State of New York
Department of Environmental Conservation
625 Broadway
Albany, New York 12233-1010

In the Matter

-of-

the Applications for Modification
of the Part 360 and Title V Permits,
and for a Part 663 Freshwater Wetlands Permit,
for a Municipal Solid Waste Landfill on Routes 5 & 20
in the Town of Seneca, Ontario County, New York,

-by-

ONTARIO COUNTY,

Applicant.

DEC Application Nos.
8-3244-00004/00007, 00001, and 00021

DECISION OF THE ACTING COMMISSIONER AND SEQRA FINDINGS STATEMENT

November 19, 2015

DECISION OF THE ACTING COMMMISSIONER
AND SEQRA FINDINGS STATEMENT

Ontario County ("County" or "applicant") has filed permit applications with the New York State Department of Environmental Conservation ("Department" or "DEC") for a proposed expansion of the Ontario County landfill ("proposed landfill expansion" or "project"). The existing landfill is located on New York State Route 5 and U.S. Route 20 in the Town of Seneca, Ontario County, New York (see Draft Environmental Impact Statement for the Proposed Ontario County Landfill Expansion dated December 2011 ["DEIS"], Figure No. 2 [Existing Site Conditions]). The project would consist of two stages including a "wrap-around," which will cover approximately 16 acres around the northern and western boundaries of the existing operational landfill, and an "eastern expansion," which would cover approximately 27.5 acres to the east, including what is currently the soil borrow area for the existing landfill (see DEIS, at 12-13 & Figure No. 6). A proposed new soil borrow area, covering approximately 15.5 acres, would be constructed to the south of the existing landfill in an area to be owned by the Town of Seneca and leased to the County. Additional site modifications are also proposed, including but not limited to a proposed expansion perimeter berm located in the adjacent area of State-regulated freshwater wetland ST-12 and new stormwater ponds (see id. at 13 & Figure No. 6, and Application Document 54 [draft freshwater wetlands permit]).

In this matter, the County seeks: (1) modification of its existing solid waste management facility permit under article 27 of the New York State Environmental Conservation Law ("ECL") and part 360 of title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York ("6 NYCRR"); (2) modification of an existing Title V air permit under ECL article 19 and 6 NYCRR part 200 et seq. and part 60 of title 40 of the Code of Federal Regulations; (3) a freshwater wetlands permit pursuant to ECL article 24 and 6 NYCRR part 663; and (4) a five-acre waiver approval under the SPDES Multi-Sector General Permit.

The County is the owner of the existing landfill, and Casella Waste Services of Ontario, LLC ("Casella") is the lessee and operator of the landfill. In addition to waste generated within Ontario County, the existing landfill receives waste from a number of other counties in New York State as well as other sources (see Issues Conference Exhibit 7D [Ontario County Local Solid Waste Management Plan dated March 2014] ["LSWMP"] at 41). The County served as lead agency pursuant to the State Environmental Quality Review Act ("SEQRA"), prepared a five volume draft environmental impact statement dated December 2011 for the proposed expansion and a two volume final environmental impact statement dated August 2012, and adopted a SEQRA findings statement in May 2013. The Department is an involved agency for purposes of SEQRA review.

The matter was referred to the Department's Office of Hearings and Mediation Services and assigned to Administrative Law Judge ("ALJ") D. Scott Bassinson. On May 6, 2015, the ALJ issued his Rulings on Issues and Party Status ("Issues Ruling") by which he granted party status to Finger Lakes Zero Waste Coalition ("FLZWC") (see Issues Ruling at 16). The ALJ determined that no substantive and significant issues were raised except those relating to noise,

as to which Department staff, applicant and FLZWC had stipulated for adjudication (see Issues Ruling at 16, 17).

Before me are: (1) a pending appeal by FLZWC ("FLZWC Appeal") from the Issues Ruling in which it challenges the ALJ's determination that FLZWC did not raise an adjudicable issue relating to the County's comprehensive recycling analysis ("CRA"); and (2) the ALJ's hearing report on the adjudicated issue of noise, a copy of which is attached, in which the ALJ concludes that the County's proposal will be in compliance with all applicable laws and regulations.

For the reasons set forth below, FLZWC's arguments on appeal are rejected and the ALJ's Issues Ruling is affirmed. Furthermore, based upon my review of the record, I conclude that Ontario County has met its burden of demonstrating that its project, as conditioned by the draft permits (see e.g. Hearing Exhibit D), will be in compliance with all applicable laws and regulations administered by the Department. I hereby adopt the ALJ's hearing report as my decision in this matter subject to my comments below.

DISCUSSION

A. FLZWC's Appeal from the Issues Ruling

As referenced, FLZWC filed an appeal from the Issues Ruling in which it challenges the ALJ's determination that FLZWC did not raise an adjudicable issue relating to the County's CRA. In addition, FLZWC raises a number of issues relating to the County's LSWMP. Both the County and Department staff filed timely responses in opposition to the FLZWC appeal ("County Response" and "Staff Response," respectively).

1. Applicable Standard

In accordance with the Department's permit hearing procedures, a potential party must demonstrate that an issue it proposes for adjudication is both "substantive" and "significant" (see 6 NYCRR 624.4[c][1][iii]).

An issue is substantive "if there is sufficient doubt about the applicant's ability to meet statutory or regulatory criteria applicable to the project, such that a reasonable person would require further inquiry" (6 NYCRR 624.4[c][2]). In determining whether an issue is substantive, the ALJ "must consider the proposed issue in light of the application and related documents, the draft permit, the content of any petitions filed for party status, the record of the issues conference and any subsequent written arguments authorized by the ALJ" (id.). An issue is significant "if it has the potential to result in the denial of a permit, a major modification to the proposed project or the imposition of significant permit conditions in addition to those proposed in the draft permit" (6 NYCRR 624.4[c][3]).

Pursuant to 6 NYCRR 624.4(c)(4), where, as here, Department staff has determined that applicant's project, "as proposed or as conditioned by the draft permit, conforms to all applicable

requirements of statute and regulation, the burden of persuasion is on the potential party proposing any issue . . . to demonstrate that it is both substantive and significant." A potential party's burden of persuasion at the issues conference is met with an appropriate offer of proof supporting its proposed issue. Furthermore, any assertions made must have a factual or scientific foundation. Speculation, expressions of concern, or conclusory statements alone are insufficient to raise an adjudicable issue. Even where an offer of proof is supported by a factual or scientific foundation, it may be rebutted by the application, the draft permit and proposed conditions, the analysis of Department staff, or the record of the issues conference, among other relevant materials and submissions (see Matter of Waste Management of New York, LLC, Decision of the Commissioner, October 20, 2006, at 4-5; see also Matter of Chemung County Landfill, Decision of the Commissioner, August 4, 2011, at 5-6; Matter of Crossroads Ventures, LLC, Interim Decision of the Deputy Commissioner, December 29, 2006, at 4-9).

Where an issues ruling is appealed, the Commissioner will review the application of the substantive and significant standard to determine whether any issues merit adjudication (see Matter of Crossroads Ventures, LLC, Interim Decision of the Deputy Commissioner, December 29, 2006, at 10-11). With respect to legal and policy matters, the Commissioner will consider whether law and policy have been properly applied, and the Commissioner may offer guidance "to optimize the permitting process and focus the hearing" (Matter of Saratoga County Landfill, Second Interim Decision of the Commissioner, October 3, 1995, at 3).

2. Comprehensive Recycling Analysis

FLZWC's petition for party status identified the following issue: "The County's Part 360 Application is deficient in that it lacks a mandated comprehensive recycling analysis, and the development of such an analysis would likely affect the size of the proposed landfill expansion and the term of the draft modified Part 360 permit" (FLZWC Petition for Party Status, February 25, 2015, at 9).

The ALJ determined that FLZWC did not raise an adjudicable issue regarding the CRA (see Issues Ruling, at 8). The ALJ noted that the record reflected that the CRA was part of the County's LSWMP, and that Department staff's determination of completeness of the current application included a determination that the LSWMP contains a proper CRA (see id.). The ALJ indicated that FLZWC's "primary complaint" related to "what [FLZWC] views as the inadequacies of the CRA in the County's LSWMP, and therefore the inadequacy of the LSWMP" but that the pending proceeding was not the proper forum to challenge the adequacy of the LSWMP, "and the time during which FLZWC could have initiated such a challenge has expired" (id.). The ALJ also rejected FLZWC's argument that the DEC Commissioner's September 19, 1990 Interim Decision in Matter of Foster Wheeler-Broome County, Inc.[1] was controlling here (see id. at 9).

In its appeal from the Issues Ruling, FLZWC states that it identified the size of the County's proposed landfill expansion as an issue for adjudication based on the Foster Wheeler decision. It contends that the ALJ's rejection of that issue was "erroneous" (FLZWC Appeal at

[1] In its appeal brief, FLZWC also references the Commissioner's December 18, 1991 Decision in the Foster Wheeler proceeding, which also does not support FLZWC's argument.

1). FLZWC further alleges that the LSWMP is deficient and the proposed landfill expansion is inconsistent with the County's LSWMP, in addition to other alleged deficiencies in the CRA.

FLZWC contends that the ALJ, in the Issues Ruling, incorrectly limited the scope of the Foster Wheeler decision to incinerators, that the Foster Wheeler decision applies to landfills and that the size of the proposed expansion of the Ontario County landfill should be remanded for adjudication (FLZWC Appeal at 1-2). FLZWC maintains that its issue focused "on the necessity to subject the application to a 'sizing analysis'" (id. at 3), and quotes the September 19, 1990 Interim Decision in Foster Wheeler, which stated that solid waste management facilities "should not be sized to create economic incentives that would divert solid wastes that can be feasibly recycled to other less desirable forms of waste management" (Foster Wheeler, Interim Decision of the Commissioner, September 19, 1990, at 1).

FLZWC's contention that the Commissioner's decision in Foster Wheeler supports adjudication of the sizing of the proposed landfill expansion is rejected. The Commissioner's decision in Foster Wheeler addressed incineration and the potential of an oversized solid waste incinerator (with its waste fuel demands) to divert waste from recycling efforts. Although the Commissioner stated that his analysis relating to sizing of solid waste incinerators "may be helpful in determining an appropriate size for landfills," he indicated that the remedies to be considered would depend upon the degree to which size or capacity was shown to impair waste reduction and recycling efforts (see Foster Wheeler, Decision of the Commissioner, December 18, 1991, at 4).[2]

Although FLZWC made a number of general criticisms in its petition for party status, my review of the petition and the record of the issues conference demonstrates that FLZWC failed to make a sufficient offer of proof in support of its argument that the expansion of the County landfill, and its size and capacity, would impair or otherwise reduce recycling efforts (see 6 NYCRR 624.5[b][2][ii] [offer of proof to specify "the witness(es), the nature of the evidence the person expects to present and the grounds upon which the assertion is made with respect to that issue"]). The County's LSWMP sets forth a range of recycling tasks to be implemented (see e.g. LSWMP, Chapter 6 [implementation tasks nos. 2, 3, 4, 5, 7, 8 and 9]). Notwithstanding FLZWC's arguments criticizing the size of the expansion, the landfill's size reflects the fact that its service area is not limited to Ontario County but includes numerous areas outside of Ontario County that rely on the landfill for disposal of solid waste in a safe and environmentally protective manner (see LSWMP, at 41 [Table 4-3]; see also Ontario County Final Environmental Impact Statement dated August 2012, Vol. 1, at II-4). Although FLZWC contended that the sizing of the expansion "could support the addition of permit conditions" (see FLZWC Appeal at 13), it provided no specific details regarding the content of any such conditions or their relationship to the sizing issue.[3]

[2] See also Matter of Sullivan County Division of Solid Waste [Phase II], Rulings of the ALJ on Issues and Party Status, January 18, 2007, at 48 [noting that solid waste incinerators are sized thermodynamically and that such a consideration does not exist for landfills "where waste is buried instead of burned"]).

[3] I note that the draft Part 360 permit for the facility contains permit conditions (numbered as 50 and 51) which relate to improving recycling recovery rates and ensuring timely implementation of the recyclable recovery program (see Hearing Exhibit D, page 15 of 20).

Furthermore, the local solid waste management planning process serves as the basis for a locality to accomplish its solid waste goals, including proper management of the solid waste stream and assessing solid waste management programs and facilities (see ECL 27-0107[1]). The County has undertaken that process, and prepared a LSWMP that sets forth a ten year planning period in solid waste management (see LSWMP at E-1 to E-4). The Department has determined that the County's LSWMP contains a substantive consideration of those elements in ECL 27-0107(1), including but not limited to assessing existing and alternate proposed solid waste management programs and facilities and considering views on waste reduction, recycling, reuse and disposal alternatives. Based on its review, the Department approved the LSWMP (see Issues Conference Exhibit 5, Application Document Item 18 [July 7, 2014 letter from DEC Director of the Division of Materials Management to the County Administrator of Ontario County]).

FLZWC has not demonstrated that the Foster Wheeler decision would, in this instance, require any adjudication of the sizing of the proposed landfill expansion.

FLZWC also contends that it petitioned "to adjudicate the issue of the consistency of the County's application with the Department's waste planning mandates and policy" (FLZWC Appeal at 3). FLZWC faults the County for a failure to source separate recyclable materials and its low recycling rate (id. at 4). Many of FLZWC's arguments were previously addressed by the County's development of the LSWMP or are inapplicable here. FLZWC's argument that a proper CRA is lacking is not supported as the CRA is part of the County's LSWMP. I concur with the ALJ that Department staff's determination of completeness of the pending application established that the LSWMP contains a proper CRA (see Issues Ruling, at 8; see also County Response, at 9-10; Staff Response, at 2 [CRA as "integral and integrated part" of the LSWMP]).[4]

FLZWC on its appeal raises a number of other arguments regarding the LSWMP. FLZWC argues that the County's engineering report fails to provide any evaluation of the consistency of the proposed landfill expansion with the LSWMP or the State's solid waste hierarchy (FLZWC Appeal at 5). FLZWC describes alleged deficiencies in the County's LSWMP addressing the requirements set forth at 6 NYCRR 360-15.9 (FLZWC Appeal at 6-10) and deems the LSWMP insufficient in light of the applicable regulatory requirements (FLZWC Appeal at 10; see also id. at 12 [County's application "creates disincentives to waste disposal diversion, including recycling," and no plans exist "for actually implementing the objectives" of the LSWMP]).

I concur with the ALJ's determination that the current proceeding is not the proper forum in which to challenge the adequacy of the County's LSWMP. The County issued resolutions adopting its LSWMP in June 2014 (see Issues Conference Exhibit 7C [Affirmation of Thomas S. West, Esq., dated February 27, 2015 ("West Affirmation"), at ¶ 9 and Exhibit B]) and the Department issued its approval on July 7, 2014 (see id. Exhibit C attached to the West Affirmation). The ALJ noted that FLZWC participated in the process of developing the LSWMP and that it did not commence any litigation to challenge the County's approval of the

[4] Staff also maintains that, for this permit modification, a CRA is not required (see Staff Response, at 5 [citing 6 NYCRR 360-1.9(f)]; see also County Response, at 8-9).

LSWMP (see Issues Ruling, at 8; see also Issues Conference Transcript, at 67; Staff Response, at 3). Although FLZWC could have initiated a judicial challenge to the LSWMP, it failed to do so and the time period for FLZWC to judicially challenge adoption or approval of the LSWMP has passed. To the extent that FLZWC objects to the LSWMP or portions thereof, this proceeding does not provide the opportunity to collaterally attack the LSWMP (see Matter of New York City Department of Sanitation, Decision of the Assistant Commissioner, July 27, 2009, at 11, aff'g Rulings of ALJ on Issues and Party Status, April 7, 2008, at 44 [addressing deference to local solid waste management plan policy choices]).

Notwithstanding FLZWC's criticisms, even assuming the LSWMP is reviewable in this proceeding, which it is not, the County's Department-approved LSWMP does address municipal solid waste recovery in Ontario County (see LSWMP, at 45-49), and details specific implementation tasks to enhance County recycling activities (see e.g. id. Chapter 6 – Solid Waste Management Plan Implementation Tasks, at 58-61, 65-77; see also id. Chapter 7 – Implementation Schedule).[5]

Concerning FLZWC's new argument on its appeal that the County's application is inconsistent with the LSWMP, the County contends that FLZWC's argument must be rejected as untimely (see County Response, at 16). Absent permission of the ALJ, raising a new issue in the context of an appeal from an issues ruling is improper (see Matter of the Town of Brookhaven, Interim Decision of the Commissioner, July 27, 1995, at 5; Matter of Seneca Meadows, Inc., Interim Decision of the Commissioner, October 26, 2012, at 6 ["(a) participant in an issues conference cannot raise new issues after its petition for party status is submitted and the issues conference is held, unless it seeks and is granted permission by the ALJ"]).

Based upon my review of the record, it is not clear that FLZWC raised this issue in its petition or at the issues conference. Even if it were timely raised, it is not an adjudicable issue. The LSWMP expressly identifies landfilling as a component of the County's solid waste management needs and that the landfill will also be receiving out-of-county waste (see LSWMP, at 56-57). In addition, the LSWMP addresses recycling plans and implementation relative to the County's overall solid waste management policy (see e.g. LSWMP, Chapter 6; see also Staff Response, at 6-7 [discussing the consistency of the proposed landfill expansion with the LSWMP]). Any question of consistency with the State policy was clearly settled by the Department's approval of the County's solid waste management plan which approval took into account the objectives of the State's solid waste management policy (see Staff Response, at 7-8 [addressing consistency with the State solid waste management hierarchy]; see also Issues Conference Exhibit 5, Application Document Item 23a [Engineering Report], at 1 [addressing consistency of the proposed landfill expansion with State solid waste management policies]).

[5] Other statements in FLZWC's appeal regarding the County's recycling activities are not correct or are incomplete (see e.g. Staff Response, at 9, 10-11). FLZWC refers to the Department's Technical Guidance Memorandum SW-92-06 (Avoided Costs in Solid Waste, TAGM SW-92-06) as guiding "a municipality's 'economic markets' analysis required under [the General Municipal Law]" (FLZWC Appeal at 11). FLZWC states that no avoided costs analysis was included or prepared in support of the LSWMP (id. at 12). The TAGM's use is intended for municipalities which do not have an approved CRA or which seek to cease recycling a material previously included in an approved CRA (see TAGM SW 92-06, dated May 3, 2001, at 1), which is not the case here. Accordingly, FLZWC's reliance on this TAGM is misplaced (see Staff Response, at 3 n 6).

3. Conclusion

FLZWC's appeal relating to the CRA and associated matters has failed to demonstrate that a substantive and significant issue was raised. Accordingly, FLZWC's arguments on appeal are rejected and the ALJ's Issues Ruling is affirmed.

B. Noise

1. Background

An applicant has the burden of proof to demonstrate that its proposal will be in compliance with all applicable laws and regulations administered by the Department (see 6 NYCRR 624.9[b][1]). Following the Issues Ruling and pursuant to the agreement of the parties to this proceeding, the following issues relating to noise remained for adjudication:

- whether the County's noise assessment fails to assess a worst-case hour of landfilling operations; and

- whether the County should not be allowed to rely on proposed post-permit mitigations relating to noise.

(see Hearing Report of the Administrative Law Judge dated September 8, 2015 ["Hearing Report"] at 2). FLZWC also contended that the landfill flares and the on-site gas-to-energy plant ("GTE Plant") are part of the "facility" as defined in 6 NYCRR Part 360, and the noise generated therefrom should have been part of the noise assessment (see Hearing Report at 2-3). Applicant and Department staff took the position that noise from the flares and noise from the GTE Plant are not subject to the Part 360 noise requirements that apply to solid waste management facilities (see id. at 3).

The ALJ prepared the attached hearing report in which he concludes that applicant has satisfied its burden and that the proposed expansion would comply with all applicable legal requirements administered by the Department, including those relating to noise.

Part 360 establishes that noise levels resulting from equipment or operations at a solid waste management facility where, as here, the character of the community is rural, "must be controlled to prevent transmission of sound levels beyond the property line at locations zoned or otherwise authorized for residential purposes to exceed the following Leq energy equivalent sound levels" – 57 decibels (A) from the hours of 7 a.m. to 10 p.m. and 47 decibels (A) from the hours of 10 p.m. to 7 a.m. (6 NYCRR 360-1.14[p]).[6]

[6] Pursuant to the proposed permit, operation of the landfill, including the placement of daily cover, is limited to the hours of 7:00 a.m. to 6:30 p.m. on Monday through Friday, and 7:00 a.m. to 3:00 p.m. on Saturday, except for those Saturdays which follow a holiday, when the hours are 7:00 a.m. to 6:30 p.m. (see Hearing Exhibit D, page 10 of 20 [Special Permit Condition 26]).

2. Threshold Issues – Noise from the Landfill Flares and from the GTE Plant

a. Flares

With respect to the threshold issues of whether applicant should have included noise generated by the landfill flares in its noise assessment, I agree with the ALJ's determination that landfill flares here are equipment that are part of the operations of this facility (which the permit should be modified as necessary to so reflect) and that noise from the flares should have been included in the assessment (see Hearing Report at 10).

Although applicant's initial noise assessment did not include an analysis of the noise generated by the on-site flares, applicant subsequently prepared and submitted an assessment of the flare sound levels and an overall noise assessment of the proposed landfill expansion including noise that the flares generate (see Hearing Exhibit J [Supplemental Monitoring and Assessment of Landfill Gas Flare Sound Levels ("Flare Report")]; for number and location of flares, see Hearing Report at 6 [Finding of Fact 7] and Hearing Exhibit L [Proposed Expansion Flare Location Plan]). Applicant's Flare Report demonstrates that the predicted flare operation noise levels would not be significant and would be below the sound level limits, "would make an insignificant addition to the [l]andfill's projected theoretical worst-case landfill operating sound level of 57 dBA during the daytime" (Flare Report at 8; see also id. at 8-9 [Table 6 – Flare Sound Levels Projected in Community Locations and Table 7 – Part 360 Compliance Results – Landfill, Borrow Area & Flare Operations]), and would comply with nighttime standards (see Flare Report at 10). In light of this submission, FLZWC conceded that noise from the flares would be low at the receptor and compliance points (see FLZWC Brief on Noise Issues dated June 15, 2015, at 10; see also Hearing Transcript at 342-343, 345).

Based upon my review of the record, I concur with the ALJ that applicant met its burden to demonstrate that the use of the flares, in conjunction with other noise generating sources at the facility, would not result in a violation of the Part 360 noise levels set forth in 6 NYCRR 360-1.14(p).

b. GTE Plant

The GTE Plant is located on a contiguous parcel of land that is leased from the County. The parties in this proceeding disagree regarding whether noise generated by the GTE Plant should be considered as part of the noise assessment of the proposed landfill expansion. As the ALJ notes, applicant and Department staff argue that the GTE Plant, which is owned and operated by Seneca Energy II, LLC, a company that is unaffiliated with the County or the landfill operator, is not part of the facility and is not subject to the Part 360 requirements that establish limits on noise levels (see Hearing Report at 8; see also Issues Conference Exhibit 13C [letter dated February 27, 2015 from Seneca Energy II, LLC to DEC Region 8 [distinguishing GTE Plant from the County's landfill]). In addition, the County's landfill and the GTE Plant currently operate under separate Title V air permits (see Proposed Ontario County Landfill Expansion Draft Environmental Impact Statement, December 2011, at 31). FLZWC, however, contends that the noise generated by the GTE Plant should be included in the landfill noise assessment (see Hearing Report at 8).

Notwithstanding its location, under the specific circumstances here where the GTE Plant is an unaffiliated entity which is purchasing the landfill gas to generate electricity for sale on the open market, and which is not managing or disposing of solid waste (see Hearing Transcript at 9), it is not part of the landfill "facility." Accordingly, noise generated by the GTE Plant is not part of the noise assessment to determine compliance with 6 NYCRR 360-1.14(p).

3. Noise Assessment

The ALJ has presented a comprehensive review of the issues adjudicated and the reports and testimony presented in this proceeding, and determined that the proposed expansion would comply with the Part 360 noise limitations (see Hearing Report at 10-27). The ALJ has evaluated the relevant factors including, for example, background noise and noise generated from the working face of the landfill and the soil borrow area, the conservative nature of applicant's noise measurements and overall analysis, and attenuation considerations. The Hearing Report examines in detail the concerns and objections raised by FLZWC in its submissions and testimony and concludes that applicant's studies and testimony fully respond to FLZWC's concerns and objections or otherwise provide a basis to reject those concerns and objections, and that applicant's proposed expansion complies with the Department-administered statutes and regulations. I concur with the ALJ's analysis.

The Part 360 regulations establish that the noise limits must be met at the property line (see 6 NYCRR 360-1.14[p]). Applicant has obtained noise easements which serve to extend the property line at which compliance with the regulatory sound limit is determined (see e.g. Matter of Hyland Facility Associates, Hearing Report and Final Environmental Impact Statement [undated], at 11, 70-71 [attached to Decision of the Commissioner dated June 21, 1993]; see also Matter of Saratoga County Landfill, Hearing Report [undated] at 30 [attached to Decision of the Deputy Commissioner dated September 3, 1996]). The easements contain language allowing the County and the operator of the landfill the right to treat the property subject to the easements as part of the landfill premises "for the sole purpose of compliance with the noise standard set forth in 6 NYCRR § 360-1.14(p)" (see Issues Conference Exhibit 5, Application Document Item 31 [Noise Easements]). In addition, the draft Part 360 permit contains a special permit condition that the noise easements shall remain in effect for the duration of the landfill operation and shall not be terminated without the written, prior approval of DEC's Region 8 Regional Materials Management Engineer (see Hearing Exhibit D, page 18 of 20 [Special Permit Condition 65]). The easements that applicant has obtained in the vicinity of the landfill appear in Figure 1 to Hearing Exhibit T (Supplemental Assessment of Soil Borrow Area Sound Levels).

Various documents in this proceeding reference noise assessments based upon the closest receptors. In accordance with the Part 360 regulations, the landfill property line is the appropriate measuring boundary except where easements or other boundary extension agreements have been obtained. Accordingly, I have reviewed the noise assessment studies to confirm that the receptor designations are at the property line. Receptors designated as R1, R1A, R2, R3A, R3B and subsequently R7 include properties for which noise easements have been obtained or properties that have been purchased by the landfill operator (see Hearing Exhibit E [Operating Noise Impact Assessment], at 18; Hearing Exhibit T [Supplemental Assessment of Soil Borrow Area Sound Levels], Figure 1). Property line compliance was shown for offsite

property Receptors 4, 5, and 7 which are referenced, together with Receptor 6, as the most sensitive receptors outside of the noise easement area closest to the landfill (see Ontario County Brief dated June 15, 2015, at 19), with respect to landfill operations (see Hearing Exhibit E [Operating Noise Impact Assessment], at 18); see also Appendix F [Expansion Landfill and Borrow Area Combined Noise Levels] to Hearing Exhibit E [addressing Receptors 4, 5 and 7, but not Receptor 6]). Receptors designated as R11, R12 and R13 are at the property line, and the noise calculations taking into account noise from the landfill working face, soil borrow area and flare operations, and assuming no attenuation effect from a proposed berm, yield a result below the Part 360 noise limit (see Hearing Exhibit T, at 7-8).

On October 7, 2015, Assistant Commissioner for Hearings and Mediation Services Louis A. Alexander sent a letter to the parties reopening the hearing record for further information on Receptor 6 ("R6") with respect to the analysis in Appendix F to Hearing Exhibit E or to explain the reason for omission of information on R6 ("October 7, 2015 letter"). Applicant responded by letter dated October 8, 2015 in which it discussed a worst-case noise impact for R6, which took into account noise from landfill operations, the borrow area, and the landfill flares. Applicant noted that the actual computed cumulative noise value at R6 was 56.6 dBA which was rounded to 57 dBA, "employing the rounding convention that was adopted during this hearing" and referenced relevant parts of the hearing record (see Applicant letter dated October 8, 2015, at 2; see also Flare Report at 9 [Table 7]). Applicant stated that this noise level would comply with the applicable noise standard established by 6 NYCRR 360-1.14(p) for rural areas. Department staff submitted a response dated October 19, 2015 in which it concurred with applicant's position.[7]

FLZWC submitted a response dated October 19, 2015 in which it reiterated its argument that the noise generated by the GTE Plant should be included in the landfill noise assessment. It contended that the GTE Plant is part of the landfill facility and that, if noise sources at the landfill, including the GTE Plant, were combined, R6 would exceed the compliance limit set by 6 NYCRR 360-1.14(p) for rural areas.[8] Both applicant and Department staff, in communications dated October 20, 2015 and October 21, 2015, respectively, contended that arguments raised and information provided in FLZWC's submission were beyond the scope of what was authorized by the October 7, 2015 letter. FLZWC, by letter dated October 20, 2015, rejected applicant's objections. Based on my review of FLZWC's submission, I concur with applicant and Department staff that FLZWC's arguments and information relating to the GTE Plant went beyond the scope of what was authorized. As addressed earlier in this decision, moreover, the noise generated by the GTE Plant is not part of the noise assessment for determining the landfill's compliance with the noise standards in Part 360. Even if FLZWC's arguments and information were within the scope of the October 7, 2015 letter, nothing presented provides a

[7] Although the Flare Report was referenced in various submissions as Hearing Exhibit O, it was designated at the hearing as Hearing Exhibit J.

[8] In its October 19, 2015 letter, FLZWC provided a noise level for all such combined sources at 57.5 dBA. Without the GTE Plant, the calculated noise level would be below 57 dBA (the noise limit for rural areas under 6 NYCRR 360-1.14[p]).

ground for disturbing that earlier conclusion that noise from the GTE Plant was correctly excluded from consideration.[9]

As set forth in the Environmental Monitoring Plan for the facility (see Issues Conference Exhibit 5, Application Document 46, revised January 2015), noise monitoring will be initiated at the facility upon the start of construction of the landfill expansion (see id. at 26). The Environmental Monitoring Plan provides for quarterly monitoring pursuant to an established protocol (see id. at 27-28; see also Hearing Exhibit G). In addition to the noise monitoring, I hereby direct that the permit is to include a provision requiring applicant to (a) maintain a log of all noise complaints received by it or the County relating to the landfill, and (b) provide a copy of any noise complaint to DEC's Region 8 Regional Materials Management Engineer as soon as the complaint is received or in compliance with such other schedule as the Region 8 Regional Materials Management Engineer so specifies.

The permit is also to provide that applicant will immediately notify DEC's Region 8 Regional Materials Management Engineer or his/her designee of the determination by the landfill owner, operator or their consultants of any exceedance of the applicable Part 360 noise standard arising from landfill equipment or operations at the landfill's property line (other than properties subject to a noise easement or purchased by the landfill operator). This will help ensure prompt consideration of any remedial action that may need to be taken including, but not limited to, additional monitoring or modification of landfill activities, in the event of an exceedance.[10] In addition, the permit shall expressly provide that Department staff may direct applicant to: (a) relocate or add noise monitoring points during the operation of the landfill, and/or (b) increase the frequency of the monitoring, whenever determined appropriate by Department staff based upon its review of applicant's noise monitoring information or its review of any noise complaints arising from the landfill's operation.

Applicant, in its Operating Noise Impact Assessment ("Assessment"), addresses noise abatement and mitigation measures (see Hearing Exhibit E, at 22). In addition to mitigation measures that the Assessment states will be required to be implemented, it lists five other measures that may be implemented to control noise "beyond what has been assessed in this report" (id.). Based upon my review of the record, I am directing that two of these measures – (a) requiring vehicles to drive within site speed limits when entering the site, on the site and when leaving the site, and (b) reviewing sound level limits in the bidding and purchase documents for new mobile equipment when needed for the proposed expansions – also be required to be implemented (see id.). The other three measures that applicant lists shall be utilized to reduce noise levels at the landfill as necessary and appropriate.

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[9] FLZWC, as part of its October 19, 2015 submission, attaches an order of the U.S. Environmental Protection Agency in the Matter of Seneca Energy II, LLC ("EPA Order"). The EPA Order responds to FLZWC's December 22, 2012 request that EPA object to the Department's issuance of a Title V operating permit for the GTE Plant. The EPA Order does not relate to the noise requirements established by the State's solid waste management regulations and is not relevant here. The EPA Order, contrary to FLZWC's argument, does not determine that the landfill and the GTE Plant are subject to common control.

[10] Although applicant referenced real-time noise monitoring as a possibility for measuring noise levels at this facility, such noise monitoring was not offered during the proceeding to be included as part of the landfill operation (see Hearing Transcript at 259).

SEQRA FINDINGS

The record of this proceeding, the Final Environmental Impact Statement of Ontario County, and the Findings Statement adopted by Ontario County Board of Supervisors afford an adequate basis for my finding, on behalf of the Department as an involved agency, that the requirements of the State Environmental Quality Review Act ("SEQRA") and its implementing regulations at 6 NYCRR part 617 have been met.

The proposed landfill expansion constitutes a Type I action under SEQRA. I have considered the relevant environmental impacts, facts and conclusions disclosed in the final environmental impact statement on the proposed landfill expansion, including but not limited to the environmental analyses in the draft environmental impact statement, the revisions to the draft environmental impact statement and the responses to comments, as well as the record of this proceeding before the Department. I have weighed and balanced the relevant environmental impacts with social, economic and other considerations. In that regard, I have considered the economic viability of this manner of disposal for the local community, the environmental protections relative to the proposed landfill expansion, local economic benefits and infrastructure needs, among others.

As set forth in Ontario County's environmental impact statement and its Findings Statement, the purpose of the proposed landfill expansion is to continue to provide local County residents and businesses with a long-term, environmentally sound disposal capacity within Ontario County (see e.g. DEIS, Vol 1, at 15-17 [addressing project purpose and public needs and benefits]). The presence of local disposal capacity will also protect against costs and liabilities associated with long haul waste transportation and disposal. Extending the use of the current landfill would provide a source of revenue to the local economy, ensure affordable waste disposal, and maintain environmental safeguards in waste disposal. The Ontario County landfill also provides environmentally sound disposal capacity for a number of other solid waste planning units in New York State. I note that Ontario County also examined and evaluated a number of alternatives including waste exportation, a no-action alternative, alternative landfill sites, alternative expansion scenarios, and alternative waste disposal technologies, among others. None of the alternatives, however, was found to be feasible (see e.g. DEIS, Vol 1, Chapter 7.0 ["Alternatives Analysis"]).

I also have reviewed the submitted documents relevant to the proposed landfill expansion's compliance with the regulatory requirements set forth in 6 NYCRR part 360 and other applicable statutory and regulatory requirements.

The County, in its environmental impact statement, examined a range of potential environmental impacts, both short- and longterm, relating to the proposed landfill expansion including, but not limited to, topography, groundwater and surface waters, air quality, greenhouse gases, visual and other local community characteristics (see DEIS, Vol. 1, Chapter 3; see also Final Environmental Impact Statement, Vol 1, at 11-8 to 11-12). I have reviewed the mitigation measures proposed by the County, including engineering design controls and operational features, odor management control (see e.g. Issues Conference Exhibit 5, Application Document Item 17a [Appendix H – Odor Management Plan]), noise mitigation, and screening

where appropriate (such as earthen berms, fences or planted vegetation). In addition to the mitigation measures directed by this decision, I have also reviewed the conditions and mitigation measures that are contained in the draft DEC permits (see Hearing Exhibit D [Part 360 Permit], Issues Conference Exhibit 5, Application Documents 53 [Title V Permit] and 54 [Article 24, Freshwater Wetlands Permit]; see also id. Application Document Item 32b [Appendix M – Stormwater Pollution Prevention Plan]), in addition to those conditions being directed by my decision.

I hereby certify that the requirements of SEQRA and its implementing regulations have been met and, consistent with social, economic, and other essential considerations from among the reasonable alternatives available, the proposed landfill expansion is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse environmental impacts will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the permits those mitigative measures that were identified as practicable.

CONCLUSION

I hereby remand this matter to Department staff to issue the permits and approvals requested by the County, consistent with the draft permits prepared by Department staff and as modified by this decision, and to circulate this decision and findings statement to all SEQRA involved agencies for this project.

New York State Department of
Environmental Conservation

By: _____/s/_____
Basil Seggos
Acting Commissioner

Dated: November 19, 2015
Albany, New York

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 Broadway
Albany, New York 12233-1550

In the Matter

- of -

the Applications of **ONTARIO COUNTY** for Modification of the Part 360 and Title V Permits, and for a Part 663 Freshwater Wetlands Permit, for its Municipal Solid Waste Landfill on Routes 5 & 20 in the Town of Seneca, Ontario County, New York.

DEC Application Nos.
8-3244-00004/00007, 00001, and 00021

HEARING REPORT

- by -

/s/

_____

D. Scott Bassinson
Administrative Law Judge

September 8, 2015

I. Background and Procedural Summary

Ontario County ("County" or "Applicant") submitted applications for permits for a proposed expansion of the Ontario County landfill, a mixed solid waste landfill accepting non-hazardous solid waste, located on Routes 5 & 20 in the Town of Seneca, Ontario County, New York. The proposed landfill expansion will consist of two stages including a "wrap-around," which will cover approximately 16 acres around the northern and western boundaries of the existing operational landfill, and an "eastern expansion," which will cover approximately 27.5 acres to the east, including what is currently the soil borrow area. The landfill's final elevation would be 28 feet higher than the height for which the existing landfill is currently permitted. A proposed new soil borrow area, covering approximately 15.5 acres, would be constructed to the south of the existing landfill in an area to be owned by the Town of Seneca and leased to the County. Additional site modifications include the modification, construction and relocation of stormwater ponds, relocation of the maintenance building and utilities, and construction of two new leachate storage lagoons, a new landfill gas flare, and site access roads. A new stormwater pond and a proposed expansion perimeter berm will be located in the adjacent area of State-regulated freshwater wetland ST-12.

Applicant seeks a freshwater wetlands permit pursuant to New York State Environmental Conservation Law ("ECL") Article 24 and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York ("6 NYCRR") Part 663; a modification of its existing solid waste management facility permit pursuant to ECL Article 27 and 6 NYCRR Part 360; and modification of an existing Title V permit pursuant to ECL Article 19 and 6 NYCRR Part 200 et seq. A five acre waiver approval under the SPDES Multi-Sector General Permit is also required.

On February 25, 2015, Finger Lakes Zero Waste Coalition ("FLZWC") filed a Petition for Full Party Status ("Initial Petition"), identifying proposed issues for adjudication that did not relate to noise issues. FLZWC filed an Amended Supplemental Petition on Noise Issues ("Amended Suppl. Pet.") on March 10, 2015.

A legislative public comment hearing with respect to the permit applications was held on March 3, 2015. An issues conference was held on April 15, 2015. At that time, the parties were in the process of stipulating to the adjudication of noise-related issues.

On May 6, 2015, I issued a ruling holding, inter alia, that FLZWC did not raise any adjudicable issues regarding: (i) the County's comprehensive recycling analysis; (ii) whether the County's landfill and an onsite gas-to-energy plant ("GTE Plant") independently owned by Seneca Energy II, LLC ("Seneca Energy") are under "common control" so that the emissions from the landfill and the GTE Plant should be aggregated for purposes of determining the proper level of air pollution controls to be imposed in the landfill's Title V air permit; (iii) whether staff could grant a noise variance pursuant to 6 NYCRR § 360-1.14(p); or (iv) odor, compliance with federal New Source Performance Standards, flare capacity or methane emissions. See Matter of Ontario County Proposed Landfill Expansion, Ruling on Issues and Party Status, May 6, 2015 ("Issues Ruling"). On May 28, 2015, FLZWC filed and served an appeal challenging certain aspects of the Issues Ruling. FLZWC's appeal is currently pending.

On May 8, 2015, I conducted a conference call with the parties, during which the parties agreed that certain noise-related issues identified in the Amended Supplemental Petition would not be adjudicated. The parties' teleconference agreement was confirmed on the record at the beginning of the adjudicatory hearing. The following is a list of the issues that the parties agreed would not be adjudicated:

- That portion of proposed noise issue no. 1[1] that sought a nighttime noise assessment because the landfill's hours of operation were to begin at 6:00 a.m. Transcript of Adjudicatory Hearing, May 11-12, 2015 ("Hearing Tr."), at 5:6-10, 5:15-22.[2]

- Proposed noise issue no. 2, identified by FLZWC as follows: "The Applicant's noise assessment utilizes a faulty measure of background sound levels." Amended Suppl. Pet., at 14; see also Hearing Tr. at 5:6-13.

- Proposed noise issue nos. 5(a), 5(b), and 5(c), identified by FLZWC as follows:

> "Reliance on noise easements is misplaced in this case…
> a. The County as Applicant has obtained no 'noise easements'...
> b. 'Noise easements' on which the County relies do not extend to post-closure operations...
> c. Casella's noise easements at issue are not 'appurtenant' to the County's landfill site."

Amended Suppl. Pet., at 22-25; see also Hearing Tr. at 5:6-15; 24:12-26:8.

Therefore, following the Issues Ruling, and pursuant to the agreement of the parties, the following issues identified in FLZWC's Amended Supplemental Petition remained for adjudication:

- Proposed noise issue no. 3, identified by FLZWC as follows: "The Applicant's noise assessment fails to assess a worst-case hour of landfilling operations."

- Proposed noise issue no. 4, identified by FLZWC as follows: "The County should not be allowed to rely on proposed post-permit mitigations."

FLZWC also claimed that the landfill flares and neighboring GTE Plant are part of the "facility" subject to Part 360, and that noise generated by the flares and the GTE Plant should

[1] FLZWC identified proposed noise issue no. 1 as follows: "A nighttime noise assessment is required in the instant case but has not been performed." Amended Suppl. Pet. at 12.

[2] FLZWC continued to maintain that the noise from the landfill's flares, and the on-site GTE Plant, should be included in the noise assessment, and sought to include that issue in the adjudicatory hearing. See Amended Suppl. Pet., at 13-14; see also Hearing Tr. at 5:22-6:6.

have been part of the noise assessment. See e.g. Amended Suppl. Pet., at 13-14; Hearing Tr. at 5:22-6:6; 7:8-8:7; 13:25-14:4. Applicant and Department staff take the position that noise from the landfill flares and the GTE Plant are not subject to the Part 360 noise regulation. See e.g. Hearing Tr. at 11:18-13:3 (County); see also id. at 20:23-21:11 (staff).

In its post-hearing brief, FLZWC states: "The issues raised in the petition that remain include … whether the noise assessment should be subject to heightened scrutiny in light of the County's need for variances from other performance requirements." Intervenor's Brief on Noise Issues, dated June 15, 2015 ("FLZWC Post-Hrg. Br."), at 3. FLZWC also discusses this point in its post-hearing argument. See id. at 17.[3] "Heightened scrutiny" was not identified as a proposed issue for adjudication in either of FLZWC's petitions, and was not mentioned, as a legal issue or an issue for adjudication, by anyone during the adjudicatory hearing. In its Amended Supplemental Petition, FLZWC did seek to raise an issue regarding a variance from 6 NYCRR § 360-1.14(p), see Amended Suppl. Pet. at 26 (proposed issue no. 6), but I held that the proposed issue was not adjudicable, see Issues Ruling at 11-12, and FLZWC did not challenge that ruling on its appeal. See generally FLZWC's Appeal of Administrative Law Judge's Ruling as to Issues in Need of Adjudication (undated), at 1-13. FLZWC's attempt to inject a new issue into this matter is rejected as untimely.

The Adjudicatory Hearing

The adjudicatory hearing was conducted on May 11 and 12, 2015, in Room 205 of the Ontario County Public Health Building, located at 3019 County Complex Drive, Canandaigua, New York. The parties were represented at the adjudicatory hearing by the same counsel who appeared on their behalf at the issues conference. Applicant Ontario County was represented by Thomas S. West, Esq. and Alita J. Giuda, Esq. of the West Firm, and Kristen J. Thorsness, Esq., Assistant County Attorney. Department staff was represented by Lisa P. Schwartz, Esq., Assistant Regional Attorney, Region 8. FLZWC was represented by Gary A. Abraham, Esq.

Four witnesses testified at the hearing. Applicant presented three witnesses:

- Cory J. McDowell, a civil and environmental engineer with consulting engineering firm Barton & Loguidice ("B&L"), who has been involved in several projects at the landfill over the last 12 years, including design of the proposed landfill expansion, borrow area and the noise screening berm here at issue, and identification of properties with respect to obtaining noise easements, see Hearing Tr. at 35:2-14; see also Hearing Exhibit ("Hearing Ex.") B;

- Jeffrey J. Reed, an environmental compliance engineer who has worked for B&L for the past 13 years, primarily responsible for the preparation and completion of approximately ten noise assessments relating to landfill projects, including the landfill expansion here at issue, as well as other non-landfill noise assessments, see Hearing Tr. 38:23-42:12; see also Hearing Ex. C; and

[3] FLZWC's fourth point heading is as follows: "Subsection 360-1.7(c)(2)(iii) Regarding Variances Applies Here to Subject the County's Noise Assessment to Heightened Scrutiny." Id.

- Douglas E. Barrett, who has a B.A. in Physics from Cornell University and a M.A. in Environmental Studies from Brown University, is a member of the Institute of Noise Control Engineering and of the Transportation and Research Board's Committee DC40 on transportation-related noise and vibration, and has worked on noise issues for consulting firms specializing in environmental noise and vibration for more than 24 years, see Hearing Tr. at 45:3-51:20; see also Hearing Ex. A.[4]

FLZWC presented one witness:

- Michael Bahtiarian, who has a B.S. in Mechanical Engineering from Pennsylvania State University, and a M.S. in Mechanical Engineering from Rensselaer Polytechnic Institute, is a board-certified member of the Institute of Noise Control Engineering who, at the time of the hearing, was vice president at Noise Control Engineering, LLC, a firm for which he has worked for more than 20 years, see Hearing Tr. at 242:20-244:10; see also Hearing Ex. N.

Department staff presented no witnesses.

The parties stipulated to the admission of 19 exhibits, identified in the Exhibit List attached hereto.

II. Positions of the Parties

Applicant and Department staff assert that Applicant has satisfied its burden of demonstrating by a preponderance of the evidence that the sound level of the landfill expansion equipment and operations will be in compliance with section 360-1.14(p), and will not exceed the regulatory limit of 57 dBA applicable to "rural" areas such as the area at issue here. See generally Appl. Post-Hrg. Br. at 1, 8-31; see also Department of Environmental Conservation Staff's Closing Brief for Adjudicatory Hearing on Noise, dated June 15, 2015 ("Staff Post-Hrg. Br.), at 1-2 (compliance with noise regulation "is entirely supported and demonstrated by the record of the subject hearing"). In addition, Applicant asserts that FLZWC has not rebutted Applicant's case, and that the Department should therefore issue a permit for the landfill expansion. See Appl. Post-Hrg. Br. at 31-59.

As stated by FLZWC counsel, "[o]ur principal case is that the noise assessment has been incomplete and insufficient …. Our case is going to be based on the deficiencies in the noise assessment, including the failure to model or assess all applicable sources of noise." Hearing Tr. at 10:9-15. FLZWC asserts that Applicant has failed to include all noise sources at the facility and has failed to use appropriate modeling and calculations, thereby underestimating the amount of noise to be generated by the landfill expansion. FLZWC asserts that Applicant has therefore failed to demonstrate that the landfill expansion will comply with the regulatory noise standard.

[4] At the time of the adjudicatory hearing, Mr. Barrett was employed by Sanchez Industrial Design, Inc., and has since joined Cross-Spectrum Associates, Inc. See Brief of Ontario County in Support of its Application for Permit Modifications Relative to the Ontario County Landfill Expansion, dated June 15, 2015 ("Appl. Post-Hrg. Br."), at 6 n.3.

Thus, the adjudicatory hearing addressed the overall issue of whether the proposed landfill expansion satisfies the requirements of the solid waste management facility noise regulation, 6 NYCRR § 360-1.14(p).

III. Findings of Fact

1. Ontario County proposes an expansion of its existing operational Phase III mixed solid waste landfill located at 1879 State Routes 5 & 20 in the Town of Seneca, Ontario County, New York. See e.g. Joint Permit Application, Appendix L, Application Documents Item No. 3 (as identified on Issues Conference ("IC") Ex. 5 (Parties' Document List, rev. May 5, 2015)), at Ex. 2; see also Permit Drawings (rev. November 2014), Application Documents Item No. 32(c), IC Ex. 5; Hearing Exs. D (draft Part 360 Permit) and F (map entitled "Project Site & Off-Site Receptor Locations").

2. The proposed landfill expansion will consist of two stages including a "wrap-around," which will cover approximately 16 acres around the northern and western boundaries of the existing operational landfill, and an "eastern expansion," which will cover approximately 27.5 acres to the east, including what is currently the soil borrow area. A proposed new soil borrow area, covering approximately 15.5 acres, would be constructed to the south of the existing landfill. See Joint Permit Application, at Ex. 2. The useful lifetime of the proposed expansion is estimated to be approximately 13 years. See e.g. Engineering Report (rev. August 2014), Application Documents Item No. 23a, IC Ex. 5, at 14.

3. The County proposes to construct a 20 foot high noise-screening berm along the entire eastern border, and a portion of the southern border, of the proposed soil borrow area. See Engineering Report (rev. August 2014), Application Documents Item No. 23a, IC Ex. 5, at 24.

4. Pursuant to the draft Part 360 permit, the landfill's daily tonnage limit of solid waste that it could accept would remain 2,999 tons per day ("tpd"); the amount of solid waste that the landfill could accept would not be increased. See Draft Part 360 Permit, Hearing Ex. D, at 1, 10, ¶ 25.[5]

5. The landfill's regular hours of operation will be Monday through Friday from 7:00 a.m. to 6:30 p.m., and Saturday from 7:00 a.m. to 3:00 p.m. See Draft Part 360 Permit, Hearing Ex. D, at 10, ¶ 26.

6. Equipment and vehicles that currently operate at the Ontario County landfill, and would operate following the proposed expansion, include excavators, bulldozers,

[5] The 2,999 tpd limit "is a daily average and is based on the quantity of solid wastes accepted at the landfill during a calendar year." Id. Moreover, "during no calendar quarter shall the daily average exceed 4499 tons per day." Id.

waste compactors, front-end loader, diesel fuel trucks, waste hauling trucks, soil hauling trucks, water trucks, pickup trucks, and leachate tankers. Applicant's noise assessment included consideration of such equipment and vehicles. See e.g. Operating Noise Impact Assessment, Barton & Loguidice (Sept. 2013, rev. May 2014) ("Initial Noise Assessment"), Hearing Ex. E at 10-15; Hearing Tr. at 67:25-69:3; 234:5-235:4.

7. Currently, four landfill gas flares are installed at the landfill. See Supplemental Monitoring and Assessment of Landfill Gas Flare Sound Levels, May 5, 2015 ("Flare Report"), Hearing Ex. J, at 3 and Figure 1; see also Existing Flare Sound Level Measurement Location Plan (April 2015), Hearing Ex. K. Two of the flares will be replaced with enclosed flares of the same size; one replacement flare will be installed at the same location as the flare being replaced, while the other replacement flare will be located northwest of the current landfill. See Hearing Ex. J, at 5; see also Proposed Expansion Flare Location Plan (April 2015), Hearing Ex. L.

8. The landfill gas flares generate noise. See generally Hearing Ex. J.[6]

9. Gas generated by the landfill may be burned by a gas-to-energy plant ("GTE Plant") located on County-owned property adjacent to the landfill. The GTE Plant is independently owned and operated by Seneca Energy II, LLC ("Seneca Energy"), and Seneca Energy leases the land on which its facility is located.[7]

IV. Discussion

A. Regulatory Scheme and Policy Regarding Solid Waste Management Facilities and Noise

Noise levels at solid waste management facilities are governed by the provisions of 6 NYCRR § 360-1.14(p). The regulation requires that noise levels resulting from equipment or operations at the facility "be controlled to prevent transmission of sound levels beyond the property line at locations zoned or otherwise authorized for residential purposes" from exceeding certain "Leq energy equivalent sound levels." 6 NYCRR § 360-1.14(p). "Leq" "is the equivalent steady-state sound level which contains the same acoustic energy as the time varying sound level during a one-hour period." Id.; see also Hearing Tr. at 59:23-61:17 (Applicant's experts Reed and Barrett defining and discussing Leq); id. at 123:6-124:4 (Barrett); 389:18-390:5 (Bahtiarian). Because sound at a particular location may vary over time, "sufficient

[6] The parties disagree concerning whether the flares are subject to the Part 360 noise regulation, 6 NYCRR § 360-1.14(p). See id. at 1-2 (Applicant: regulation does not apply); Appl. Post-Hrg. Br. at 25-26, 66-67 (same); see also Exhibit 1 to Hearing Ex. J (May 5, 2015 letter from Department staff to B&L, attaching March 13, 2015 email; both documents state staff's position that flares are outside of Part 360 jurisdiction); Staff Post-Hrg. Br. at 7-11 (same); but see Amended Suppl. Pet., at 13-14, 27; FLZWC Post-Hrg. Br. at 9-16.

[7] The parties disagree concerning whether noise generated by the GTE Plant is covered by the Part 360 noise regulation applicable to the landfill. Applicant's noise assessments did not include consideration of noise generated by the GTE Plant.

measurements must be available to allow a valid extrapolation to a one-hour time interval" to determine the Leq. The regulation does not, however, require that sound measurements be taken over a full one-hour time interval. 6 NYCRR § 360-1.14(p).

The regulation sets maximum acceptable sound levels for three different types of areas – rural, suburban and urban – and for two daily time periods (i.e., 7 a.m.-10 p.m. and 10 p.m.-7 a.m.). See 6 NYCRR § 360-1.14(p). The parties agree that the area here at issue is "rural" under the regulation. Thus, the daytime maximum Leq for a rural area for the time period during which the landfill will be operating is "57 decibels (A)." Id.

According to Applicant's expert Mr. Barrett, sound level meters measure sound at all frequencies uniformly, but the human perception of sound is best with respect to midrange frequencies, and not as good with respect to low frequencies. See Hearing Tr. at 61:21-62:10. "A-weighting" is a "system where various frequencies have penalties or weightings applied to them to approximate the actual human response to sound …. [E]nvironmental noise levels are typically assessed using the A-weighting scale denoted dBA because it correlates best with human response to sound." Id.; see also id. at 389:11-14 (Bahtiarian testimony that A-weighting "is an electronic analog or digital filter that adjusts the frequency components of sound such that it mimics the way the human ear would hear sound"); DEC Program Policy, *Assessing and Mitigating Noise Impacts*, DEP-00-1 (rev. Feb. 2, 2001) ("DEP-00-1"), at 7 (A-weighted decibel scale "is weighted towards those portions of the frequency spectrum, between 20 and 20,000 Hertz, to which the human ear is most sensitive").

The regulation states that the "sound level must be … A-weighted." 6 NYCRR § 360-1.14(p)(2); see also Hearing Tr. at 226:5-8 (Barrett testimony that the Part 360 noise standard "is based upon an A-weighted sound level"); id. at 390:6-9 (Bahtiarian testimony that "there's no doubt" that the regulatory standard in Part 360 is a one-hour Leq based upon the A-weighted scale); id. at 403:16-19 (Bahtiarian testimony that "[t]he regulatory standard is for the end result to be A-weighted").

Department Program Policy DEP-00-1 provides guidance and direction to Department staff and the public with respect to, inter alia, evaluation of sound levels generated from proposed or existing facilities, identification of circumstances in which noise levels may cause a significant environmental impact, methods for noise impact assessment, avoidance and mitigation. The policy also provides reference sound levels for different types of equipment including backhoes, bulldozers and trucks. See DEP-00-1, at 18, Table D.

B. Burden of Proof

Applicant has the burden of proof to demonstrate that its proposal will be in compliance with all applicable laws and Department regulations. See 6 NYCRR § 624.9(b)(1). Once an applicant has submitted evidence sufficient to establish its prima facie case, the burden shifts to other parties to produce evidence sufficient to rebut applicant's showing or to support contrary facts. See Matter of Karta Corp., Decision of Executive Deputy Commissioner, April 20, 2006, at 4. In addition, with respect to factual issues, the party bearing the burden of proof must sustain the burden by a preponderance of the evidence. See 6 NYCRR § 624.9(c). Applicant

always has the ultimate burden of persuasion that its project is in compliance with applicable laws and regulations. See Matter of Karta Corp., at 4.

C. Threshold Issues

1. The GTE Plant

The parties disagree regarding whether noise generated by the neighboring GTE Plant should be considered as part of the noise assessment of the proposed landfill expansion required under 6 NYCRR § 360-1.14(p). Applicant and Department staff argue that the GTE Plant, which is owned and operated by Seneca Energy II, LLC ("Seneca Energy"), a company unaffiliated with the County or the landfill operator, is not part of the landfill "facility" subject to Part 360, and therefore the noise that the GTE Plant generates is irrelevant to the present case. See Appl. Post-Hrg. Br. at 59-66; Hearing Tr. at 6:22-7:7; 8:8-24; 11:18-12:6; 12:13-13:17; 274:25-275:17; 314:22-315:9 (Applicant); see also Staff Post-Hrg. Br. at 4-7; Hearing Tr. at 9:3-23; 318:17-319:15 (Staff); Exhibit 1 to Hearing Ex. J (Staff correspondence stating that GTE Plant is outside Part 360 jurisdiction).

In its Amended Supplemental Petition FLZWC stated that "the [gas-to-energy] plant is not subject to the regulation." Amended Supplement Petition at 16.[8] Notwithstanding this statement, however, FLZWC argued, both during the adjudicatory hearing and in its post-hearing submission, that the noise the GTE Plant generates should be included in the landfill noise assessment because the GTE Plant is "at the facility" as that phrase is used in section 360-1.14(p), and "is used for management or disposal of solid waste because it's managing the landfill's gas." See Hearing Tr. at 6:3-6; 7:8-25; 10:16-11:17; 13:19-14:4; 315:19-316:10.

FLZWC failed to make an offer of proof to support its claim that the noise generated by the GTE Plant was adjudicable. FLZWC's Amended Supplemental Petition did not contain any offer of proof or assessment of the noise generated by the GTE plant. FLZWC merely made a legal argument that noise from the GTE Plant should be included in the assessment. See Amended Suppl. Pet. at 13-14. I ruled at the adjudicatory hearing that FLZWC had failed to make an offer of proof and that noise from the GTE Plant would not be adjudicated as part of this proceeding, but I permitted the submission of legal argument in the post-hearing briefs. See Hearing Tr. at 10:2-6 (FLZWC provided no offer of proof, but can make argument after close of hearing); 14:5-6; 277:15-278:7; 319:16-23. FLZWC nevertheless attempted at the hearing to have its expert, for the first time in this case, (i) offer an "opinion on the gas-to-energy plant noise contribution," Hearing Tr. at 268:9-10, and (ii) "propagate out the anticipated noise from this source to a given distance using octave band data." Id. at 271:14-16. This testimony was not allowed. See id. at 278:2-5.

[8] FLZWC's full statement in the Amended Supplemental Petition is as follows: "As FLZWC pointed out at that time, the onsite gas-to-energy plant had also measured background sound levels at similar locations, *in accordance with Part* [sic – should be "section"] *360-1.14(p) (although the plant is not subject to the regulation)*." Id. (italics added).

Part 360 is entitled, and applies to, "Solid Waste Management Facilities." See 6 NYCRR § 360-1.1(a) ("The purpose of this Part is to regulate solid waste management facilities"). Such facilities are defined in relevant part as follows:

> any facility employed beyond the initial solid waste collection process and managing solid waste, including but not limited to … landfills …. The term includes all structures, appurtenances, and improvements *on the land used for the management or disposal of solid waste*.

6 NYCRR § 360-1.2(b)(158) (italics added).

The purpose of gas-to-energy facilities is to burn gas to generate electrical power, not to manage solid waste. Indeed, that is exactly what occurs here; Seneca Energy purchases the landfill gas to generate electricity for sale on the open market. See e.g. Permit Review Report, Permit ID 8-3244-00040/00002, at 2, www.dec.ny.gov/dardata/boss/afs/permits/prr_832440004000002.pdf.

Finally, the noise regulation at issue here is a subparagraph of section 360-1.14, which is entitled "Operational requirements for all *solid waste management facilities*" (italics added), and which states in relevant part that "any person who designs, constructs, maintains or operates any *solid waste management facility* subject to this Part must do so in conformance with the requirements of this section." 6 NYCRR § 360-1.14(a) (italics added). Clearly, the noise regulation applies only to solid waste management facilities. FLZWC agrees. See Amended Suppl. Pet. at 16. Moreover, FLZWC counsel admitted that he is not aware of any cases in which a gas-to-energy plant has been included in the noise assessment for a Part 360 permit for a related landfill. See Hearing Tr. at 315:10-15.

Given the foregoing, I hold that the "facility" subject to Part 360 is the solid waste management facility, and does not include the GTE Plant. I also hold that the GTE Plant is not a structure, appurtenance, or improvement "on the land used for the management … of solid waste." The GTE Plant is located on land that is used for the generation of electricity. Therefore, the GTE Plant is outside the jurisdiction of Part 360, and Applicant was not required to include in its landfill noise assessment the noise generated by the GTE Plant, to determine whether the proposed landfill expansion complies with 6 NYCRR § 360-1.14(p).

2. The Flares

Part 360 requires that odors "must be effectively controlled so that they do not constitute nuisances or hazards to health, safety or property." 6 NYCRR § 360-1.14(m). The flares are part of the gas collection and control system at the landfill, and are intended to control odors by combusting the landfill gas. See Odor Management Plan (rev. May 2014), Application Documents Item No. 17a, IC Ex. 5. The flares are subject to the landfill's Title V permit. See Draft Title V Permit, Hearing Ex. P.

Department staff argues that the use of flares is not required under Part 360, and that flares "do not manage or dispose of solid waste." Staff Post-Hrg. Br. at 7-8. Staff also argues

that the flares are subject to air permit requirements, and cites past regulatory revisions pursuant to which design and operation of landfill gas control systems was removed from Part 360 and are now governed by 6 NYCRR Part 208. See id. at 8-9. Staff states that "there is no relevant Department precedent which contradicts this analysis concerning the flares." Id. at 9. Finally, staff provided an email and letter to Applicant's consultant stating that both the GTE Plant and the flares "are outside Part 360 jurisdiction," and that noise from these facilities would be evaluated under SEQR rather than under Part 360. See Hearing Ex. J, Ex. 1. Applicant essentially relies on staff's correspondence to support its claim that the landfill flares need not be considered as part of the noise assessment. See e.g. Appl. Post-Hrg. Br. at 66-67.

The relevant Part 360 regulation requires control of "[n]oise levels resulting from *equipment or operations at the facility*." 6 NYCRR § 360-1.14(p) (italics added). Neither staff nor Applicant argues that the flares are not "at the facility." See e.g. Hearing Tr. at 11:22-25 (Applicant's counsel stating that flares "are on the same parcel of property that is leased to Casella for operation of the landfill"). Moreover, unlike the GTE Plant, the flares do not burn the landfill gas to generate electricity; their sole purpose is to control gas generated at the landfill. Neither staff nor Applicant argues that the gas collection and control system at the landfill is not part of the "operations at the facility."

I hold that the flares are "equipment … at the facility" and are part of the "operations at the facility." 6 NYCRR § 360-1.14(p). Moreover, I hold that the flares are "structures, appurtenances, and improvements on the land used for the management … of solid waste." 6 NYCRR § 360-1.2(b)(158). The flares are thus part of the solid waste management facility subject to Part 360, and Applicant was required to include in its landfill noise assessment the noise generated by the flares, to determine whether the proposed landfill expansion complies with 6 NYCRR § 360-1.14(p).

Applicant has satisfied this requirement. Applicant's initial noise assessment did not include an analysis of the noise generated by the on-site flares. In response to FLZWC's argument that flare noise should have been included, however, Applicant prepared and submitted an assessment of the flare sound levels, and an overall noise assessment of the proposed landfill expansion including noise generated by the flares. See Flare Report, Hearing Ex. J. In response to Applicant's submission, FLZWC stated that, "[b]ased [on] this submission, FLZWC conceded that noise from the flares would be an insignificant addition to operational sound levels at receptors." FLZWC Post-Hrg. Br. at 10; see also Hearing Tr. at 342:5-13 (Bahtiarian testimony agreeing that noise contributed by flares was very low at the receptor/compliance points). Applicant has therefore complied with its obligation to consider the noise of the flares as part of its overall noise assessment required by 6 NYCRR § 360-1.14(p).

D. The County's Initial Noise Assessment

In support of its application, Applicant submitted a noise assessment concluding that the proposed landfill expansion would not result in exceedance of the regulatory noise limit of 57 dBA. See Applicant's Operating Noise Impact Assessment (rev. May 2014), Hearing Ex. E. The noise assessment reflects that Applicant: (i) determined the background noise levels against which to measure noise contributed by the landfill operations; (ii) determined the "property line"

at which the regulatory noise limit must be met; (iii) analyzed the noise generated at, and approaching and leaving, the "working face" of the landfill;[9] (iv) analyzed noise generated by operations at the "soil borrow area;" and (v) calculated the attenuation of noise from these operations utilizing international standard ISO 9613-2.[10]

1. Background Noise

Applicant measured the existing ambient, or background, noise without landfill operation, near six residential locations adjacent to the proposed landfill expansion areas. See Hearing Ex. E at 7-9. Measurements were taken between the hours of 5:00 p.m. to 7:00 p.m. Id. FLZWC's expert initially took the position that measurements of background noise should have been taken either for a "full daytime period" or shorter duration periods to avoid commuting times, and that the 5-7 p.m. period utilized by Applicant corresponds with evening commuting time and therefore would not necessarily be the quietest period. See Peer Review Ontario County Landfill, Noise Assessment, Noise Control Engineering, LLC (Bahtiarian), March 9, 2015 ("Peer Review I"), Hearing Ex. O at 2, ¶ 2.

In response to FLZWC's expert's criticism, Applicant's expert pointed out that NYSDOT hourly traffic counts indicate that the lowest average traffic volume of any hour between 7 a.m. and 7 p.m. was the hour between 6 p.m. and 7 p.m., which was part of the time measured by Applicant. See Rebuttal Report, Sanchez Industrial Design, Inc., April 30, 2015 ("Appl. Rebuttal"), Hearing Ex. I at 1, and Attachment A. FLZWC's expert thereafter agreed that the use of those hours was appropriate. See Hearing Tr. at 288:17-289:6; 340:7-341:10.[11] Thus, the parties stipulated that background noise was not an issue for adjudication. See Hearing Tr. at 5:-6-13; see also FLZWC Post-Hrg. Br. at 2.

The regulation provides that, where background sound levels exceed the regulatory limit, "the facility must not produce an Leq exceeding that background." 6 NYCRR § 360-1.14(p)(1). Although some of the background noise levels measured by Applicant exceeded the relevant regulatory limit of 57 dBA, Applicant stated that it was not relying on any background noise levels to achieve compliance with the regulation. Rather, Applicant has sought to demonstrate compliance with the regulatory limit of 57 dBA. See Hearing Tr. at 62:22-63:20; 108:21-110:22 (Applicant's witnesses discussing Table 5 in Initial Noise Assessment, which reflects that one of

[9] The "working face" is "that portion of a landfill where solid waste is discharged and compacted before placement of cover material." 6 NYCRR § 360-1.2(b)(184).

[10] ISO 9613-2 is entitled "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation" (1st Ed., Dec. 15, 1996). "ISO" is the acronym for the International Organization for Standardization. See http://www.iso.org/iso/home/about.htm.

[11] In addition, FLZWC's expert questioned the background noise results because Applicant's initial assessment did not state that windscreens were used on the microphones, and FLZWC's expert stated that failure to use such windscreens would result in higher-than-actual sound pressure levels. See Peer Review I, Hearing Ex. O at 2, ¶ 1. In rebuttal, Applicant submitted photographs showing that windscreens were used, see Appl. Rebuttal, Hearing Ex. I at 3, ¶ 4 and Attachment B, and FLZWC's expert thereafter withdrew the criticism. See Hearing Tr. at 289:13-18; 340:2-6.

the background noise levels was 64 dBA, but that Applicant was not relying on that higher number to achieve compliance with the regulation); see also Appl. Rebuttal at 1.

2. Noise Easements

With respect to determining the "property line" at which the regulatory noise limit must be met, see 6 NYCRR § 360-1.14(p), Applicant has obtained several noise easements, which serve effectively to extend outward the "property line" at which compliance with the regulatory 57 dBA sound level limit is determined. See e.g. Matter of Hyland Facility Associates, Hearing Report and Final Environmental Impact Statement (undated), at 11, 70-71 (attached to Decision of the Commissioner dated June 21, 1993). As set forth above, the parties stipulated that noise easement issues would not be adjudicated. See Hearing Tr. at 5:6-15.[12]

3. Initial Assessment of Working Face and Soil Borrow Area

Applicant's initial noise assessment made predictions of noise to be generated by the proposed landfill expansion by utilizing "the hourly equivalent sound levels (Leq) that are primarily based upon peak periods of landfill operations at locations closest to nearby sensitive receptors." Hearing Ex. E at 15. As discussed in detail below, Applicant analyzed noise to be generated at, and approaching and leaving, the working face and the soil borrow area, and then applied certain attenuation factors to determine the sound levels at certain identified receptors.

a. The Working Face

To measure sound levels generated at and around the working face of the landfill, Applicant took sound measurements for several hours at three locations. See Hearing Ex. E at 10-11, and Appendix B, Noise Monitoring Result Summary. In accordance with the regulation, Applicant used Type 1 sound level meters, and calibrated them prior to use, confirming the calibration later in the day. See 6 NYCRR § 360-1.14(p)(3); see Hearing Ex. E at 10, and Appendix B, at 1 (calibration history). During the measurement period, a single working face was operational, and equipment in operation included three waste compactors and three bulldozers, as well as waste moving equipment, a front-end loader, diesel fuel trucks, water trucks, soil haul trucks, equipment service truck and leachate haul trucks. See Hearing Ex. E at 10-11.

One of the measurement locations, NM-WF1, was located 1,085 feet from the center of the working face operations. See id. at 11, Table 2; see also id. Figure 2 (aerial photograph). Applicant's witness Mr. Reed testified that, in addition to capturing sound levels generated at the working face, the three sound level meters captured noise generated by all of the trucks

[12] Applicant obtained three additional noise easements after the hearing, and thereafter submitted a revised noise assessment taking into account those additional easements. See Supplemental Assessment of Soil Borrow Area Sound Levels, June 3, 2015 ("Suppl. Assessment"), Hearing Ex. T. Per stipulation of the parties, FLZWC thereafter submitted, along with its post-hearing brief, a document entitled "Peer Review Ontario County Landfill, Supplemental Noise Assessment Report" dated June 12, 2015, prepared by FLZWC's expert Michael Bahtiarian. This document, although not denominated as "Exhibit U" or otherwise, is part of the administrative hearing record, and has been fully considered.

approaching and leaving the working face area, as well as leachate trucks loading and leaving the site from a leachate pond located near NM-WF1. See Hearing Tr. at 232:6-235:4. The sound level calculations also included accounting for the topography between the sound sources and receptors. See Hearing Tr. at 192:8-193:3.[13]

The day that sound level measurements were taken was a "very busy day" at the landfill, involving the delivery of waste by approximately 263 trucks, calculated to represent approximately 5,400 tons of waste and BUD material.[14] See Hearing Tr. at 68:20-24. Applicant's witness Reed described that particular day as follows: "So about 50 percent more or better waste came in that day than in an average day." Id. at 68:24-69:3; see also id. at 69:19-22 (McDowell testimony that "5,400 tons per day is an above-average day"); 70:5-8 (that particular day was "higher, much higher than average"); id. at 71:10-16 (Barrett testimony that the assessment "took a very conservative approach by selecting a day that had higher-than-average waste").

Based upon the sound level measurements taken for several hours on that particular day, the highest "peak hourly equivalent sound level 1-hr Leq" for the three measurement locations was measured at NM-WF1, 66 dBA at a distance of 1,085 feet. See Hearing Ex. E at 11, Table 2; see also id. at 15 ("Based on the distance of the measurement locations to the center of the working face, NM-WF1 represented the maximum source sound level recorded during the monitoring event"). This highest figure was utilized in the assessment to determine the noise contribution of the working face to the overall operational sound levels for the landfill expansion. See id. at 15. Applicant's expert Barrett described the use of this figure as having "multiple levels of conservatism," because "you're taking an above-average day of operations and then from that you're focusing on the loudest single hour that occurred in that above-average day." Hearing Tr. at 151:6-10.

Applicant thereafter "normalized" the figure of 66 dBA at a distance of 1,085 to 84 dBA at a distance of 200 feet, so that the sound level measurement could be compared properly with the measurements and NM-WF2 and NM-WF3. See Hearing Tr. at 73:22-75:4; see also Ex. E, Appendix D (showing conversion calculation including attenuation factors). According to FLZWC's expert, converting the number 84 dBA at a distance of 200 feet to a dBA at a distance of 50 feet, based upon distance only, and not taking into account any attenuation factors, results in 96 dBA at 50 feet. See Hearing Tr. at 366:20-367:19.[15]

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[13] See also id. at 221:12-23 (Barrett testimony that topography taken into account as part of ground attenuation calculation).

[14] "BUD material" is material that would otherwise be solid waste, but that may be "beneficially used" as daily cover at the landfill. See 6 NYCRR § 360-1.15(b)(10).

[15] Applicant also analyzed the sound levels based upon three stages of the landfill construction (i.e., as the landfill "fills up" over time). See Hearing Tr. at 95:22-97:8. As the vertical height increases, the horizontal distance from the center of the landfill to the receptor would also increase. See id. at 97:9-98:14. Applicant determined that Stage 1 would provide the least attenuation, and would be closest to the receptor, and Applicant chose to use Stage 1 for determining sound levels at the receptor. See id. at 98:15-99:14; see also Hearing Tr. at 204:5-205:15 (Reed testimony on cross-examination explaining how increasing height of landfill was used in calculating ground attenuation, referring to Hearing Ex. E, Appendix D, Column "hm").

b. The Soil Borrow Area

The proposed landfill expansion will include a new soil borrow area south of the landfill. See e.g. Hearing Ex. F. Applicant expects operations at the new soil borrow area to be the same as operations at the current soil borrow area: mining and hauling of soil. See Hearing Ex. E at 12. According to Applicant, the largest contributor of noise from the soil borrow area is the diesel-powered excavator used to excavate the soil and load the soil onto hauling trucks. See id. at 12-13; see also Hearing Tr. at 76:2-20. In addition to the excavator, noise is generated by the hauling trucks as they enter and exit the soil borrow area, and idle while being loaded with soil by the excavator. See Hearing Ex. E at 12; see also Hearing Tr. at 76:25-78:9.

Applicant conducted two sets of measurements to determine the noise generated in the soil borrow area: (i) sound generated by the excavator alone; and (ii) sound generated by the excavator and trucks. See Hearing Ex. E at 13; see also Hearing Tr. at 78:24-79:9; 151:15-23. Applicant assumed for purposes of the noise assessment that the excavator was operating on a continuous basis. See Hearing Ex. E at 12; Hearing Tr. at 77:4-10. In practice, however, the excavator would not operate continuously, but instead would excavate the soil, load it onto a truck, and then idle until the next truck was available to load. See Hearing Tr. at 77:16-78:9; see also Hearing Ex. E at 12. In addition, Applicant simulated thirteen hauling truck trips per hour, although in practice it is expected that only eight trucks would be loaded per hour. See Hearing Ex. E at 13-14; see also Hearing Tr. at 78:10-20.

The highest hourly Leq for the excavator operating alone was 77.1 dBA at 50 feet, and the highest one hour Leq for the combined excavator/truck operation was 74.5 dBA. See Hearing Ex. E at 13-14. These numbers were rounded to 77 dBA and 75 dBA, respectively. See id. at 14, Table 3. Rather than use either of these actual measurement results as part of its noise assessment, however, Applicant utilized a higher figure of 86 dBA, which is the highest decibel level figure in a range provided in DEC guidance for a backhoe. See DEP-00-1, at 18, Table D (range of sound levels of 83-86 for backhoe); see also Hearing Tr. at 79:10-80:13.[16] According to Applicant's witness Reed, the 86 dBA figure was utilized "to build in as much conservatism as we could into the model to ensure that these potential worst-case operations were calculated." Id. at 80:19-81:4. Applicant's witness Barrett testified that the 11 dBA "increase" from the measured 75 dBA figure to the 86 dBA figure from DEP-00-1 "would be equivalent to, say, 13 excavators operating simultaneously instead of just one." Id. at 81:10-18; 82:22-83:9.

c. Attenuation and Combined Noise Levels

Following its determination of sound levels generated from and around the working face and soil borrow area, Applicant projected those noise levels to receptors. With respect to the working face, Applicant (i) identified the "centroid of the working face," which was the point at the center of the 200 ft. x 200 ft. working face area; and (ii) projected the sound from that centroid to the closest receptors, which were identified by measuring the distance from the centroid of the working face to the "non-easement property boundary closest to … that centroid

[16] Applicant's witness Reed testified that a backhoe and an excavator are the same, "[d]epending on who you talk to. They are two different pieces of equipment, but often are talked about interchangeably." Hearing Tr. at 80:14-18.

point…." Hearing Tr. at 88:9-90:4;[17] see also Hearing Ex. F (map entitled "Project Site & Off-Site Receptor Locations"). According to Applicant's witness Reed, the purpose of finding the closest non-easement property is to identify "the receptor most likely to be impacted by potential sound propagation from the landfill." Hearing Tr. at 91:21-92:2.

Applicant then utilized international engineering standard ISO 9613-2 to calculate how the generated noise would be attenuated between the source and receptors. The ISO standard

> specifies an engineering method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of environmental noise at a distance from a variety of sources. The method predicts the equivalent continuous A-weighted sound pressure level … under meteorological conditions favourable to propagation from sources of known sound emission.

ISO 9613-2, Hearing Ex. Q, at 1. Attenuation factors set forth in ISO 9613-2 include: (i) "geometric divergence;"[18] (ii) atmospheric attenuation; (iii) ground attenuation; and (iv) screening by obstacles. Id. Each attenuation factor "decreases the sound level as the sound level travels or propagates from the noise source to the receptor, and this results in a resulting sound level at the receptor location." Hearing Tr. at 94:3-13 (Barrett); see also id. 94:23-95:7 (Barrett).

In its initial noise assessment, Applicant applied the following attenuation factors to the sound generated from and around the working face to determine the sound levels at the nearest receptors: (i) geometric divergence; (ii) atmospheric attenuation; and (iii) ground effect. See Hearing Ex. E at 17-18; see also Hearing Tr. at 92:8-11. The results at the closest receptors were all below the regulatory limit of 57 dBA, as follows: (i) for R4, 54 dBA; (ii) for R5, 51 dBA; (iii) for R6, 56 dBA; and (iv) for R7, 55 dBA. See Hearing Tr. at 99:15-100:10 (Reed testimony regarding results and rounding to nearest whole numbers);[19] see also Hearing Ex. E at 19, Table 4; see also id. Appendix E (calculations identifying receptors, distance to receptors, attenuation calculations, and resulting "Leq at Receptor (dBA)").

With respect to noise generated from the soil borrow area, Applicant calculated the sound level at receptors in a manner somewhat different than with respect to the working face. Applicant applied a 5 decibel reduction to the 86 dBA base sound level obtained from DEP-00-1 for the excavator, because the 20 foot high "soil berm" to be constructed on the eastern, and part of the southern, edges of the soil borrow area would "break the 'line of sight' between the nearby

[17] The "centroid" is also known as the "acoustical center." See Hearing Tr. at 88:21-89:2 (Barrett).

[18] Pursuant to "geometric divergence," also known as "distance attenuation," the "inverse square law," "distance doubling," or "spherical spreading," beginning at 50 feet from the noise source, the noise sound level is reduced by 6 dB each time the distance from the source is doubled. See Hearing Tr. at 92:14-18 (Reed); id. at 249:13-23 (Bahtiarian); see also Hearing Ex. E at 17.

[19] The results in the initial noise assessment were reported down to tenths of a decibel, and were not rounded to the nearest whole numbers. See e.g. Hearing Ex. E at 19, Table 4; id. at 21, Table 5. FLZWC's expert stated that "it is usual for noise computations to be reported in whole decibels," Bahtiarian Peer Review I, at 4, and Applicant's witness Barrett agreed. See Hearing Tr. at 64:19-25. Thus, where computations are done to a tenth of a decibel, the result is rounded to the nearest whole number. See id. at 65:14-19.

receptor locations and the operating equipment." Hearing Ex. E at 16. According to Applicant, "[b]reaking the line of sight between the source and receptor provides at least a 5 dBA reduction." Id. (citing Federal Highway Administration); see also Hearing Tr. at 86:4-21.

Applicant's witnesses also testified that the 5 decibel reduction for the berm was based solely on breaking line of sight, and that Applicant could have, but did not, take additional reductions based upon (i) the distance between the top of the exhaust stack of the excavator and the top of the berm, see id. at 86:4-87:10 (additional 1.5 decibel reduction allowed for each meter of berm height above line of sight); and (ii) the fact that, as the soil borrow activities continued (i.e., as the excavator dug deeper), the equipment would descend further below the top of the berm, thus increasing the distance between the top of the exhaust stack and the top of the berm, and thereby increasing the attenuation. See id. at 132:4-133:9 (Barrett).

In addition to the attenuation based upon the soil berm, Applicant applied the following attenuation factors with respect to noise from operations in the soil borrow area: (i) geometric divergence; and (ii) atmospheric attenuation See Hearing Ex. E at 20; see also id. at Appendix F; Hearing Tr. at 100:20-25.[20] The results at the closest receptors were all below the regulatory limit of 57 dBA, as follows: (i) for R4, 42.7 dBA; (ii) for R5, 42.7 dBA; and (iii) for R7, 52.6 dBA. See Hearing Ex. E at 21, Table 5 (column entitled "Predicted Leq from Borrow Area Operations (dBA)"); see also id. Appendix F (column header "Borrow Area" containing calculations identifying receptors, distance to receptors, attenuation calculations, and resulting "Leq at Receptor (dBA)").

Applicant then combined the results for the working face and the soil borrow area to determine whether the overall landfill expansion would exceed the regulatory noise limit. Applicant's witness Barrett described the calculation process with respect to combining the two noise sources, see Hearing Tr. at 102:9-105:4, and Applicant's witness Reed testified concerning the combined results shown in the Initial Noise Assessment, rounding them to whole numbers. See id. at 107:14-108:10; see also Hearing Ex. E at 21, Table 5, and Appendix F. The combined results did not exceed the regulatory limit of 57 dBA, as follows: (i) for R4, 55 dBA; (ii) for R5, 52 dBA; and (iii) for R7, 57 dBA. See Hearing Ex. E at 21, Table 5 (column entitled "Combined Leq (dBA)"); see also id. Appendix F (column header "Landfill + Borrow Area").

E. Issues Raised in FLZWC's Submissions and Testimony[21]

In response to Applicant's noise assessment, FLZWC's expert Mr. Bahtiarian prepared a "Peer Review" document comprised of a series of comments critiquing various aspects of Applicant's noise assessment. He also provided testimony regarding these issues at the

[20] Because the berm's attenuation was included in the assessment of the sound levels from the soil borrow area, ground effect attenuation was not included. See Hearing Tr. at 100:11-19; 101:2-4.

[21] FLZWC's expert Mr. Bahtiarain effectively withdrew some of his criticisms of Applicant's initial noise assessment following Applicant's submission of its Supplemental Assessment. See e.g. discussion supra at 11, and 11 n.11. (regarding use of windscreens and whether Applicant chose an appropriate time period for determining background noise). Because these criticisms were withdrawn, they will not be discussed further herein.

adjudicatory hearing. See Hearing Ex. O. Mr. Bahtiarian did not conduct his own noise assessment.[22]

1. Use of Single Working Face

As discussed above, Applicant's assessment utilized noise generated from a single working face, rather than two working faces. Applicant stated that, "[u]nder the two separate working face scenario, operating equipment are split between the two areas resulting in an overall reduction to the sound level from a single location." Hearing Ex. E at 10; see also Hearing Tr. at 70:9-71:9. At the hearing, Applicant's expert Barrett testified that using a single working face "would provide the highest result in sound level at any given receptor location." Hearing Tr. at 150:5-16. The assessment involved utilizing "the loudest single hour that occurred in th[e] above-average day" of waste coming into the landfill, Hearing Tr. at 151:6-10, and projecting that highest sound level to the nearest receptor. See id. at 89:7-92:2 (Reed testimony regarding projecting the working face sound level from the centroid, or acoustic center, to the closest receptors to the northeast (receptor R6), southeast (receptor R7), and southwest (receptor R4)); see also Hearing Ex. F (map entitled "Project Site & Off-Site Receptor Locations").

In his initial Peer Review, FLZWC's expert stated that the assumption that two working faces would be quieter than one "is not universally correct," and cannot be made "unless a specific location for the single Working Face is compared with the locations for two Working Faces relative to all of the sensitive receptor locations." Peer Review I at 2-3. FLZWC's expert initially testified that whether use of a single working face would result in a higher sound level at the receptor would depend on the "relative locations" of the working faces and receptors. See e.g. Hearing Tr. at 346:10-13; 347:10-348:6.

Upon cross-examination at the hearing, however, FLZWC's expert expressed his understanding that Applicant had taken the highest sound level measurement and, based upon a determination of the centroid, had projected that loudest sound level to the closest receptors. See generally id. at 348:14-354:25. The expert explicitly agreed that, if one puts all the equipment in one place rather than two, it would make more noise. See id. at 354:23-25. It appears from his testimony that the expert's primary concern was that, although the assessment document contained text identifying the distance from the centroid to the receptor, see e.g. Hearing Ex. E, Appendix D; see also Hearing Tr. at 350:20-352:7, the assessment did not contain a diagram identifying a specific location for the centroid of the working face. See Hearing Tr. at 352:10-18; see also id. at 353:2-6 ("my comment on this line of questioning was about the determination of that point not shown in the diagram"); id. at 354:2-4 ("And I believe that what I said, page 18, was that it was described in the text but there were no diagrams"); id. at 353:19-22.[23]

[22] There is no indication in the record that FLZWC sought any discovery relating to Applicant's noise assessment. See generally 6 NYCRR § 624.7.

[23] "Q: And maybe you want more detail, but do you understand that's what he did?
A: I think that's - - yes. I think that's the spirit of my rebuttal here."

Based upon the record, I hold that Applicant has satisfied its burden of showing that use of a single working face in its noise assessment was appropriate for determining the sound levels at the closest receptors.[24] FLZWC has not rebutted Applicant's showing.

2. Variability in Sound Pressure Levels

FLZWC's expert Bahtiarian initially stated that Applicant's noise assessment "is only with respect to the overall amplitude," and does not account for the "dramatic increases and decreases in the sound pressure levels" that are shown in the data for simulated operations. Peer Review I at 3. Mr. Bahtiarian argues that "the change in sound amplitude will result in very negative response from abutting residences." Id.

In response, Applicant stated that Mr. Bahtiarian's point is "irrelevant because the Part 360 noise limits are based solely on the Leq," which "accounts for the total accumulation of all sound energy caused by a source, regardless of any fluctuations in sound level." Appl. Rebuttal at 3; see also Hearing Tr. at 122:23-124:4 (Barrett testimony that Leq is the "steady-state sound level that would have the same equivalent sound energy as the actual varying sound levels, despite any variation that may exist").

Mr. Bahtiarian's hearing testimony reflects his agreement that use of Leq accounts for variation in sound over time. See Hearing Tr. at 289:19-23;[25] see also id. at 290:9-10 ("Everything's been Leq. I'm fine with that"), in effect withdrawing the criticism made in his initial Peer Review. I conclude that Applicant's use of Leq properly accounted for variations in sound levels over time, and was appropriate.

3. Reduction of Sound Levels Based on Berm

FLZWC's expert Bahtiarian questioned the propriety of Applicant's application of a 5 dB reduction of sound levels based upon the berm's breaking of the "line of sight" between the top of the exhaust stack of the equipment operating in the borrow area and the relevant receptors. See Peer Review I at 3. He argued that attenuation provided by the berm may not be as high as 5 dB because the FHWA guidance used by Applicant is based on mid-frequency sound "characteristic of highway noise," whereas heavy duty trucks are "generally lower in frequency." Id. at 3-4.

In response, Applicant agreed that, generally, a berm will provide less noise reduction at lower frequencies. See Appl. Rebuttal at 4. Citing the FHWA Traffic Noise Model ("TNM"), however, Applicant disagreed with Mr. Bahtiarian's assertion that the noise of heavy trucks is "controlled by low-frequency sound." Id. Rather, Applicant's expert Mr. Barrett stated that, even at low speed and high throttle, which would be characteristic of the operation of heavy

[24] It is worth noting that Mr. Bahtiarian's post-hearing Peer Review does not carry forward an objection to Applicant's use of a single working face. See generally Peer Review Ontario County Landfill, Supplemental Noise Assessment Report, dated June 12, 2015 ("Peer Review II")

[25] Mr. Bahtiarian testified as follows: "There was some comments about … variation in noise and Leq that … the point about the Leq, there was some discussion about Leq really is. I didn't have any problem with what was said up here."

trucks at the landfill, "the dominant frequency on the spectrum is around 800 hertz, which would be considered a mid-frequency as opposed to low-frequency sound." Hearing Tr. at 131:8-12; see generally id. 129:5-132:3; see also Hearing Ex. S (excerpt of FHWA TNM Technical Manual), Figure 26; Hearing Tr. at 462:9-464:11 (Barrett testimony that Figure 26 of Hearing Ex. S reflects that the maximum octave band level for heavy trucks at full throttle is approximately 800 hertz, which is a mid-range frequency); 465:4-466:15 (testimony that the definition of "heavy truck" in the TNM applies to the soil hauling and other trucks that Barrett saw at the landfill, and are similar to other non-highway equipment such as bulldozers based upon the type and size of engine). Mr. Barrett testified that, at low speed and high throttle settings, there would not be an appreciable difference in the sound level of trucks whether they were off-pavement and off-road on bumpy, dusty roads, or were on pavement. See id. at 215:15-22.

At the hearing, Mr. Bahtiarian agreed that, at low speeds, the predominant noise of a truck operating on a paved or an unpaved surface would be engine noise. See Hearing Tr. at 395:14-18. He also asserted that the TNM reported 800 hertz at 10 miles per hour for a heavy truck as a mid-frequency, but expressed his reservations concerning whether that reflected actual operations. See Hearing Tr. at 399:15-23 ("I'm not saying that that is actually what is happening here at the landfill"). He stated his belief that "in many cases these trucks are driving much higher loads and much lower speeds than 10 miles an hour," id. at 398:13-16, but admitted to never having visited the site, and could provide no reference to contradict Applicant's reliance on the FHWA TNM. See id. at 400:7-402:6.

Mr. Bahtiarian further admitted that he had no data to support the assertion that the controlling noise is a lower sound level, and he agreed that the regulatory standard is for the end result to be A-weighted. See id. at 403:12-19; 419:13-24.

Moreover, Mr. Bahtiarian's criticism does not take into account the conservative nature of Applicant's analysis. For example, Applicant took *only* the 5 dB reduction based upon the berm breaking the line of sight. Applicant's witnesses testified that attenuation would actually be greater than 5 dB because: (i) the exhaust stack of the excavator is actually 9 feet below the top of the barrier; and (ii) as the soil operations progressed, "the equipment will descend further down from the top of the berm and ultimately be as far as 100 feet below the top of the berm." Hearing Tr. at 132:9-133:9; 152:23-153:13 (Barrett); see id. at 86:4-87:18 (Reed testimony that, adding a 1.5 decibel reduction for every meter of berm height above the line of sight would, in this case, have resulted in a 9 dB reduction rather than 5 dB).

At the hearing, Mr. Bahtiarian admitted that he was unaware until this case of the rule that one may take a 5 dB reduction based upon breaking the line of sight, but did not "refute the rule." Hearing Tr. at 408:2-6. Mr. Bahtiarian agreed that, as the borrow area becomes deeper it would be "better" in terms of attenuation, see id. at 409:21-410:2, and that, if the equipment is 30 feet below the top of the berm, and the top of the stack is 19 feet below the top of the berm, the berm would be an effective barrier "under any calculation method." Id. at 410:5-15.

FLZWC's criticism of the 5 dB reduction for the berm is therefore unavailing for at least three reasons. First, FLZWC provided no proof that the noise of the operating equipment at the

site was predominantly low-frequency (and thus less attenuated by the berm). Second, Applicant's 5 dB reduction was conservative, given the distance between the top of the exhaust stack and the top of the berm, and that attenuation would increase as the soil borrow operations descended further below the top of the berm. Finally, as discussed below, Applicant's Supplemental Assessment, performed subsequent to obtaining additional noise easements, reflects compliance with the regulatory noise limit assuming no berm in place at all; that is, without taking any berm-related reduction, 5 dB or otherwise.

4. Ground Attenuation and ISO 9613-2 Equation (10)

To calculate ground attenuation, Applicant utilized Equation (10), the "alternative method" set forth in ISO 9613-2. See Hearing Ex. Q at 7, § 7.3.2.[26] ISO 9613-2 allows the use of the alternative method under the following specific conditions: (i) only the A-weighted sound pressure level at the receiver position is of interest; (ii) the sound propagation occurs over porous ground or mixed ground most of which is porous; and (iii) the sound is not a "pure tone." See id.; see also Hearing Tr. at 136:8-137:3 (Barrett).

According to Applicant's expert Mr. Barrett, the proposed landfill expansion satisfies all three conditions for utilizing the alternative method of calculating ground attenuation. First, the relevant regulation here "is based upon just the A-weighted Leq, so that condition clearly is met." Hearing Tr. at 137:15-21. Second, Mr. Barrett testified that, based upon his observations during his site visit to the landfill, "the landfill itself and most of the surrounding areas are porous or mixed ground," thereby satisfying the second condition. Id. at 137:22-138:7. Third, Mr. Barrett testified that, because the working face and the soil borrow area operations involve many different pieces of equipment, he would not characterize the sound from such operations as a "pure tone."[27] See id. at 138:8-23.

Mr. Bahtiarian asserted two objections regarding Applicant's calculation of ground attenuation. First, he objected that "the computation is only for A-weighted sound," whereas the sound from heavy duty construction vehicles "can be controlled by low frequency sound." Peer Review I at 4. Second, Mr. Bahtiarian alleged that "in some cases the sound may contain strong pure tones," thereby not satisfying the third requirement for utilizing the alternative method of calculation, equation (10). See id. Each of these objections is addressed below.

a. Low Frequency Sound

Mr. Bahtiarian summarized his position regarding low frequency sound as follows:

[26] ISO 9613-2 also has a "general method" which may be used for calculating ground attenuation. Under the general method, ground attenuation is calculated "on the basis of going octave band by octave band; that is, making separate calculations at each frequency." Hearing Tr. at 136:16-23; 140:3-6 (Barrett).

[27] According to Mr. Barrett, a pure tone "is a sound that occurs at just one frequency," such as a tuning fork. Id. at 138:10-14. Similarly, FLZWC's expert Mr. Bahtiarian defined "pure tone" as "a sound that has a predominant amount of acoustic energy in one frequency or one octave band." Id. at 420:18-21.

> The point is that by using an A-weighted assessment, you're losing the effect of any potential high low-frequency sound, and that the attenuation factors that - - don't provide as much attenuation at low frequency. So you would be taking into effect an 800 hertz attenuation where it's potential that the controlling noise is a lower sound level … is a lower frequency.

Hearing Tr. at 402:25-403:11.

His primary objection appears to be that octave band analysis,[28] and performing actual measurements at the landfill rather than utilizing the FHWA's Traffic Noise Model, would provide a more accurate measurement. Id. at 287:3-288:2; see also id. at 399:4-23 ("I have no idea" whether the TNM value of 800 hertz is representative of what a truck would sound like at low speed; "I can't comment about whether that was a good place to go instead of having measured actually [sic] data from the actual trucks … I'm not saying that that is actually what is happening here at the landfill"). He would have utilized octave band analysis to derive A-weighted sound levels. See id. at 286:8-11; 391:18-23 (octave band measurements would be more rigorous than A-weighted measurements).[29]

Notwithstanding his objections, Mr. Bahtiarian admitted that, even using octave band analysis, "it would … remain to be seen whether [sound level at the receptor] would be higher," id. at 286:17-20, and that using octave band analysis, although more accurate, is not necessarily "more conservative." Id. at 281:22-25; see also id. at 404:11-18. Mr. Bahtiarian also agreed that, when trucks are operating at low speeds (e.g., 10-15 mph), the predominant noise is engine noise. See Hearing Tr. at 397:7-14. He also stated that he does not disagree with what might be in the Traffic Noise Model. See id. at 397:15-25. Finally, he admitted that he had no data "that I can present here in this venue" to support his claim that the controlling noise is low frequency. Id. at 402:25-403:15.[30] FLZWC did not submit an octave band analysis and did not perform actual measurements at the landfill.

In response to Mr. Bahtiarian's argument that there is a potential that the controlling noise is low frequency, Applicant's expert first stated that the relevant section of ISO 9613-2 "includes no requirements for the frequency content of the source spectrum, other than not being a pure tone." Appl. Rebuttal at 5; see also Hearing Tr. at 139:9-22 (Barrett testimony with respect to ISO 9613-2, "none of it says, well, if you have a lot of low-frequency sound, you can't apply equation 10"). Moreover, according to Applicant's expert, using the "general method" under ISO 9613-2 for computing ground attenuation – under which ground effect may be

[28] Using octave band analysis would entail "making separate calculations at each frequency." Hearing Tr. at 136:19-23.

[29] Mr. Bahtiarian testified that using octave band inputs rather than A-weighted inputs "would give a half to a 2dB" difference in results, but he did not include that opinion in his Peer Review, and did not provide any underlying data or calculations relating to operations at the landfill to support the testimony. See id. at 251:17-252:15. He also testified, however, that utilizing either technique "should give you the same number in the best cases" although, depending on the initial input, "where you're *potentially* low-frequency controlled, it *could* give - - the octave band approach *could* result in a slightly higher level." Id. at 404:19-405:5 (italics added).

[30] Later in his testimony, Mr. Bahtiarian agreed that, since Part 360 is focused on the A-weighted level, the first requirement for using the "alternative method" under ISO 9613-2 was satisfied here. See Hearing Tr. at 419:13-24.

computed on an octave band/frequency-dependent basis – actually "predicts *greater* attenuation at lower frequencies than at mid-range frequencies." Appl. Rebuttal at 6 (italics in original); see also Hearing Tr. at 139:24-140:18 (even if general method used, and low-frequency predominated, "we might compute more ground effect attenuation rather than less").

FLZWC's expert offers nothing more than speculation, e.g., that there is a "potential" that the controlling noise is low frequency, see Hearing Tr. at 403:3-11, that certain of the conditions for using the "alternative method" under ISO 9613-2 "*may* not be 100% valid" Peer Review I at 4 (italics added), and that the sound from heavy duty construction vehicles "*can* be controlled by low frequency sound." Id. He offers no evidence. Nor does he offer a response to Applicant's argument that utilizing the octave band inputs could actually result in greater attenuation than using the alternative method.

b. Pure Tone

FLZWC's expert questions whether Applicant has satisfied the third condition regarding use of the alternative method of calculating ground attenuation, stating that "in some cases the sound [from heavy duty construction vehicles] may contain strong pure tones." Peer Review I at 4. Mr. Bahtiarian states that using an octave band analysis would "potentially preserve a pure tone characteristic." Hearing Tr. at 286:8-16. According to Mr. Bahtiarian, to support an engineering judgment that the sounds are broadband – that is, not pure tone – an engineer would have to "either make an opinion that I heard the equipment and it did not have a pure tone, or I took a measurement and it does not contain a pure tone." Hearing Tr. at 422:19-423:7.

Applicant's expert Mr. Barrett cited his own observations at the landfill of the "mix of many pieces of equipment, trucks entering and exiting, and so on," to support his opinion that he "would not characterize that as a pure tone." Hearing Tr. at 138:15-23; see also id. at 467:13-22 ("the overall Leq sound levels at the landfill are not dominated by a pure tone"). Mr. Barrett also supported his view by reference to the FHWA TNM Technical Manual. Mr. Barrett testified that Figure 26 in the Technical Manual, entitled "Emissions Spectra for Heavy Trucks Full Throttle," "displays the spectrum shape, that is the frequency distribution, for heavy trucks operating at full throttle under a variety of speeds." Id. at 463:16-22. Mr. Barrett testified further that, "it's clear to me that looking at this spectrum, that there's not a pure tone present in the spectrum." Id. at 464:12-16.

FLZWC's counsel did not raise this issue on cross-examination of Mr. Barrett following his rebuttal testimony, see Hearing Tr. at 479:20-483:17, and FLZWC's expert did not present any evidence on this issue, or additional argument in his second Peer Review document. He simply referred to "[t]he prior comments" in item 5.c of Peer Review I, which addressed the issue of pure tones and use of the alternative method of ground attenuation calculation. See Peer Review II at 1. As with his argument regarding low frequency sound and ground attenuation, Mr. Bahtiarian offers only his speculation, and no evidence. See e.g. Hearing Tr. at 286:8-16 (using an octave band analysis would "*potentially* preserve a pure tone characteristic" (italics added)); Peer Review I at 4 (with respect to heavy duty vehicles, "*in some cases the sound may* contain strong pure tones" (italics added)).

Based on the record, I hold that Applicant has satisfied its burden to demonstrate that its use of the "alternative method" of calculating ground effect attenuation under ISO 9613-2 was appropriate. Applicant made a credible and sufficient showing that all three conditions for using Equation (10) were satisfied, and FLZWC did not rebut this showing.

5. Atmospheric Attenuation and ISO 9613-2 Equation (8)

Applicant utilized ISO 9613-2 equation (8) to calculate attenuation resulting from atmospheric absorption. See Initial Noise Assessment, Hearing Ex. E, at 17; see also ISO 9613-2, Hearing Ex. Q, at 5, § 7.2. According to ISO 9613-2, "[t]he atmospheric attenuation coefficient depends strongly on the frequency of the sound, the ambient temperature and relative humidity of the air…." Hearing Ex. Q at 5, note 8.

Mr. Bahtiarian asserted two objections regarding Applicant's calculation of atmospheric attenuation. First, as with ground attenuation, he objected to the frequency utilized by Applicant in its analysis (in this case 500 Hz) stating that "the actual controlling frequency of heavy trucks can be much lower in frequency resulting in lower absorption coefficients." Peer Review I at 4. Second, Mr. Bahtiarian argued that Applicant utilized "a typical spring or fall day" in its analysis, whereas "a slightly colder day" with the same relative humidity would have a lower sound absorption coefficient. See id. Each of these objections is addressed below.

a. Low Frequency Sound

According to Mr. Barrett, there is, in general, less atmospheric absorption for lower frequency than mid-frequency sound. See Hearing Tr. at 212:19-25; see also Appl. Rebuttal at 7 (atmospheric attenuation generally increases with rising frequency). To calculate the atmospheric absorption applicable here, Applicant utilized a frequency of 500 hertz, a mid-range frequency. See Initial Noise Assessment, Hearing Ex. E, at Appendix D n. 1; see also Hearing Tr. at 143:25-144:7.

As discussed above with respect to berm and ground attenuation, Applicant's expert disagrees with FLZWC's expert assertion that the controlling frequency of heavy trucks "can be much lower in frequency" than 500 hertz. See e.g. Appl. Rebuttal at 7. As discussed above, Applicant's position is that the controlling frequency for heavy duty trucks "is closer to 800 hertz." Hearing Tr. at 143:25-144:3; 142:20-23. According to Mr. Barrett, the use of 500 hertz rather than 800 hertz for calculating atmospheric attenuation was conservative, because there would be greater atmospheric attenuation at higher frequencies. See id. at 142:20-143:3; 143:25-144:3.

In his initial Peer Review, FLZWC's expert Mr. Bahtiarian asserts that a lower sound absorption coefficient would result "[i]f a lower frequency value was used such as 125 Hertz." Peer Review I at 4. Mr. Bahtiarian provides no evidence that the 125 hertz figure is appropriate for the equipment at the landfill.[31] Although Mr. Bahtiarian testified regarding the weather-

[31] Nor does Mr. Bahtiarian provide any citation for his use of this number. It may be that he is simply utilizing the numbers in Table 2 in ISO 9613-2. Compare Peer Review I at 4 (stating that the sound absorption coefficient would be 0.4 dB/km assuming a temperature of 10º C and a frequency of 125 Hertz), and ISO 9613-2, Hearing Ex. Q, at 5,

related aspect of calculating atmospheric attenuation, he provided no testimony regarding his objection to Applicant's use of 500 hertz for the frequency portion of the calculation.

b. Weather

The ISO standard provides that, "[f]or calculation of environmental noise levels, the atmospheric attenuation coefficient should be based on average values determined by the range of ambient weather which is relevant to the locality." ISO 9613-2, Hearing Ex. Q, at 5, note 9. In accordance with ISO 9613-2, Applicant determined the average temperature and humidity during the seven month period of April through October, when it is most likely that windows are open. See Appl. Rebuttal at 6-7.

Mr. Bahtiarian does not object to the use of an average temperature and humidity, but asserts that using a lower temperature (and a lower frequency) would result in a lower coefficient. See Peer Review I at 4. He admits, however, that the ISO standard allows use of the average. See Hearing Tr. at 291:9-14. Rather, the focus of Mr. Bahtiarian's testimony at the hearing was on the level of conservatism of the calculation. He testified that the most conservative calculation would be to use atmospheric conditions with the least amount of attenuation. See id. at 292:9-13. Even using that as the "worst-case scenario," however, Mr. Bahtiarian stated that the extent of atmospheric attenuation would just "go down a small amount." Id. at 449:14-21. He did not specify a worst case scenario applicable to the landfill; nor did he provide an actual calculation or numerical result. Nor did he provide a citation to any authority stating that use of averages, as explicitly allowed under ISO 9613-2, is prohibited under the relevant regulations.

Thus, FLZWC's argument is hypothetical and tautological: If one were to change the inputs relating to weather conditions a certain way, atmospheric attenuation would be lower. Based on the record, I hold that Applicant has satisfied its burden to demonstrate that its calculation of atmospheric attenuation under ISO 9613-2 Equation (8) was appropriate, and FLZWC did not rebut Applicant's showing.

6. Margin of Error

Mr. Bahtiarian argues that, because ISO 9613 "states that the accuracy of the computations is ±3 dB … a result of 57 dB(A) is actually 54 to 60 dB(A)." Peer Review I at 4. In response, Applicant's expert Mr. Barrett argues that this in effect reduces the compliance level from 57 dBA to 54 dBA. See Appl. Rebuttal at 9. Mr. Barrett states that he is not aware of any case in which the Department has required this to be accounted for in meeting a noise standard, or any similar practice with regard to environmental noise levels among any federal or state agencies. See id.; see also Hearing Tr. at 145:8-146:25.

In his second Peer Review, Mr. Bahtiarian states that he

Table 2 (chart of atmospheric attenuation coefficients based upon temperature, relative humidity and frequency). He provides no link, however, between use of these numbers and the realities at the landfill.

> continues to question that the entirety of the landfill site will not have sound levels in excess of 57 dB(A) given than [sic] the current total estimated sound level of 54-55 dB(A) is just 3-4 decibels from being over the 6 NYCRR Part [sic – should be "§"] 360-1.14(p) limits for daytime.

Peer Review II at 2 (emphasis in original).

FLZWC's expert Mr. Bahtiarian has not cited any case or agency authority to support the position that regulatory compliance limits should be reduced by the amount of the margin of error inherent in calculating noise levels (i.e., in this case, noise levels exceeding 54 dBA would thereby exceed the regulatory limit of 57 dBA). Section 360-1.14(p) does not discuss margin of error, and does not require reducing compliance levels by the amount of a margin of error inherent in calculations. I hold that FLZWC's argument is unsupported and, hence, unavailing.

F. The Parties' Post-Hearing Submissions

1. Applicant's Supplemental Assessment

After the adjudicatory hearing, Applicant obtained three additional noise easements located near the soil borrow area. Applicant thereafter prepared and, with the consent of FLZWC, submitted a report entitled Supplemental Assessment of Soil Borrow Area Sound Levels, Barton & Loguidice (June 3, 2015) ("Suppl. Assessment"), Hearing Ex. T. According to Applicant, the additional noise easements increase the distance from landfill operations to the "compliance property lines" under 6 NYCRR § 360-1.14(p). See Suppl. Assessment at 3.

Based upon the additional noise easements, Applicant identified new "closest receptors" at which to measure sound levels for determining compliance with the noise regulation. See id., Table 1 (identifying receptors R11, R12, R13; see also id. Figure 1 (map entitled "Supplemental Assesment [sic] of Soil Borrow Area Sound Levels Update Noise Easement & Receptor Location Plan"). The Supplemental Assessment included an assessment of the combined noise to be generated by and around the working face and the soil borrow area, and by the on-site flares. See Suppl. Assessment at 5. Applicant performed these calculations using two different values for the noise levels generated at the soil borrow area: (i) 86 dBA at 50 feet, which was the number taken from the Department Program Policy DEP-00-1, rather than from the actual (lower) measurements taken in the field, for use in the initial assessment; and (ii) 77 dBA at 50 feet, which was the higher of two values obtained from actual measurements of borrow area activities. See id. at 6-7.

With respect to noise from and around the working face and the soil borrow area, Applicant utilized attenuation factors from ISO 9613-2 – geometric divergence, ground effects and atmospheric attenuation – but assumed no soil berm would be in place, so no 5 dB or other reduction was taken due to the soil berm. See id. at 4, 6. In addition, geometric divergence was the only attenuation factor applied for the flare noise although, according to Applicant, other attenuation factors could have been applied. See id. at 6.

Based upon the analysis, none of the combined Leqs exceeded the 57 dBA regulatory limit. The results utilizing the soil borrow area noise level of 86 dBA, taken from DEP-00-1, were as follows for each of the three closest receptors: (i) for R11, 54 dBA; (ii) for R12, 54 dBA; and (iii) for R13, 55 dBA. See id. at 6, Table 2; see also id., Appendix C. The results of the calculations utilizing the higher of the measured sound levels at the soil borrow area – that is, 77 dBA at 50 feet – were even lower, as follows: (i) for R11, 53 dBA; (ii) for R12, 53 dBA; and (iii) for R13, 53 dBA. See id. at 7, Table 3; see also id. Appendix D.

2. FLZWC's Peer Review II

Following Applicant's submission of the Supplemental Assessment, FLZWC's expert Bahtiarian prepared and submitted a document entitled "Peer Review Ontario County Landfill, Supplemental Noise Assessment Report," dated June 12, 2015 ("Peer Review II"). Mr. Bahtiarian does not claim that Applicant made mistakes in its calculations, but reiterates his preference for the "octave band methodology" over the A-weighted basis utilized by Applicant. See Peer Review II at 1. FLZWC cites no legal requirement for the use of the octave band methodology. Moreover, as discussed above, ISO 9613-2 explicitly provides that the methodology utilized by Applicant is acceptable under circumstances such as those presented here. See e.g. ISO 9613-2, Ex. Q at 7, § 7.3.2 (identifying alternative method of calculation for A-weighted sound pressure levels under certain specific conditions).

Mr. Bahtiarian also reiterates his view that Applicant should have included additional noise sources in the analysis, including the GTE Plant and truck noise at various locations within the site. See Peer Review II at 2. Moreover, he states that he "continues to question that the entirety of the landfill site will not have sound levels in excess of 57 dB(A) given than [sic] the current total estimated sound level of 54-55 dB(A) is just 3-4 decibels from being over the [regulatory] limits for daytime." Id. Mr. Bahtiarian does not explain why, in his view, these assessment results – clearly below the regulatory limit – are not acceptable. Nor has he conducted his own noise assessment.

Finally, Mr. Bahtiarian provides a bulleted list of "areas of concern," but without explanation or citation to authority. See id. For example, Mr. Bahtiarian states that "[t]errain and other areas of sound reflection were not included in the computation," id., but failed to offer any calculations or analysis to show that including such information would have resulted in noise levels exceeding the regulatory limit. Moreover, these issues were addressed by Applicant's expert Mr. Barrett on cross-examination by FLZWC's counsel including, for example, testimony that ground reflection is actually incorporated into the ground attenuation analysis in ISO 9613-2. See Hearing Tr. at 220:12-221:23.

Mr. Bahtiarian also contends that "[s]ound flanking around the soil borrow area berms was not addressed." Peer Review II at 2. Although this was true with respect to Applicant's Initial Noise Assessment which, as discussed above, applied an attenuation "credit" for the soil berm, it is irrelevant to Applicant's Supplemental Assessment, which assumed that no berm would be in place. Assuming no berm would be in place, no "flanking" of sound around such berm would occur. See Suppl. Assessment at 4, 6.

I have considered FLZWC's other objections and criticisms, and find them to be without merit.[32]

V. Conclusion and Recommendation

Applicant Ontario County has satisfied its burden to demonstrate that its proposal will be in compliance with all applicable laws and regulations administered by the Department. See 6 NYCRR § 624.9(b)(1). It is my recommendation that the Commissioner direct Department staff to finalize and issue the permits applied for, authorizing Applicant Ontario County to proceed with its proposed landfill expansion.

[32] FLZWC offered no evidence at the hearing regarding proposed issue no. 4, "[t]he County should not be allowed to rely on proposed post-permit mitigations." In its post- hearing brief, FLZWC states that, with respect to this issue, it is relying on the argument in its Amended Supplemental Petition. See FLZWC Post-Hrg. Br. at 3. In the petition, FLZWC argued that compliance with the noise regulation prior to permit issuance is required, and that "the County should not be allowed to rely on post-permit noise monitoring to ensure the Part [sic – should be "section"] 360-1.14(p) will not be exceeded. Amended Suppl. Pet. at 21-22. Because I hold that Applicant has satisfied its pre-permit burden to demonstrate compliance with section 360-1.14(p), it will not be relying on post-permit noise monitoring to ensure compliance. FLZWC's argument is moot.

ADJUDICATORY HEARING EXHIBIT LIST

Matter of Ontario County Proposed Landfill Expansion

DEC Application Nos. 8-3244-00004/00007, 00001, and 00021

Exhibit	Description
A	Douglas Barrett Resume
B	Cory McDowell Resume
C	Jeffrey Reed Resume
D	Draft Part 360 Permit, April 13, 2015
E	Operating Noise Impact Assessment, Barton & Loguidice, Sept. 2013, rev. May 2014[33]
F	Figure 1, Project Site & Off-Site Receptor Locations, Operating Noise Impact Assessment (As Corrected)
G	Environmental Monitoring Plan (Appendix I), Excerpt
H	Sheet 10, Noise Monitoring Location Plan, January 2015
I	Rebuttal Report, Sanchez Industrial Design, Inc., April 30, 2015
J	Supplemental Monitoring and Assessment of Landfill Gas Flare Sound Levels, Barton & Loguidice, May 5, 2015
K	Exiting Flare Sound Level Measurement Location Plan, April 2015
L	Proposed Expansion Flare Location Plan, April 2015
M	Assignment of Noise Easements
N	Michael Bahtiarian Resume
O	Peer Review Ontario County Landfill, Noise Assessment, Noise Control Engineering, LLC (Bahtiarian), March 9, 2015
P	Draft Title V Air Permit, January 28, 2015, with Permit Review Report, January 30, 2015
Q	ISO-9613-2, Acoustics – Attenuation of sound during propagation Outdoors – Part 2: General method of calculation (1st Ed., Dec. 15, 1996)
R	[NONE][34]
S	FHWA Traffic Noise Model Technical Manual Excerpt (Cover page and page 41), February 1998
T	Supplemental Assessment of Soil Borrow Area Sound Levels, Barton & Loguidice, June 3, 2015

[33] The parties stipulated on the record at the hearing to delete from the Initial Noise Assessment the final sentence of section 11.0, page 23. See Hearing Tr. at 240:25-241:20. In accordance with the parties' stipulation, that portion of the Initial Noise Assessment has been redacted.

[34] FLZWC marked proposed Exhibit R for identification (engine specifications). See Hearing Tr. at 270:12-23. Applicant's objections to this exhibit, as well as testimony concerning noise generated by the GTE Plant, were sustained, and the proposed exhibit was not received into evidence. See id. at 278:17-19.