A. INTRODUCTION

The noise analysis considers the noise levels that would be produced by operation of the Proposed Project and Phase 1, and whether that noise could result in significant adverse noise impacts on the surrounding area. The noise impact assessment examines noise generated by traffic traveling to and from the Phase 1 Site, the operation of mechanical equipment associated with Phase 1, and the operation of the proposed harness horse racetrack. A separate analysis of noise levels during construction of the Proposed Project is provided in Chapter 18, "Construction."

The analysis in this chapter concludes that Phase 1 will not result in significant adverse noise impacts at nearby receptors due to the operation of the proposed harness horse racetrack. Furthermore, any mechanical equipment associated with Phase 1 will be designed to avoid noise impacts, and residential buildings associated with the Proposed Project will be designed to provide sufficient window/wall attenuation to result in generally acceptable interior noise levels. At receptor site 1, which is representative of residences along Joyland Road near Lorraine Drive, traffic associated with Phase 1 will be expected to result in noise level increases and total noise levels that will constitute a significant impact according to New York State Department of Environmental Conservation (NYSDEC) criteria. At other locations in the study area, traffic associated with Phase 1 could potentially result in noticeable noise level increases, but will not result in significant noise impacts according to NYSDEC criteria.

NOISE FUNDAMENTALS

GENERAL EFFECTS

Quantitative information on the effects of airborne noise on humans is well documented. If sufficiently loud, noise may adversely affect humans in several ways. For example, noise may interfere with human activities, such as sleep, speech communication, and tasks requiring concentration or coordination. It may also cause annoyance, hearing damage, and other physiological problems. Although it is possible to study these effects on humans on an average or statistical basis, it must be remembered that all the stated effects of noise vary greatly with the individual. Several noise scales and rating methods are used to quantify the effects of noise on humans. These scales and methods consider such factors as loudness, duration, time of occurrence, and changes in noise level with time.

"A"-WEIGHTED SOUND LEVEL (DBA)

Noise is typically measured in units called decibels (dB), which are 10 times the logarithm of the ratio of the sound pressure squared to a standard reference pressure squared. Because loudness is important in the assessment of the effects of noise on humans, the dependence of loudness on frequency must be taken into account in the noise scale used in environmental assessments.

Frequency is the rate at which sound pressures fluctuate in a cycle over a given quantity of time, and is measured in Hertz (Hz), where 1 Hz equals 1 cycle per second. Frequency defines sound in terms of pitch components. In the measurement system, one of the simplified scales that accounts for the dependence of perceived loudness on frequency is the use of a weighting network—known as A-weighting—that simulates response of the human ear. For most noise assessments, the A-weighted sound pressure level in dBA units is used in view of its widespread recognition and its close correlation with perception. In this analysis, all measured noise levels are reported in dBA or A-weighted decibels. Common noise levels in dBA are shown in **Table 13-1**.

Table 13-1
Common Noise Levels

Sound Source	(dBA)
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Freight train at 30 meters	95
Train horn at 30 meters	90
Heavy truck at 15 meters	
Busy city street, loud shout	80
Busy traffic intersection	
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas or residential areas close to industry	
Background noise in an office	50
Suburban areas with medium density transportation	
Public library	40
Soft whisper at 5 meters	30
Threshold of hearing	0

Note: A 10 dBA increase in level appears to double the loudness, and a 10 dBA decrease halves the apparent loudness.
Source: Cowan, James P. Handbook of Environmental Acoustics. Van Nostrand Reinhold. New York. 1994.
Egan, M. David. Architectural Acoustics. McGraw-Hill Book Company. 1988.

COMMUNITY RESPONSE TO CHANGES IN NOISE LEVELS

The average ability of an individual to perceive changes in noise levels is well documented (see **Table 13-2**). Generally, changes in noise levels less than 3 dBA are barely perceptible to most listeners, whereas 10 dBA changes are normally perceived as doublings (or halvings) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 13-2
Average Ability to Perceive Changes in Noise Levels

Change (dBA)	Human Perception of Sound
2-3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A dramatic change
40	Difference between a faintly audible sound and a very loud sound

Source: Bolt, Beranek and Newman, Inc. *Fundamentals and Abatement of Highway Traffic Noise*, Report No. PB-222-703. Prepared for Federal Highway Administration. June 1973.

NOISE DESCRIPTORS USED IN IMPACT ASSESSMENT

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise over extended periods have been developed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted as $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x, are used to indicate noise levels that are exceeded 1, 10, 50, 90 and x percent of the time, respectively. Discrete event peak levels are given as L_1 levels. L_{eq} is used in the prediction of future noise levels, by adding the contributions from new sources of noise (i.e., increases in traffic volumes) to the existing levels and in relating annoyance to increases in noise levels.

The relationship between L_{eq} and levels of exceedance is worth noting. Because L_{eq} is defined in energy rather than straight numerical terms, it is not simply related to the levels of exceedance. If the noise fluctuates very little, L_{eq} will approximate L_{50} or the median level. If the noise fluctuates broadly, the L_{eq} will be approximately equal to the L_{10} value. If extreme fluctuations are present, the L_{eq} will exceed L_{90} or the background level by 10 or more decibels. Thus the relationship between L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements, it has been observed that the L_{eq} is generally between L_{10} and L_{50}. The relationship between L_{eq} and exceedance levels has been used in this analysis to characterize the noise sources and to determine the nature and extent of their impact at all receptor locations.

For the purposes of this analysis, the maximum 1-hour equivalent sound level ($L_{eq(1)}$) has been selected as the noise descriptor to be used in the noise impact evaluation. $L_{eq(1)}$ is the noise descriptor used by most governmental agencies, including the NYSDEC for noise impact evaluation, and is used to provide an indication of highest expected sound levels.

NOISE STANDARDS AND IMPACT CRITERIA

TOWN OF THOMPSON TOWN CODE NOISE CONTROL LAW

The Town of Thompson Noise Control Law, Chapter 170 of the Town Code of Thompson, NY, prohibits "unreasonably loud, disturbing and unnecessary noise between the hours of 8:00 PM and 7:00 AM during any weekday and between the hours of 8:00 PM and 9:00 AM on any Sunday or holiday." Specific noise level restrictions are not set forth in the law, although certain

activities are prohibited, such as the use of an amplifying or public-address system between the hours of 7:00 PM and 9:00AM.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NYSDEC has published a policy and guidance document, *Assessing and Mitigating Noise Impacts* (DEP-00-1, February 2, 2001), which presents noise impact assessment methods, identifies thresholds for significant impacts, and discusses potential avoidance and mitigative measures to reduce or eliminate noise impacts.[1]

NYSDEC's guidance document sets forth thresholds that can be used in determining whether a noise increase due to a project may constitute a significant adverse impact, noting that these thresholds should be viewed as guidelines subject to adjustment as appropriate for the specific circumstances. According to DEP-00-1:

- Increases in noise ranging from 0 to 3 dBA should have no appreciable effect on receptors;
- Increases of 3 to 6 dBA may have the potential for adverse impacts only in cases where the most sensitive of receptors (e.g., hospital or school) are present;
- Increases of more than 6 dBA may require a closer analysis of impact potential depending on existing noise levels and the character of surrounding land use and receptors; and
- Increases of 10 dBA or greater deserve consideration of avoidance and mitigation measures in most cases.

The guidance document also sets forth noise thresholds that can be used in identifying whether a noise level due to a project should be considered a significant adverse impact. According to the guidance, the addition of any noise source in a non-industrial setting should not raise the ambient noise level above a maximum of 65 dBA, and ambient noise levels in industrial or commercial areas may exceed 65 dBA with a high end of approximately 79 dBA. As set forth in the guidance, projects that exceed these levels should explore the feasibility of implementing mitigation.

PROJECT IMPACT CRITERIA

For purposes of this impact assessment, consistent with NYSDEC guidance, operations that will result in an increase of more than 6.0 dBA in ambient $L_{eq(1)}$ noise levels at receptor sites and produce ambient noise levels of more than 65 dBA at residences or 79 dBA at an industrial or commercial area will be considered to be a significant adverse noise impact resulting from the Proposed Project or Phase 1. These criteria are consistent with the NYSDEC guidance document.

[1] http://www.dec.ny.gov/docs/permits_ej_operations_pdf/noise2000.pdf.

B. COMPREHENSIVE DEVELOPMENT PLAN (DGEIS)

EXISTING CONDITIONS

SELECTION OF NOISE RECEPTOR LOCATIONS

Noise from operation of the Proposed Project was considered at six locations near the Project Site (shown in **Figure 13-1**):

- Site 1: Lorraine Drive between Joyland Road and Towner Road. Existing noise measurements were conducted here on April 20 and 29, 2012.
- Site 2: Joyland Road between NYS Route 17 and Lorraine Drive. Existing noise measurements were conducted here on April 20 and 29, 2012.
- Site 3: Joyland Road between Lorraine Drive and Thompsonville Road. Existing noise measurements were conducted here on April 20 and 29, 2012.
- Site 4: Northeast corner of Thompsonville Road and Joyland Road. Existing noise measurements were conducted here on April 20 and 29, 2012.
- Site 5: Downs Road at Melissa Terrace. Existing noise measurements were conducted here on April 20 and 29, 2012.
- Site 6: Thompsonville Road between Rock Ridge Drive and Joyland Road. Existing noise measurements were conducted here on April 20 and 29, 2012.

These locations represent the noise-sensitive land uses that would be most likely to experience noise level increases due to the Proposed Project or Phase 1 because of their proximity to the Project Site and the roadways leading to and from the Project Site. Other sensitive land uses in the area would be expected to experience less noise resulting from the Proposed Project or Phase 1 than these sites.

NOISE MONITORING

At each site, 20-minute measurements were made on a weekday for the Friday evening peak (5:00 PM to 6:00 PM) and Sunday afternoon peak (3:30 PM to 4:30 PM) time periods. Based on past experience at similar locations, 20-minute measured noise levels are representative of 1-hour measured levels.

EQUIPMENT USED FOR NOISE MONITORING

Measurements were performed using Brüel & Kjær Sound Level Meters (SLMs) Type 2260, 2250, and 2270, Brüel & Kjær ½-inch microphones Type 4189, and a Brüel & Kjær Sound Level Calibrator Type 4231. The SLMs had laboratory calibration dates within one year of the measurements used in this analysis. The Brüel & Kjær SLMs are Type 1 instruments according to American National Standards Institute (ANSI) Standard S1.4-1983 (R2006). At each receptor site, the instrument was mounted approximately 5 to 6 feet above grade. The microphone was positioned to avoid the effects on sound propagation of any large reflecting surfaces. The SLMs were field checked before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator using the appropriate adaptor. Measurements were made on the A-scale (dBA). The data were digitally recorded by the SLM. Measured quantities included the $L_{eq(1)}$ values. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

RESULTS OF MEASUREMENTS

Table 13-3 below shows the measured existing noise levels.

Table 13-3
Existing Noise Levels at Noise Receptor Sites (dBA)

Site	Location	Time	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	Lorraine Drive between Joyland Road and Towner Road	Friday Evening	60.0	67.3	61.9	59.0	56.2
		Sunday Afternoon	51.3	60.4	52.0	49.1	46.8
2	Joyland Road between Route 17 and Lorraine Drive	Friday Evening	55.4	60.5	57.4	54.5	51.7
		Sunday Afternoon	49.3	55.4	51.5	48.4	45.5
3	Joyland Road between Lorraine Drive and Thompsonville Road	Friday Evening	56.8	71.6	51.9	44.8	42.1
		Sunday Afternoon	44.4	50.8	46.7	42.8	39.5
4	Northeast corner of Thompsonville Road and Joyland Road	Friday Evening	47.4	59.2	48.1	40.0	36.8
		Sunday Afternoon	51.4	60.0	53.0	46.6	41.6
5	Downs Road at Melissa Terrace	Friday Evening	43.1	50.6	43.3	39.1	36.1
		Sunday Afternoon	50.6	56.0	51.8	46.0	40.8
6	Thompsonville Road between Rock Ridge Drive and Joyland Road	Friday Evening	55.0	66.9	55.5	51.9	49.8
		Sunday Afternoon	47.8	56.8	49.2	46.0	43.2

Note: Field measurements were performed by AKRF, Inc. on April 20 and 29, 2012.

As shown in Table 13-3, $L_{eq(1)}$, noise levels ranged from relatively low to moderate depending on the location and day. The dominant noise source at all measurement locations was vehicular traffic on NYS Route 17 with some contribution from traffic on adjacent roadways, and noise levels reflect the level of traffic on these roadways.

THE FUTURE WITHOUT THE PROPOSED ACTIONS AND PROPOSED PROJECT

Of the No Build projects discussed in Chapter 2, "Land Use and Community Character, Zoning, and Public Policy," the CALP project is the closest in proximity to the Proposed Project and thus the project most likely to influence noise levels in areas around the Proposed Project. The CALP project was the subject of a 2006 DGEIS. Based on the noise analysis in the 2006 DGEIS and the April 11, 2008, letter to the Town Planning Board regarding the environmental impacts of the CALP-proposed harness horse racetrack, it can be expected that noise levels in the future without the Proposed Project will increase slightly due to increased traffic on roadways in the study area associated with natural growth and with the CALP project and other projected future developments. Further, the noise impacts from the CALP project, as defined in Chapter 2, will be largely along NYS Route 42, Concord Road, and Kiamesha Lake Road. The Proposed Project is not anticipating locating any sensitive receptors near these areas.

PROBABLE IMPACTS OF THE PROPOSED ACTIONS AND PROPOSED PROJECT

Noise levels in the future with the Proposed Project will be expected to increase as a result of increased traffic traveling to and from the Project Site and additional mechanical equipment associated with the full build out of the Proposed Project. Furthermore, noise levels at the Project Site itself will also increase as a result of these same noise sources. Increased traffic noise in the future with the Proposed Project may result in perceptible and or readily noticeable noise level increases at some nearby sensitive receptors due to the low levels of traffic and noise

5.17.12

Project Site Boundary

① *Noise Receptor Locations*

0 1000 2000 FEET

SCALE

Noise Receptor Locations

Figure 13-1

in the existing condition and the substantial increases in traffic associated with the Proposed Project. The Proposed Project's mechanical systems would be designed to meet all applicable noise regulations and to avoid producing levels that would result in any significant increase in ambient noise levels.

A qualitative discussion of potential construction related noise impacts associated with the development of the Proposed Project is presented in Chapter 18, "Construction," of this document.

The PRD currently permits seasonal and year-round outdoor recreational, cultural, sports, and amusement uses, including but not limited to snowmobiling, skiing, and trap and skeet shooting as allowable activities. The proposed PRD zoning text amendments clarify the types of outdoor recreational uses that would be permitted in the PRD by specifically mentioning certain activities such as ice skating, horse drawn sleigh rides, and off-road motorized and non-motorized vehicles. However, no uses of all-terrain vehicles (ATV's) are proposed as part of the CDP. As with any other proposed use, if ATV use is included in a future phase of the Proposed Project, the potential impact and mitigation of that use will be considered at the time of approval.

MITIGATION

PROCESS FOR MITIGATING IMPACTS IN FUTURE PHASES

Future phases of the Proposed Project will be subject to environmental analysis, as required by SEQRA, at the time of their application for site plan approval. If any significant adverse noise impacts are anticipated, measures to mitigate those impacts would, to the extent practical, be implemented. Mitigation proposed will include those required to offset significant impacts resulting from both stationary and mobile sources.

POTENTIAL MOBILE SOURCE NOISE MITIGATION

As specific uses are identified and development programs set for each future phase of the Proposed Project, noise from mobile sources (traffic) will be assessed. If noise levels from project-generated vehicle trips results in a significant impact, a variety of mitigation measures will be considered. Depending on the location, type, and configuration of the noise receptor(s) affected, the most appropriate mitigation techniques will be proposed. These measures could include noise barriers, noise-attenuating windows and other building materials, and traffic management measures such as speed limitations and traffic calming measure. Implementation of proposed mitigation measures deemed necessary would depend on many things including physical constraints and property owner consent.

BUILDING ATTENUATION AT PROJECT RESIDENTIAL BUILDINGS

Residential structures included in the Proposed Project could include double-glazed windows and an alternate means of ventilation (i.e., air conditioning), which would provide sufficient attenuation to ensure interior noise levels less than 45 dBA, which is a generally accepted interior noise level threshold for residential uses.

TOWN OF THOMPSON TOWN CODE NOISE CONTROL LAW

The Town of Thompson Noise Control Law, Chapter 170 of the Town Code of Thompson, NY, prohibits "unreasonably loud, disturbing and unnecessary noise between the hours of 8:00 PM and 7:00 AM during any weekday and between the hours of 8:00 PM and 9:00 AM on any Sunday or holiday." Specific noise level restrictions are not set forth in the law, although certain activities are prohibited, such as the use of an amplifying or public address system between the hours of 7:00 PM and 9:00 AM.

C. SITE-SPECIFIC DEVELOPMENT OF PHASE 1 (DEIS)

EXISTING CONDITIONS

The existing conditions for the Phase 1 Site are the same as those described above for the Proposed Project.

THE FUTURE WITHOUT THE DEVELOPMENT OF PHASE 1

Without the development of Phase 1, noise levels in the vicinity of the Phase 1 Site would be similar to existing conditions. There would be no appreciable change in noise levels. Future noise levels would be expected to be within 1 dBA of existing noise levels.

PROBABLE IMPACTS OF THE DEVELOPMENT OF PHASE 1

This assessment examines noise associated with the development of Phase 1 due to vehicular traffic and from the operation of the harness horse racetrack.

METHODOLOGY

Mobile Source Noise Methodology

FHWA's Traffic Noise Model (TNM) version 2.5 was used to model noise from vehicular traffic traveling to and from the Project Site. The TNM is a computerized model developed for the FHWA that calculates the noise contribution of each roadway segment to a given noise receptor. The noise from each vehicle type is determined as a function of the reference energy-mean emission level, corrected for vehicle volume, speed, roadway grade, roadway segment length, and source-receptor distance. Further considerations included in modeling the propagation path include identifying the shielding provided by rows of buildings, analyzing the effects of different ground types, identifying source and receptor elevations, and analyzing the effects of any intervening noise barriers.

Specifically, the analysis procedure consisted of the following at each receptor site:

- Existing noise levels were determined for each analysis time period by performing field measurements.
- The TNM was used to calculate existing noise levels resulting from local streets based on existing traffic data. The existing noise resulting from local streets was subtracted from the total measured existing noise level, and the remainder was assumed to be attributable to traffic along the nearby NYS Route 17 corridor.
- Based on the results of the traffic study, future noise levels resulting from local streets with Phase 1 were calculated using the TNM.

- Total noise levels with Phase 1 were calculated by logarithmically adding the future noise levels resulting from local streets and the noise level attributed to the traffic along the NYS Route 17 corridor, which was assumed not to change in the future with Phase 1.
- Noise level increments associated with Phase 1 were calculated by subtracting the measured existing noise levels from the calculated total noise levels.
- Future noise level increments and total noise levels were compared with applicable noise impact criteria.

Harness Horse Racetrack Noise Methodology

Noise levels produced by the harness horse racetrack were predicted based upon noise levels measured at Monticello Raceway in Monticello, NY during a day of harness horse racing on April 17, 2012 (see Appendix K). The public address system was the dominant noise source at the Monticello Raceway during this event. Noise measurements were performed at a location on the Raceway property adjacent to the spectator area where the public address system was located. Based on these measurements, the maximum noise level at a distance of 50 feet from the spectator area was found to be 59.6 dBA, generated primarily by the public address system at the track. This noise level was adjusted assuming a 6 dBA drop-off in noise level for each doubling of distance to determine the resultant noise levels at locations near the proposed harness horse racetrack.

Using the analysis methodologies described above, an assessment was made of changes in future $L_{eq(1)}$ noise levels at sensitive receptor sites near the Project Site.

MOBILE SOURCE NOISE IMPACTS

Using the methodology described earlier, future noise levels due to vehicular traffic associated with Phase 1 were calculated for the six noise receptor sites. These future noise levels are shown in **Table 13-4**.

Table 13-4
Future Noise Levels due to Vehicular Traffic (dBA)

Site	Time	Existing $L_{eq(1)}$	Future Build $L_{eq(1)}$	Project Increment
1	Friday Evening	60.0	66.5	6.5
	Sunday Afternoon	51.3	66.7	15.4
2	Friday Evening	55.4	57.9	2.5
	Sunday Afternoon	49.3	56.3	7.0
3	Friday Evening	56.8	57.2	0.4
	Sunday Afternoon	44.4	48.4	4.0
4	Friday Evening	47.4	56.3	8.9
	Sunday Afternoon	51.4	56.2	4.8
5	Friday Evening	43.1	43.2	0.1
	Sunday Afternoon	50.6	50.6	0.0
6	Friday Evening	55.0	55.0	0.0
	Sunday Afternoon	47.8	47.8	0.0

Comparing future with Phase 1 noise levels with existing noise levels, traffic associated with the Proposed Project would result in noise level increments at receptor sites 3, 5, and 6 of 4.0 dBA or less, which would be considered perceptible but not significant according to NYSDEC impact criteria.

At receptor site 2, which is representative of residences along Lorraine Drive near Joyland Road, during the Sunday Afternoon time period, traffic associated with Phase 1 will be expected to result in a noise level increase of 7.0 dBA and a total noise level of 56.3 dBA. This noise level increment will be readily noticeable and would exceed 6.0 dBA, which is NYSDEC's threshold for a significant noise level increase; however, the absolute level of 56.3 dBA would be well below NYSDEC's acceptable level for residential uses of 65 dBA. Consequently, traffic associated with Phase 1, while it would result in readily noticeable noise level increases during the Sunday Afternoon peak hour, will not result in a significant impact at receptor site 2.

At receptor site 4, which is representative of the residences at the northeast corner of Joyland Road and Thompsonville Road, during the Friday Evening time period, traffic associated with Phase 1 would be expected to result in a noise level increase of 8.9 dBA and a total noise level of 56.3 dBA. This noise level increment would be readily noticeable and would exceed 6.0 dBA, which is NYSDEC's threshold for a significant noise level increase; however, the absolute level of 56.3 dBA would be well below NYSDEC's acceptable level for residential uses of 65 dBA. Consequently, traffic associated with Phase 1, while it would result in readily noticeable noise level increases during the Friday Evening peak hour, will not result in a significant impact at receptor site 4.

At receptor site 1, which is representative of the one residence and five bungalows along Joyland Road between Lorraine Drive (Towner Road) and Cimarron Road, traffic associated with Phase 1 would be expected to result in a noise level increment of 6.5 dBA and total noise level of 66.5 dBA during the Friday Evening time period, and a noise level increment of 15.4 dBA and total noise level of 66.7 dBA during the Sunday Afternoon time period. Both of these potential noise level increments would exceed NYSDEC's threshold for a significant noise level increase of 6 dBA and would be considered readily to very noticeable. Furthermore, the total noise levels with Phase 1 would be expected to exceed NYSDEC's acceptable level for residential uses of 65 dBA. Consequently, traffic associated with Phase 1, due to its potential to result in readily noticeable noise level increases and absolute noise levels exceeding NYSDEC's recommended level for residential uses, will be expected to result in a significant impact at receptor site 1. However, as part of the Proposed Project, it is expected that the Applicant would acquire the properties along the west side of Joyland Road. Since these properties will remain unoccupied, no significant adverse noise impacts to the properties on the west side of Joyland Road would occur.

Harness Horse Racetrack Noise Impacts

Using the methodology described above, data collected at a harness horse racetrack similar to the one associated with the Proposed Project was used to predict the noise levels during harness horse racing at the Phase 1 Site. The nearest receptor location to the proposed harness horse racetrack is more than 800 feet from the track, and at that distance, the noise level generated by the track would be less than 36 dBA. This is much less than the measured noise levels at receptor locations surrounding the Project Site, and would consequently not result in any noise level increases that would be considered perceptible or significant according to NYSDEC criteria.

MECHANICAL EQUIPMENT NOISE IMPACTS

Mechanical systems (i.e., heating, ventilation, and air conditioning systems) for Phase 1 would include air handling units, condensing units, and water pumps, as well as supply and exhaust fans. These pieces of equipment would be located well away from nearby sensitive noise

receptors, and the system would be designed to meet all applicable noise regulations and to avoid producing levels that would result in any significant increase in ambient noise levels. Therefore, the Proposed Project would not result in any significant adverse noise impacts from mechanical equipment noise.

A qualitative discussion of potential construction related noise impacts associated with the development of Phase 1 is presented in Chapter 18, "Construction."

MITIGATION

Based on the analysis performed, operation of Phase 1 will not result in significant adverse noise impacts at nearby receptors due to the operation of the proposed harness horse racetrack according to NYSDEC noise impact guidance. Furthermore, any mechanical equipment associated with Phase 1 will be designed to avoid noise impacts, and residential buildings associated with Phase 1 will be designed to provide sufficient window/wall attenuation to result in generally acceptable interior noise levels.

At receptor site 1, which is representative of the one residence and five bungalows along Joyland Road between Lorraine Drive (Towner Road) and Cimarron Road, traffic associated with Phase 1 will be expected to result in noise level increases and total noise levels that would constitute a significant impact according to NYSDEC criteria. However, as part of the Proposed Project, it is expected that the Applicant would acquire the properties along the west side of Joyland Road. Since these properties will remain unoccupied, no significant adverse noise impacts to the properties on the west side of Joyland Road would occur. The residence located at the southeast corner of Joyland Road and Lorraine Drive (Towner Road) will be expected to experience noise levels that exceed the level considered acceptable by NYSDEC criteria. It will not be feasible to construct berms along Joyland Road at receptor site 1 because there is not sufficient space along the roadway and the Applicant does not own these parcels. While the installation of a noise-attenuating wall/fence could be considered, if desired by the property owners in this area, this would likely result in traffic safety issues as these walls/fences would obstruct motorists' views at the two nearby intersections and on the three roads in the area. This impact to traffic safety could also be considered significant and, as such, the use of walls/fences as mitigation for noise impacts would likely not be feasible. Further, because of the increase in traffic volumes along Joyland Road resulting from Phase 1, traffic management measures such as speed limitations would not be effective in mitigating the noise impact to the residence on the east side of Joyland Road associated with receptor site 1. As a mitigation measure for this residence, receptor controls, such as noise-attenuating windows and air conditioners, could be installed to bring interior noise levels within the acceptable range according to NYSDEC.

At other locations in the study area, traffic associated with Phase 1 could potentially result in noticeable noise level increases, but would not result in significant noise impacts according to NYSDEC criteria. ✷