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April 7, 2004

Ms. Sherilyn B. Young
Rath, Young and Pignatelli, P.A.
One Capital Plaza
P.O. Box 1500
Concord, NH 03302-1500

Subject: Review of noise issues in March 4, 2004 Joint Wetland Permit Application for
Valley Motorsports Park by Motorsports Holdings, LLC

Reference: HMMH Project No. 299781

Dear Ms. Young:

As requested, Harris Miller Miller & Hanson Inc. (HMMH) has reviewed the noise-related portions of the above-referenced permit application, and we submit the following comments. Our comments are also based on HMMH's analysis of potential noise impacts from a motorsports facility in the Town of Tamworth conducted last summer.

Property-line Noise Limits

The Town of Tamworth has passed an ordinance that requires that noise levels from operations at the proposed motorsports park not exceed 69 dBA at the facility property line.

Last summer, with the cooperation of Club Motorsports Inc., HMMH conducted measurements of the noise from cars racing at New Hampshire International Speedway during a BMW car-club event that was said to be comparable to the events that would be held at the proposed Tamworth facility, with respect to the types of vehicles, speeds and nature of the driving course. The measurements included close-in pass-bys of vehicles at different points along the course, which provided reference sound level information for the various types of vehicles at different speeds. These data provided real-world reference sound levels for our modeling of expected maximum and average noise levels at the property line and beyond.

A review of the plans submitted with the application shows that the proposed track comes within 200 ft of the adjacent property line at one location and within 300 ft at several locations. Our calculations indicate that without any noise mitigation measures implemented, maximum sound levels at those nearest property line positions could range up to 90 dBA if similar vehicles are run in Tamworth as were measured at NHIS. Typical maximum levels would be around 80 dBA at the closest positions without abatement.

HARRIS MILLER MILLER & HANSON INC.

Ms. Sherilyn B. Young

April 7, 2004

Page 2

Therefore, significant noise abatement measures will be needed to achieve the required property-line limits.

The most practical measures to reduce vehicle noise levels at the property line are earth berms and/or noise walls. Although specific measures are not mentioned in the application, berms between the track and property line have been mentioned as a logical option in discussions with CMI last summer. These structures could be expected to provide between 5 and about 15 decibels of noise reduction, depending on height, placement and measurement position. Even a 20 ft or 25 ft high berm or wall may not be sufficient to achieve the necessary noise reduction for the loudest vehicles that may use the facility.

To be stable, earth berms are typically constructed with 2:1 side slopes, meaning that a well-designed berm is about four times as wide as it is high. Therefore, a 20-ft high berm would need to be approximately 80 ft wide. To be effective, and to achieve the Town noise limits, a long berm would have to be located around almost the entire property perimeter. Such a structure would clearly have implications for water flow. And, since Figure 7-3 shows wetlands at the property boundary in several places, wetland areas also would be affected by a perimeter berm.

A noise wall or berm/wall combination would be a suitable alternative to a berm from a noise-reduction standpoint. To be effective, a noise wall needs to contact the ground for most of its length. Such a limitation would also affect water flow and wetlands. We have encountered drainage solutions for walls in high rainfall areas where slots are cut at the base of the wall at certain intervals, but overlapping structures to block the openings must be added to minimize noise leakage.

Noise Impacts North of Route 25

HMMH's analysis last summer of the expected community response to noise from the proposed CMI racetrack showed that without abatement measures, adverse community response to noise from track operations could be expected at homes in the valley north of Route 25. St. Andrews Church and rectory were evaluated specifically. Because of the proposed location of the facility on the side of the mountain, it would be a significant design challenge to provide effective noise shielding between all portions of the track and the homes in the valley. Partly for this reason, we recommended that a trackside vehicle noise limit of 89 dBA should be employed to prevent particularly noisy vehicles from using the facility. The permit application does not suggest that such a restrictive limit would be used to limit noise emissions. Instead, the application states that SCCA limits would be used for guidance, which are currently 99 dBA or higher, to our understanding.

Without a fairly restrictive trackside noise limit, structures that provide significant noise shielding will be needed between much of the track and most of the valley to prevent expected community responses from reaching the "widespread complaints" and "sporadic

HARRIS MILLER MILLER & HANSON INC.

Ms. Sherilyn B. Young

April 7, 2004

Page 3

complaints,” as concluded in HMMH’s 2003 study¹. Given the hillside placement of the facility, the only practical location for shielding structures is adjacent to the track. Earth berms, walls or berm/wall combinations could provide such shielding. As they would at the perimeter location described above, such substantial structures would clearly have significant implications for water flow and the wetlands on the site.

Noise Criteria and Abatement

On page 69 of the application, reference is made to acoustical measurements, modeling, criteria and abatement to be implemented for residential areas. There is no mention of an approach to comply with the Town ordinance. We believe this should be addressed directly, and that noise abatement measures and structures that would be implemented to meet the Town’s noise limit should be shown in the application.

Further, we believe that the Town should participate in the development and implementation of any acoustical measurements, modeling, criteria and abatement, to ensure that its interests are being met.

Vehicle Noise Emissions

On page 68, the application states:

“It is anticipated that at least 95% of the vehicles using the track will be street legal, meeting federal sound limits. Accordingly, the operation of these vehicles will not routinely produce sound levels greater than those currently generated by vehicles on Route 25. The facility will develop and enforce strict regulations associated with the noise generated by the individual vehicles using the facility. These regulations will be modeled after those currently used by the Sports Car Club of America (SCCA).”

The federal limits referred to in the application are not specified. However, in previous discussion about such limits, a maximum sound level of 87 dBA measured at a distance 50 ft was mentioned. This number is consistent with the only Federal operational vehicle pass-by noise limits we are aware of. These are cited in 40CFR202.20(b) of the U.S. EPA regulations and pertain to motor carriers engaged in interstate commerce. These regulations are also consistent with the U.S. DOT Federal Motor Carrier Safety Administration regulations Sec. 325.7.

At one presentation to the Town of Tamworth last summer, we summarized our reference measurements at the NHIS event. In the data we showed, the *median* vehicle pass-by event maximum sound level (normalized to 50 ft) was 86 dBA, and one-third of the events

¹ Menge, Christopher, “Noise effects from proposed CMI racetrack in Tamworth, NH,” Harris Miller Miller & Hanson Inc. PowerPoint presentation, September 4, 2003.

HARRIS MILLER MILLER & HANSON INC.

Ms. Sherilyn B. Young

April 7, 2004

Page 4

measured 90 dBA or higher. Therefore, without other controls at the facility, we do not understand how the low sound limit of 87 dBA will be met.

Our understanding is that the current SCCA vehicle noise limit is 99 dBA or higher (the Northwest region has a 103 dBA limit). Such high limits will not prevent poorly-muffled vehicles from using the facility, nor does it suggest the applicant is expecting to be able to comply with the Town noise ordinance, given the property-line distances and other available noise abatement options. The 50-ft sound level will drop by only 12 to 15 decibels at 200 ft. So, this limit represents a sound level maximum for one vehicle of 84 to 89 dBA at the nearest property line position. Achieving an additional 20 dBA noise reduction with noise walls is nearly impossible.

Conclusions

If the vehicles to be used at the proposed track are comparable to those measured at the NHIS event, the Applicant cannot meet the Town noise ordinance limits met at the property boundary without a very tall berm or wall. Even then, it may be difficult to meet the noise limits at the property boundary and beyond.

If vehicles using the track comply with SCCA recommended noise limits, the Applicant cannot meet the Town noise ordinance limits at the property boundary without a very tall berm or wall. Even then, it may be difficult to meet the noise limits at the property boundary and beyond.

Even if the vehicles using the track all comply with the Federal truck noise emission standard of 87 dBA, the Applicant cannot meet the Town noise ordinance limits at the property boundary line without a tall berm or wall. Even then, it may be difficult to meet the noise limits at the property boundary and beyond.

Therefore, in all cases, significant abatement structures will be required to meet the Town noise ordinance limits.

Please feel free to contact me if you have any questions or comments.

Sincerely,

HARRIS MILLER MILLER & HANSON INC.

Christopher W. Menge
Senior Vice President

HARRIS MILLER MILLER & HANSON INC.

Ms. Sherilyn B. Young

April 7, 2004

Page 5

cc: Muriel Robinette
Rick VandePoll