressed on a number of fronts. These efforts are beginning to show positive results with fewer odor impact events reported by surrounding uses.

4.6 VISUAL RESOURCES

The landfill may be visible from some of the viewpoints identified in the Visual Impact Analysis (Appendix H). Current views of the landfill will change as the landfill increases in elevation as allowed under the current Part 360 Permit. The Eastern Expansion will increase the top elevation of the landfill by a maximum of 10 feet. This will not be a distinguishable change from that allowed under the current permit. Therefore, the project is not expected to have any significant impacts on views.

4.7 TRAFFIC

No unavoidable adverse impacts are anticipated. The amount of waste accepted by permit at the landfill on a daily basis will not change as a result of the proposed expansion. Therefore, truck and employee traffic will not change from current conditions.

4.8 AIR QUALITY & ODOR CONTROL

Odors have occurred in the past that have resulted in complaints issued by residents and businesses in the vicinity of the landfill. An evaluation of the potential odor impact from the proposed expansion area has been completed for six landfill gas components that have been identified by EPA as typical landfill gas constituents and potential odor causing compounds. The combined screening level concentrations for the existing landfill and the expansion area, at both 1051 meters and 549 meters, were compared to odor thresholds. Screening level concentrations were based on the most conservative assumptions for landfill gas generation and worst case weather conditions. The results of this analysis indicate that the maximum concentrations of all six compounds are predicted to remain below detection thresholds at both distances.

Screening was also performed for the combustion sources (flares and engines) and also found to fall below detection limits.

To test these results, an odor sampling program was developed. The odor results show that odor concentrations decrease as distance increases from the active landfilling area. The results also show that odor levels decreased over the year-long sampling period. Additionally, documented complaints decreased over this same time period, correlating well to the efforts of the City to control odors as specified in SDEIS Section 3.8.2.2, beginning on p. 3-101.

Greenhouse gas emissions from the landfill are projected to decrease will despite an increase in the landfill footprint due to higher efficiencies in the gas collection system. Air quality reporting for 2007 indicated that the gas collection system operated at about 70 percent efficiency. However, during that period and well into 2008, significant efforts were made to improve the efficiency of the system. A range of 80-90 percent efficiency is currently being achieved so 80 percent was used for the purposes of projecting the future condition. At this point in time the technology is not available or not feasible to achieve 100 percent efficiency. However, by 2017 (estimated period of peak landfill gas generation) improvements in technology and advances in landfill management may result in higher efficiencies that the 80 percent currently projected for that year.

By capturing and destroying more methane, there is a great benefit to the environment. Although combustion of one ton of methane produces 2.75 tons of CO₂, the impact of methane on global warming is about 20 times worse than CO₂. Operations at the landfill destroy all the

methane that is captured through the waste to energy facility and the flares and will continue to do so with greater efficiency in the future.

It is also important to note that a second landfill gas to energy facility is expected to be constructed in the near future that will increase the amount of methane convert to electricity. This places less of a burden on other non-renewable sources of energy such as oil and coal.

4.9 NOISE

Ambient noise in the vicinity of the landfill is generally dictated by the NYS Thruway. However, noise modeling for the Eastern Expansion revealed that the 62 dBA (decibels) threshold for suburban land uses, specified in the Part 360 regulations, would be exceeded at two locations: at the residence east of the landfill access road and at the mobile home park property line. The residential parcel represented by Site 3 is proposed to be acquired and used for landfill operations. Therefore, this site will no longer be used for residential purposes. Site 13 is located in the mobile home park north of the landfill. The mobile home park has been dedicated to the Albany Pine Bush Preserve. The existing mobile homes on the site are gradually relocating and those that remain can be relocated within the park but outside of the noise impact contour, with the exception of one parcel on which there is a life estate. The predicted worst case noise level in proximity to this mobile home is 60 dBA, which is below the Part 360 threshold. As shown in the noise measurements, the machinery at the landfill is typically not all operating at the same time, which means that noise levels will typically be lower than the worst case predicted noise levels. Furthermore, as the landfill in the expansion area increases in height, the landfill operations will move away from the area located closest to Site 13, resulting in lower noise levels (refer to section 3.9.2.3).

The NYSDEC Program Policy DEP-00-1 recommends that projects minimize increases in sound pressure level above ambient levels at the chosen point of sound reception. Therefore, noise levels due to the expansion were compared to the existing noise levels to determine the effects anticipated from the proposed landfill expansion. Based on the NYSDEC Program Policy DEP-00-1 guidance, a noise level increase of 0 to 3 decibels should have no appreciable effect on receptors. An increase of 3 to 6 decibels may have potential for adverse noise impact only in cases where the most sensitive of receptors are present. An increase of more than 6 decibels may require more analysis, and an increase of 10 decibels deserves consideration of avoidance and mitigation measures in most cases. The guidance also includes a table, Table B, that gauges human reaction to increases in sound pressure level. This table indicates that increases of less

than 5 decibels are unnoticed to tolerable, increases of 5 to 10 decibels are intrusive, and increases of 10 to 15 decibels are very noticeable.

The noise levels at measurement sites 2, 4, and 5 fall within the range that results in intrusive noise within the meaning of the guidance (Refer to SDEIS Section 3.9, Table 3.9-7). Site 2 would have the most noticeable noise impact since the land use is a residence. However, the resulting noise level of 60 decibels is not at a level that it would interfere with speech. Impacts at sites 4 and 5 would be less noticeable since there is much less frequent activity, and the chances of activity occurring during operations that would produce the worst case noise levels is much less.

As stated previously, the modeled noise levels presented in Table 3.9-9 represent the worst case noise levels. Actual noise levels will typically be below these noise levels since all of the equipment is typically not operating at the same time and the equipment will move further from these receptors as the landfill height increases.

Construction impacts are also anticipated to occur, particularly when activities occur within the expansion area during construction of the berm. Sites 3, 13 and 14 will experience short term impacts that exceed Part 360 thresholds. Site 3 is proposed for acquisition to accommodate landfill facilities and will not be impacted. Site 13 is the property line of the mobile home park. This area has been dedicated to the APBPC and most of the mobile homes have or will be moved to the north, further away from the expansion area. Site 14 will experience a 2 decibel increase but for a short duration. Mitigation measures are discussed in SDEIS Section 3.9.2.5 that will involve modifications to the construction equipment that will reduce the noise impact.

Based on the NYSDEC Program Policy DEP-00-1 guidance, sites 2, 4, 5 and 13 will experience construction noise impacts with noise levels 6-10 decibels above ambient conditions. In addition, site 13 will experience temporary noise increases exceeding 10 decibels. Site 2 would have the most noticeable noise impact during construction since the land use is a residence with frequent outdoor activity. However, the resulting noise level of 61 decibels for Phase 2 and 59 decibels for Phase 3 are not at levels that would interfere with speech. Impacts at sites 4 and 5 would be less noticeable since there is much less frequent activity, and the chances of activity occurring during construction operations that would produce the worst case noise levels is much less. As previously mentioned, site 13 is the property line of the mobile home park that is dedicated to APBPC. As such, no activity is anticipated in the area represented by site 13 during

construction. Therefore, based on the intended use of these sites and the temporary nature of construction, no significant impacts will occur.

4.10 CULTURAL RESOURCES

Although detailed site plans have not been developed, the relocation of landfill facilities to the adjacent parcels to the east of the landfill entrance road will avoid any impact to the pre-contact site discovered there and will also provide a 50 foot buffer on this site, within which there will be no ground disturbance. The site will be fenced off during construction.