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March 10, 2021

**VIA EMAIL**  
[Counsel@uscranellc.com](mailto:Counsel@uscranellc.com)

Mr. Timothy P. McColgan  
U.S. Crane & Rigging, LLC  
1520 Decatur Street  
Ridgewood, NY 11385

Re: 850 Route 28  
Town of Kingston, Ulster County, New York  
MC Project No. 20003360A

Dear Mr. McColgan:

The following items are in response to the letter addressed to Burke, Miele, Golden & Naughton, LLP from CHANGE Environmental dated March 16, 2020. The items are numbered according to their review comments.

1. February 2019 Noise Study

a. General:

- i. Thresholds of significance: Please clearly define the thresholds of significance that are used in the report.

***Response: The thresholds of significance are discussed and identified on Pages 7 and 8 of the updated Noise Evaluation dated March 9, 2021. This also includes a reference to the NYSDEC guidelines.***

- ii. Blasting: Vibration and groundborne noise from blasting activities is not assessed in the report, although the responses to comments indicate that blasting will occur. Blasting can generate high levels of vibration that could damage structures and result in annoyance to residents, even at large distances from blasting activities.

***Response: The rock removal procedures are described on Page 21 of the EAF Addendum. The potential noise and vibration impacts from blasting are described in the updated Noise Evaluation along with recommended mitigation measures. Note that the contractor will also have to develop a specific blasting plan for his planned operation and sequencing.***



- iii. Noise Modeling: It is unclear why noise modeling was not conducted to assess construction and operational impacts at residential and recreational lands surrounding the project site. Considering the large amount of topography and foliage located between the noise sources and the receptors and the large area of interest including both residential and recreational land uses, noise modeling would be a more accurate method of predicting this attenuation. As it is, without noise modeling, more explanation of how these noise reduction values were calculated is needed.

**Response:** *The updated Noise Evaluation includes additional noise level measurements for the area receptors collected during September 2020. The area was modeled to identify the effects of distance separation, berm/barrier considerations, some topographic effects as well as “leaf off” conditions, and other variables from the site to the various receptors. The projections are for both conditions during the site preparation and building construction phases as well as for the operations after the buildings are completed and functioning.*

- iv. Nighttime Ambient Noise Levels: The report does not include a discussion of nighttime ambient noise levels. Nighttime operations should be compared to nighttime ambient noise levels, which are typically lower than daytime levels.

**Response:** *The additional sound level readings completed in September 2020 included both daytime and nighttime ambient levels as described on Pages 4 and 5 of the updated Noise Evaluation.*

- v. Operational Noise: The report does not include a quantitative description of operational on-site or associated traffic noise at residences. Considering that operations are anticipated to occur 24-hours per day and ambient noise levels at residences are low, the potential for nighttime operations to awaken residents should be assessed.

**Response:** *The site operational and associated traffic noise increases as they relate to area residences were identified for both the during construction and operational phases based on the description of the operations provided by the Applicant and the traffic volume estimates from the traffic report prepared for the project by Creighton Manning Engineering. This information was used to compare the combined effect of projected traffic and operational sound levels to the ambient background nighttime sound levels to assess any potential impact on area residents. Mitigation measures were then identified to address any of these potential impacts.*

- vi. Mitigation Measures: The report does not include a quantitative description of mitigation measures or how they will result in noise impacts being reduced to a less than significant level.

**Response:** *The mitigation measures outlined in the updated Noise Evaluation include more specifics relative to the type of mitigation, more specifics relative to the height of both temporary and permanent berms and height of permanent noise attenuation fencing and these are depicted on the Sound Barrier Plan prepared by Medenbach and Eggers. The report also outlines other recommended mitigation measures to be implemented and recommends a subsequent noise monitoring to be conducted to verify that the actual noise levels compared to the projections for both the site preparation/construction phase and operational conditions fall within a 3 dBA threshold.*

- vii. Typos: There are many typos in this document that could potentially result in misreading of the analysis and results.

**Response:** *The updated Noise Evaluation addresses the results of the revised analysis for all conditions.*

b. 2.0 Ambient Noise Monitoring and 2.3 Methodology

- i. Measurements made on December 26 may not be representative of typical levels occurring at these sites. Traffic patterns in periods close to holidays can be atypical, resulting in noise levels and/or trends that may not occur during other periods of the year.

**Response:** *Additional noise measurements were collected in the surrounding area of the site during September 2020 to reflect conditions with more typical background traffic levels and the effect of other noise related variables.*

- ii. Please explain why dosimeters were used for the measurement of environmental noise. Typically, Type 1 or 2 (Class 1 or 2) sound level meters would be used for environmental measurements. Dosimeters are typically used to attain the daily noise dose, a person's daily exposure to noise over a work shift in an industrial setting.

**Response:** *The sound level measurements were collected using a Bruel and Kjaer Type 1-Precision Integrating Sound Level Meter-Type 2236. The use of the Type I Sound Level Meter (SLM) is consistent with the recommendations of NYSDEC as outlined in their document "Assessing and Mitigating Noise Improvements".*



- iii. Please clarify why surface elevation was included in the table in Section 2.2. Although topography does have a large effect on sound attenuation, this is not assessed quantitatively anywhere in the report. Perhaps a better parameter to list is distance.

**Response:** *The effects of both elevation differential and distance separation are reflected in the modeling contained in the updated Noise Evaluation. A separate evaluation of vegetative effects was completed to address “leaf off” conditions.*

c. 2.4 Ambient Survey Monitoring Results:

- i. Please clarify why fast response was used. Typically, slow response (1 sec averaging time) is used for environmental noise measurements, as it is representative of how humans perceive noise. Fast response (0.125 sec averaging time) is typically used only for noise sources which are impulsive in nature, such as a gunshot, and gives a falsely high maximum level results when compared to the more traditional slow response results.

**Response:** *At the time of the September 2020 measurements, the sound level meter (SLM) was calibrated using a B&K Acoustical Calibrator Model No. 4231 prior to measurements. Also, the measurements were collected utilizing the “slow response” setting on the SLM, which would be typical for evaluating the environmental noise conditions.*

- ii. Please confirm that all results use the A-Weighting network (dBA), as indicated in the first paragraph of Section 2.4. Use of the A-weighting network is traditionally indicated through use of the unit ‘dBA’. The report uses the unit ‘dB’, which would normally indicate that the results are unweighted. Further, review of Appendix C shows that both A and C-Weighted measurements were made. The A-Weighting network is representative of human hearing and is typically used for environmental noise studies where humans are the primary concern. The C-weighting network would not typically be used for environmental noise measurements unless high low-frequency content is anticipated, such as for wind turbines.

**Response:** *The measurements collected were recorded as A-Weighting measurements reflected in the dBA nomenclature as defined in the noise report. The A-Weighting network was used as described in the report to be representative of human hearing and is typical for such studies and as per the NYSDEC guidelines.*



- iii. Please clarify the reasons for the variations of run times selected for each location. Construction and operational noise levels should be calculated on an hourly or other defined time averaging basis. To compare project levels to ambient, like parameters should be compared. Use of different averaging times could skew the results.

**Response:** *The construction and/or operational noise levels were calculated to represent an hourly basis for comparison purposes for Build versus No-Build conditions both with and without mitigation.*

- iv. Given that operations are proposed for daytime and nighttime periods, please clarify why ambient noise measurements were not conducted at night when ambient levels would likely be lower.

**Response:** *The updated Noise Evaluation includes both daytime and nighttime measurements and evaluations of conditions with all contributing noise sources, including vehicle movements to and from the site, vehicle equipment movement on the site, HVAC mechanical sources, and other extraneous sounds from the enclosed buildings. As can be expected, the existing nighttime ambient levels were lower than the recorded existing daytime levels and these nighttime conditions were also evaluated for the operational phase.*

- v. In the paragraph beneath Table 2, the report claims “the Leq for the Site was 48.0 dB.” Please provide the data to back up this claim, as it does not appear in Table 2.

**Response:** *This table has been replaced in the updated Noise Evaluation and the Leq’s are now indicated for the various receptor locations in the tables contained in Appendix “B” of the evaluation.*

d. 2.5 Simulated Operating Monitoring Results:

- i. It would be helpful to have additional acoustical parameter results beside only the overall 1 h 24 min Leq average, so as to understand the characteristics of the equipment operation. For example, Lmax (the maximum 1-second average), L10 (the noise level exceeded 10% of the time), and L90 (the noise level exceeded 90% of the time).

**Response:** *In addition to the Leq’s, Lmax, L10, and L90 were also recorded at the time of the existing noise level data collection and are presented in the Appendix in the updated Noise Evaluation for reference.*

- ii. A better explanation of how the equipment was being operated (continuously, occasionally, or in a cycle of ongoing activities) would also be helpful. Also, the results show no indication of how much of the noise measured was associated with the simulated sound source and how much was due to other ambient sources.

**Response:** *The noise modeling assumed that the on-site equipment was operating in the cycle of ongoing activities. Also, ambient levels are included in the modeling based on background traffic levels and adjusted for actual field measurements.*

- iii. The noise levels shown in Table 3 are almost identical to what would be calculated using a straight 6 dB per doubling of distance for noise propagation. For logging station 13, the level in Table 3 is greater than that that would occur given distance attenuation. This indicates to me that foliage and other existing site characteristics and topography are not providing additional attenuation over the standard propagation (see below on comments concerning attenuation provided for foliage in Tables 4 to 7).

**Response:** *The revised noise levels shown in the various tables of the updated Noise Evaluation reflect not only the distance attenuation but also considers topographic features due to the changes in elevation.*

- iv. The text below the Table 3 describes the ambient levels and the levels generated with the simulated sound source. However, it fails to calculate the contribution of the sound source at each location and instead give only an increase between the two measured levels. The simulated noise source contribution can easily be calculated by subtracting the ambient from the simulated source level on an energetic basis. For example, for logging station 11,  $41.2 \text{ dB} - 39.3 \text{ dB} = 36.7 \text{ dB}$  contribution from the simulated source. This would be a much more useful method of approximating additional attenuation from topography and foliage.

**Response:** *Comment noted. The updated Noise Evaluation addresses this in more detail based on the additive effects of sound using the standard energy calculations.*

- v. The claim under Logging Station 11 that “the slight increase of 1.9 dB demonstrates how attenuating features (i.e., topography, vegetation, distance from source etc.) reduce facility-related noise” is unsubstantiated. As described above, from Table 3 it appears Logging Station 11 drops off at the traditional 6 dB per doubling of distance from the 100-foot reference location.





**Response:** *The receptor location has been revised in the updated Noise Evaluation and accounts for the adjustments for both the stationary point sources and line sources per doubling of distance and shows with and without “leaf out” vegetative affects.*

- vi. Likewise, the claim under Logging Station 12 that “an increase of 5.3 dB was observed between ambient and operating at this location because logging station 12 is 380 feet closer to the simulated sound source, and at the same elevation. This is why the increase in operating dB is larger at this location” is only partially substantiated. This larger difference is due to the combination of a lower ambient level (37.2 dB vs. 39.3 dB for Station 11) combined with being located 380 feet closer to the simulated noise source.

**Response:** *The information on ambient levels at the receptors has been revised in the updated Noise Evaluation and the updated modeling.*

- vii. Under Logging Station 12, the report states that “sound could be heard from the simulated sound source, but the predominate source of sound is State Route 28.” Given that the noise source results in a 5.3 dB increase at this location, it is hard to believe that the simulated noise source is not the dominant source. With an ambient level of 37.3 dB and an ambient plus simulated source level of 42.5 dB, the simulated source would have contributed a noise level of 41.0 dB, which is 3.7 dB higher than the ambient.

**Response:** *This information has been updated based on the more recently collected September 2020 sound level measurements and other updated sound level computations as contained in the Noise Evaluation Study.*

e. 3.1 Projected Sound Levels at Receptors:

- i. Please provide references for the noise levels indicated in Table 3. Note that 96 dB at a distance of 100 feet is very loud; higher in level than any of the equipment listed in NYSDEC Policy Table D (Appendix A of the report).

**Response:** *The revised tables have been adjusted accordingly to reflect the proper distance separation from source to receiver and consistent with the levels for the various equipment listed in Table D of the NYSDEC Policy guidelines.*

- ii. Again, please confirm the levels in Table 3 are A-Weighted.

**Response:** *All levels indicated are A-Weighted levels expressed as dBA in the updated Noise Evaluation.*



- iii. Please provide timing of construction activities. Will construction occur during nighttime or weekend hours?

**Response:** *As described in the operations document, no blasting, drilling, or processing activities will occur during nighttime and weekend hours. These activities will be limited to 7:00 AM to 7:00 PM on Weekdays.*

- iv. Please provide a discussion of blasting vibration and groundborne noise.

**Response:** *The updated Noise Evaluation includes a description of the potential blasting impacts. However, the contractor will still have to prepare a specific blasting plan for this site, which will have to be coordinated with the Town.*

f. 3.2 Projected Sound Levels at Receptors:

- i. Please provide references for the claim “H2H has historic measurements of how each attenuating factor affects sound from a source.” Each site has unique attenuation qualities related to topography, foliage, noise sources, meteorology, etc. Entire books have been written on each of these topics. So, it is difficult to believe that H2H has acquired enough data to quantify these effects at this particular site without data to back up this claim.

**Response:** *This section has been replaced in the updated Noise Evaluation to reflect the new ambient measurements and revised modeling results for both the site preparation phase and operational phases with the buildings completed.*

- ii. Again, please confirm the levels in Tables 4 to 7 are A-Weighted.

**Response:** *All levels in the updated Noise Evaluation are A-Weighted levels expressed as dBA.*

- iii. The noise report makes unsubstantiated claims as to the noise reduction provided by the proposed berms and the existing topography and foliage, as follows.

**Response:** *The effects of the berms and other site features are now described in more detail in the updated Noise Evaluation. It also considers conditions with and without any foliage effects.*



- iv. Based on the standard 6 dB per doubling of distance, the equipment noise levels at R-1 and R-2 would be 72 and 70.5 dB, respectively. This means that 24 dB of noise reduction in addition to distance attenuation occurs to result in the levels given in Table 4, 19 to 22 dB in Table 5, and 16 to 22 dB in Table 6. This amount is unsupported in the report. Even assuming that the berms do provide 14 dB of noise reduction and the foliage provided 7 dB, this would only add up to 21 dB of additional reduction, which is less than the 22 to 24 dB of reduction assumes for R-1. Based on the results shown in Table 2 (see comment above under d.) and the discussion below, foliage is not providing substantial attenuation. Additionally, the report shows no basis for attributing 14 dB of reduction to the berm (see discussion below).

**Response:** *The resulting noise levels contained in the updated Noise Evaluation are based on the effect of the modeling, including the effect distance separation and any significant topographic features. The computations include with and without foliage effects.*

- v. The report claims a 7 dBA noise reduction for vegetation located between the project site and the residences. However, the vegetation in the area is deciduous. As such, only minimal reduction would be provided in the winter when these trees lose their leaves. Based on Acoustical Measurement and Noise Control (Harris, C., 1998, Pg. 3.9) “there is no attenuation for bare branches or trunks of trees.”

**Response:** *We are in agreement with this comment and this has been revised accordingly in the updated Noise Evaluation.*

- vi. The report claims that “a 10-foot (wide?) by 15 foot (high?) berm will cause a 14 dB decrease” at both locations R-1 and R-2, located from 580 to 1,876 feet from the various noise sources. Based on a preliminary noise barrier calculation conducted by the author of these comments using I&R in-house software, approximately 11 dBA of noise reduction would be achieved through use of a 15-foot high barrier at a receptor distance of 580 to 1,800 feet, assuming a 5 foot high noise source (height of noise source is not given). Additionally, assuming the location of the barriers to be those shown in the November 26, 2019 Sound Barrier Plan (berms are not indicated in the February 2019 Noise Report Figures), only partial shielding would be provided to residences to the south. With partial shielding only, even less attenuation would be achieved through shielding of the berm at these locations.

**Response:** *See updated Noise Evaluation for revised tables reflecting the projected increases above ambient conditions. While earth berms can provide noise attenuation of up to 15 dBA if it is several feet higher than the noise source, a 10 dBA maximum reduction was used in the updated evaluation to be conservative. These reflect that only partial shielding occurs. As recommended in the Noise Evaluation report, a future Noise Monitoring is recommended for both the site preparation and operational phases to determine if the actual levels are consistent with those projected in the noise study. This will determine if the placement of any of the temporary barriers need to be adjusted during construction and if any further adjustments to the berms/other mitigation shown on the Noise Mitigation Plan, or as outlined in the report, will be required for the operational phase.*

- vii. It is not clear if the column D Projected Sound Levels in Tables 4 to 7 include only the Project generated noise levels or the Project plus Ambient levels. If column D gives the Project levels only, then the change in noise levels in these tables is calculated incorrectly. The change in noise levels must be calculated by taking the difference between the Ambient Sound Level and the Project plus Ambient Sound Level, not the difference between the Ambient and the Project only sound levels. For example, in Table 5 for R-1, Ambient is 37.2 dB and Projected is 40.3 dB. The Ambient + Project level would be then be 42.0 dB and the resulting change would be 4.8 dB (42.0 – 37.2), not 3.1 dB.

**Response:** *See updated Noise Evaluation for revised tables which include the project generated noise comparisons with ambient levels for both the site preparation/construction phase and future building operational phase.*

- viii. The projected sound level (column D) for R-2 in Table 7 is calculated incorrectly. A combination of the front-end loader and the blast hole drill rig operating simultaneously could not result in levels that are 2 dB below the results indicated (in Tables 5 and 6) for each of the sources independently.

**Response:** *See updated Noise Evaluation for revised tables reflecting the simultaneous operation of multiple pieces of equipment (sources) on the site during the site preparation/construction phase.*

g. 4.0 Findings:

- i. Note that the increases discussed in the report may be lower than the actual increases if the changes shown in Tables 4 to 7 are incorrect, as described in comment f. vii above.

**Response:** *The updated Noise Evaluation includes updated sound level projections to address this.*

- h. 5.0 Long-term Site Operations: More information is needed describing why long-term operations will not result in significant noise impacts at residences.
  - i. Noise levels for on-site operations at nearby residences should be calculated and described with respect to both daytime and nighttime ambient levels.

**Response:** *The updated Noise Evaluation includes both daytime and nighttime ambient level conditions and includes projections of noise levels from onsite operations as they relate to nearby residential receptors for both time periods for the operational phase.*

- ii. No assessment of operational traffic noise is given. Although nighttime ambient noise levels were not measured, we can assume they are lower than those measured in the daytime. The report should consider the potential of awakening of residents due to project vehicle trips to and from the site during shift changes or other nighttime activities.

**Response:** *The nighttime ambient levels were measured and as expected, are lower than the daytime levels. The effect of operational traffic noise was included in the updated Noise Evaluation based on the traffic projections from the Creighton Manning traffic report and those operations include the nighttime periods as described in the project description as included in the project EAF Addendum.*

- iii. More details are needed to describe activities proposed inside the building and the building structure itself to ensure that indoor activities will not result in noise impacts.

**Response:** *A description of the activities which will occur inside the building is provided in the project description contained on Page 12 in the project EAF Addendum. See also potential building treatment for additional recommended sound mitigation as discussed on Pages 11 and 12 of the revised Noise Evaluation.*

- i. 6.0 Mitigation Measures:
  - i. This discussion is qualitative and vague. Please provide quantitative discussion explaining the exact location of all mitigation measures and how these mitigation measures would result in the impacts being less than significant. The numerical noise reduction anticipated with implementation of these measures and the resulting noise levels should be given.



**Response:** *The updated Noise Evaluation includes updated noise level projections. The results with the proposed berms shown on the Sound Barrier Plan, and other recommendations including recommended general mitigation measures, are identified on Pages 11 and 12 of the report. As noted, a future Noise Monitoring is recommended for both the site preparation and operational phases to confirm that the actual levels are consistent with projected levels (within thresholds) and identify any adjustments to ensure that the levels are being mitigated as anticipated.*

- ii. The is the first mention of a backup beeper. Backup beepers are considered to be “sharp and startling noise” that “can be extremely annoying” under NYSDEC. If backup beepers are proposed for construction or operations, they need to be assessed in the report.

**Response:** *The effect of backup beepers is discussed in the updated Noise Evaluation. The report recommends the use of radar or infrared white noise beepers compliant with standards for all on-site equipment to minimize any potential impacts of this.*

j. 7.0 Conclusion:

- i. Again, a quantitative discussion of mitigation measures and how they will reduce the noise impacts to result in “minimal disturbance to the neighboring Receptors” is needed.

**Response:** *A more detailed quantitative discussion of the effect of the mitigation measures is contained in the updated Noise Evaluation and the results with and without mitigation are shown in the summary tables of the report.*

- ii. Discussion of operational impacts and blasting vibration should be included.

**Response:** *A general discussion of the operational impacts and potential blasting vibration effects is included in Section J of the updated Noise Evaluation. As mentioned in the evaluation, a specific blasting program will have to be prepared by the contractor and coordinated with the Town.*



k. References:

- i. A number of references are listed; however, it is not identified as to which portion of the report they refer to. Please site references within the report.

**Response:** *Specific references to other referenced informational reports is now included in the corresponding section of the updated Noise Evaluation.*

- ii. Of particular interest is why the report would reference studies on the “Physics and Psychophysics of Music” and the Danish Wind Turbine Manufacturers Associations document on measuring and calculating sound levels. Neither of these documents seem to be relevant to the noise study.

**Response:** *Comment noted. We are in agreement with this comment and this reference is not included in the updated Noise Evaluation.*

2. November 2019 Noise Study

a. General:

- i. Thresholds of significance: Please clearly define the thresholds of significance that are used in the report.

**Response:** *The thresholds of significance are based on the NYSDEC guidelines. Page 8 as well as Table No. 4 of the Noise Evaluation indicates the specific thresholds of significance used for comparison in the evaluation.*

- ii. Noise Modeling: Again, it is unclear why noise modeling was not conducted to assess construction and operational impacts at residential and recreational lands surrounding the project site. Given that the recreational use areas are large in area, noise contour maps would provide information for all of the surrounding land uses of interest, not just the three points selected for evaluation in the noise study.

**Response:** *Comment noted. The receptors chosen are reflective of the various areas within the recreational land areas in proximity of the site including Onteora Lake/Pickerel Pond and the Bluestone Forest. The provision of noise contours may be helpful in providing additional information for various locations; we believe they would not show any major differences than the levels shown at the critical receptors that were chosen for analysis.*



b. 2.0 Ambient Noise Monitoring and 2.3 Methodology:

- i. Again, perhaps distance would be a better parameter to list in the table in Section 2.2 instead of elevation, since elevation is not addressed in the report elsewhere.

**Response:** *We agree with this comment and the distance separation between source and receptor is the better parameter for comparison, which is now reflected in the revised tables.*

- ii. The terms ‘sound level meter’ and ‘dosimeter’ appear to be being used interchangeably here. This equipment is not interchangeable. Please clarify if sound level meters or dosimeters were used for the analysis.

**Response:** *The updated Noise Evaluation now only refers to the Type I sound level meter which was used in collecting the ambient noise measurements in September 2020.*

- iii. Again, slow response should be used for environmental noise measurements, as it is representative of how humans perceive noise. Fast response (0.125 sec averaging time) is typically used only for noise sources which are impulsive in nature, such as a gunshot, and gives a falsely high maximum level results when compared to the more traditional slow response results.

**Response:** *As per the NYSDEC policy, all ambient sound levels were collected utilizing the “slow response” setting with the Type I sound level meter to be reflective of the human perception.*

c. 2.4 Ambient Survey Monitoring Results:

- i. Again, please confirm that all results use the A-Weighting network (dBA), as indicated in Section 2.3.1 and in Chapters 3.0 and forward. Table 2 and the following text uses the unit ‘dB’, which would normally indicate that the results are unweighted. Results should be compared using the same weighting scale.

**Response:** *All existing measurements and future projections are expressed in terms of A-Weighted decibels (dBA) as would be typical for this type of use. These are now reflected in the updated Noise Evaluation.*

- ii. Please clarify the reasons for the selection of a 12-hour time average. Will construction occur for a period of 12 hours per day?





**Response:** *The time period for construction is proposed on weekdays between the hours of 7:00 AM and 7:00 PM. The sound level projections are for peak operating conditions within that time period.*

- iii. Given that operations are proposed for daytime and nighttime periods, please clarify why ambient noise measurements were not conducted at night when ambient levels would likely be lower. Presumably, the use of the NYS lands is during daytime only. If this is the case, this should be stated in the report.

**Response:** *Both daytime and nighttime periods were reviewed for ambient sound levels and as would be expected during nighttime conditions, ambient sound levels are significantly lower than during the daytime due to reduced traffic levels on Route 28 and other background activities that only occur during the daytime hours. Note that as previously indicated, the site preparation/construction phases will only occur in daytime hours between 7:00 AM and 7:00 PM.*

- iv. The report states that for Location 1 “The Lmax for this monitoring location was 72.4 dB recorded at 6:12:51 AM. This event was caused by an acorn falling onto the sound level meter case.” This data is not relevant to the study and should have been removed from the data set, so as not to affect the results.

**Response:** *This is no longer applicable.*

- v. For Location 1, the report states “The ambient equivalent sound levels during the morning and evening for this location were dominated by noise from nearby State Route 28 located approximately 3,000 feet to the southwest”. However, the data in Appendix D for Location 1 are not indicative of typical traffic noise patterns, but rather of a steady state noise source. Please explain the lack in variation in the noise levels shown in Appendix D.

**Response:** *Comment no longer applicable. New sound level readings and projected readings reflect the typical variations expected with the peak traffic densities along Route 28 and include the effect of the other background sources.*

- vi. The report states that for Location 2 “The Lmax for this monitoring location was 74.1 dB recorded at 7:52:09 AM. This event was caused by a stick snapping underfoot while checking on the monitor.” Again, this data is not



relevant to the study and should have been removed from the data set, so as not to affect the results.

**Response:** *Comment no longer applicable. New sound level readings were collected at each receptor and are reported in the updated Noise Evaluation.*

- vii. For all three locations, the study claims that traffic on State Route 28 was the dominant noise source. However, these locations were 2,460 and 3,000 feet from State Route 28 and result in noise levels that are 4 to 15 dB higher than the levels measured in the February 2019 report for locations that are substantially closer to the roadway (the February 2019 locations are 800 to 1,300 feet from SR 28). Please explain.

**Response:** *Comment no longer applicable. New sound level readings were collected at each receptor and are reported in the updated Noise Evaluation.*

d. 3.0 Projected Sound Levels During Site Development:

- i. The noise level listed for the crusher is 7 dB lower than that listed for the crusher in the February 2019 report. Please explain. Has the equipment changed from the February 2019 report? If so, the impacts at residential properties should be reevaluated.

**Response:** *The sound levels shown reflect the equipment that are consistent with those shown in Table D of the NYSDEC publication for the types of equipment that are expected to be utilized.*

- ii. The type of front-end loader has also changed, although the noise level is the same.

**Response:** *The sound levels used for a front-end loader is also reflective of typical NYSDEC levels from Table C.*

- iii. Please provide timing of construction activities. Will construction occur during nighttime or weekend hours?

**Response:** *The construction activities are described on Pages 12 through 14 of the revised EAF Addendum and are currently proposed to only occur during daytime hours.*

e. 3.1 Projected Sound Levels at Property Boundary and 3.2 Projected Sound Levels at Receptors:



- i. Please include a discussion of noise increases above ambient that would be expected at all receptors.

**Response:** *Each receptor is now discussed in the updated Noise Evaluation indicating current ambient levels, both daytime and nighttime, as well as expected future sound levels for daytime and nighttime periods. Whether or not the increases are significant or not is also referenced in the tables and related discussion on mitigation effects.*

- ii. Please provide references for the claim “Based on historic sound level measurements collected by H2H a 30 foot wide by 15-foot high berm will cause a ~14 dB decrease in sound levels produced by mobile and stationary equipment when the sound source is 5 feet below the top of the berm.” Based on a preliminary noise barrier calculation conducted by the author of these comments using I&R in-house software, approximately 8 to 9 dBA of noise reduction would be achieved through use of a 15-foot high barrier, assuming a 10-foot high noise source at distances of 650 to 1,500 feet.

**Response:** *We are in agreement with this comment. The decibel reduction due solely to the 15-foot high berm would be in the order of 10-12 dBA but is also dependent on other site-specific variables and this is reflected in the revised evaluation.*

- iii. Only three points were selected to represent the entire NYS lands. Locations set back further from the berm would likely see lower noise reduction from the proposed berms. Please provide additional information on why these particular locations are representative of worst-case noise exposure and/or provide additional results, perhaps in the form of a noise contour map, indicating noise levels for the remaining land area.

**Response:** *The receptors indicated are reflective of those areas most likely to be occupied and effected by the proposed operations. Additional information is provided in the updated Noise Evaluation describing why these were chosen.*

- iv. Location 1 is located directly behind one of the proposed berms, so as to be in the shadow zone (area where very high noise reduction is realized by the barrier/berm). The noise reduction provided at this location would not be representative of the reduction provided at locations setback further from the berm.

**Response:** *Comment noted. This receptor has been reviewed and adjusted accordingly in the updated Noise Evaluation. It is agreed that at further*

*set back distances from the berm, the amount of reduction will be less, and this is now reflected.*

- v. Table 4 gives 19 dB of noise reduction in addition to distance attenuation to result in the levels indicated. This amount is unsupported in the report. The text states that 14 dB of noise reduction would be provided by the berm and that the “mitigate effects of vegetation have not been considered in our projections.”

**Response:** *The tables have been revised to reflect the ambient conditions and future conditions both without and with the addition of the proposed berm and the projected attenuation due to the distance setbacks under the “with mitigation” tables in the updated Noise Evaluation.*

- vi. Use of a decimal place in the result discussion gives a false sense of accuracy that is not warranted based on the assumptions given in the report. Sound level meters are typically only valid within +/- 1 dBA and use of rounded increases (such as 1 dB) due to addition of multiple sources followed by results that are not rounded is misleading. If decimal places are desired for the results, increases must also be calculated to the same degree of accuracy.

**Response:** *We are in agreement with this comment and a note has been added to the tables in the updated Noise Evaluation. However, the meter display and computation model output results show the levels to the nearest tenth.*

- f. 4.1 Projected Sound Levels at Property Boundary (Manufacturing Activities):
  - i. Please provide an assessment of operational traffic noise.

**Response:** *The EAF Addendum document describes the expected operations on site. Using the information from the project traffic study, the movement of traffic to and from the site as well as onsite traffic and equipment generated noise, were all accounted for in the computations in the updated Noise Evaluation.*

- ii. Please provide timing of operational activities. Will operations occur during nighttime or weekend hours?

**Response:** *See the EAF Addendum document regarding the description of the nighttime and weekend hour operations.*



- iii. More details are needed to describe activities proposed inside the building and the building structure itself to ensure that indoor activities will not result in noise impacts.

**Response:** *See the EAF document describing the activities occurring inside the building. The analysis includes consideration of sound “leakage” from the building and includes a discussion of potential mitigation measures to address this as outlined on Pages 11 and 12 of the updated Noise Evaluation.*

g. 5.0 Local, Representative Noise Ordinances and Standards:

- i. This discussion is helpful, but the thresholds of significance used in the report are not described. Please clearly define the thresholds of significance that are used in the report.

**Response:** *The thresholds of significance are listed in the updated Noise Evaluation together with the specific reference from the NYSDEC guidelines.*

- ii. The parameters used for the Town of Ulster and City of Kingston noise ordinances are not defined. Are these levels maximum Lmax levels, hourly average Leq levels, 12-hour average Leq levels?

**Response:** *The updated Noise Evaluation includes a comparison of the calculated noise level increases expected at each receptor both with and without mitigation effects.*

- iii. Only daytime thresholds are provided for the representative cities, even though operations and construction may be occurring during nighttime hours. In addition, no references for recreational lands are provided. Commercial and industrial land use thresholds would not be considered representative for recreational lands.

**Response:** *Nighttime as well as recreational sound level thresholds are identified in Table 2 in Appendix B of the updated Noise Evaluation.*

h. 6.0 Summary:

- i. Please provide the calculated noise increases for each location under each scenario.

**Response:** *The Summary Tables No. 3 in the updated Noise Evaluation include the calculated noise level increases for each receptor for the construction and operational phases both with and without mitigation.*

- ii. The resulting sound levels under each of the locations are calculated incorrectly. With project operations or construction, ambient noise levels would continue to occur. Therefore, the resulting levels must take ambient into account. For example, for location M-2, the front end loader generates a noise level of 52 dBA and the ambient is 52.2 dBA; therefore, the resulting level (ambient + front end loader) would be 55 dBA, a 3 dB noise increase above existing.

**Response:** *Comment noted. The updated Noise Evaluation has adjusted the noise projections to account for the equipment operations on the site and considering the NYSDEC common equipment sound levels.*

- iii. Please provide a quantitative discussion of mitigation measures and how they will reduce the noise at receptors.

**Response:** *A quantitative and qualitative discussion of mitigation measures and associated attenuation affects is now provided in the updated Noise Evaluation. The summary tables show the levels with and without mitigation.*

- i. References:

- i. Again, please site references within the body of the report.

**Response:** *The references used are now included in the body of the updated Noise Evaluation and copies of specific items are included in the Appendices.*

### 3. 2020 EAF Noise Section

- a. General:

- i. Thresholds of significance: Please clearly define the thresholds of significance that are used.

**Response:** *The thresholds of significance based on NYSDEC guidelines are now referenced on Pages 7 and 8 and Table No. 4 of the updated Noise Evaluation.*

- ii. Blasting: Vibration and groundborne noise from blasting activities is not discussed. Blasting can generate high levels of vibration that could damage structures and result in annoyance to residents, even at large distances from blasting activities.





**Response:** *Comment noted. A general discussion of the anticipated blasting activities is summarized on Pages 21 through 25 of the EAF Addendum and in Section J of the updated Noise Evaluation.*

- iii. Construction and Operational Hours: Please clearly state the hours of construction and operations that are proposed.

**Response:** *The construction operational hours are defined in the project operations description contained in the EAF Addendum and will be weekdays between 7:00 AM and 7:00 PM.*

- iv. Operational Noise: Please discuss the impacts of operational traffic on residences.

**Response:** *The operational noise effects of traffic onsite relative to adjacent residential receptors is now discussed in the updated Noise Evaluation.*

- v. Mitigation Measures: Please provide a quantitative description of mitigation measures and how they will result in noise impacts being reduced to a less than significant level.

**Response:** *A qualitative discussion and quantitative results of mitigation measures is now included. The results for each receptor are summarized in the Table 3 summary tables.*

- vi. Placement of Noise Barriers: The placement of berms differs between sheet PH-2 of the site plans (references in the EAF) and Figure 1 of the 2019 November Noise Report. No figure is provided for the placement of berms in the 2019 February Report. Please confirm that the change in location of the berms does not affect the results of the analysis.

**Response:** *The Sound Barrier Plan has been revised shows the location of the berms, fence, and temporary barriers to be used.*

- vii. Understatement of Impacts: The noise increases that were determined in the 2019 February and 2019 November noise reports are not fully described in the EAF. Please include this information and how these impacts might be mitigated by the proposed mitigation. For example, the EAF states “the first report found that there will be an increase in noise at the residences during construction, however, this increase would be temporary and minimized by the proposed perimeter sound barriers and sound berms and the strategic placement of the rock crusher in the center of the site and surrounded by sound berms.” The noise report found noise increases of up to 10.8 dBA at



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residences and construction will occur over a period of 3 years and provided no quantitative evidence that this impact would be substantially reduced through the proposed mitigation measures. Additionally, the 10.8 dB increase was calculated considering the proposed berms and also additional unexplained noise attenuation. A noise increase of 10 dB would typically be experienced as a doubling of loudness.

***Response: Comment noted. Additional information and clarifications are contained in the updated Noise Evaluation as well as the EAF Addendum.***

If you have any questions regarding the above, please do not hesitate to contact us.

Very truly yours,

MASER CONSULTING CONNECTICUT, P.C.

  
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PJG/ces  
Enclosures