

February 24, 2008

To: Mr. Erik Olson
Project Manager
Snohomish County PDS
3000 Rockefeller
Everett, WA 98201
Erik.olson@co.snohomish.wa.us

Re: F/N 07-101924-000-00-LU
Proposed Granite Falls Motocross Track
Estimated Noise Levels

Dear Mr. Olson,

Those people who live and recreate in the areas surrounding the proposed racetracks have many concerns regarding its construction and operation. One of the major issues is what impact the higher noise levels will have on the quality of life for people and wildlife, as well as property values. For these reasons, it is imperative that the estimates of what those higher noise levels will be are accurate, and this requires a thorough review of the application by your department. The alternative is to perform a more cursory review which could result in the County accepting the current findings "as is" and allowing the construction of a commercial enterprise that causes significant, on-going noise problems for the local environment, wildlife and residents.

The section of the newly-developed Snohomish County Code pertaining to motocross racetrack development includes provisions that help ensure noise levels at the property boundaries will not exceed levels outlined in Chapter 10.01. Because this is a new ordinance and the County Planning Department does not staff individuals experienced in the field of environmental acoustics science, it is possible that the County could endorse the findings of a noise study submitted with the application even though the study contains inadequate, erroneous and/or misleading information that leads to poor results. The noise study itself and input from citizens are the only tools the Planning Department has to determine if noise levels will meet Code, unless a 3rd-party review of the noise study is ordered per 30.28.105(2)(e). However, even this measure could result in the validation of an unacceptable noise study if not performed in a thorough, professional manner. This letter will outline many of the factors in the county review that the Mountain Loop Conservancy believes must be considered and fully accounted for.

The applicant's noise study attempted to produce an estimate of the "worst-case noise generation" (as required by Code) by taking measurements of the noise produced at a local motocross racetrack and then calculating what the projected noise levels would be at the proposed facility using methods often used in acoustics prior to the introduction of the modern day computer and noise-modeling software. In judging the value of a noise study performed in that fashion, there are basically four major items that must be accurately assessed and verifiable by an objective 3rd party:

1. The "baseline" noise levels that are measured must be accurate and representative of what the anticipated "worst-case scenario" will be at the proposed racetracks and
2. All pertinent physical features and dimensions of the proposed site must be known and accounted for in order to produce an accurate projected noise level estimate via step 3 and
3. Calculations must be provided and incorporate proven, accepted methods that accurately weigh any major variable that will effect the estimated noise levels and

4. Per SCC 30.28.105 the applicant must prove that their “worst case scenario” operations will not produce noise above levels outlined in Chapter 10.01 at property boundaries

Having reviewed the revised noise study submitted by the applicant, it is obvious that MXGP, Inc., has failed to provide the county with sufficient supporting documentation that adequately addresses these four basic requirements. What follows is a detailed explanation showing how the applicant has failed in each area.

1. Baseline noise level measurement

To establish a baseline noise level, Geomatrix, Inc. took measurements at a local motocross track in Bellingham, WA. (see page 6 of study dated 12/4/07). In order for these measurements to provide accurate, useful data verifiable by an objective 3rd party the following information is necessary:

- A. Weather conditions at the time of each measurement, especially wind direction and velocity as these variables effect how sound waves propagate. Noise levels from a given source are measured higher at locations downwind from the source and lower at locations upwind. **This information was not provided making it impossible to verify if the data is accurate.**
- B. In order to determine if the baseline noise level measurements are representative of the types of races that will take place at the proposed racetrack, the study must provide the following information:
 - i. The time and what the level of noise was during each measurement and
 - ii. The exact number of motorcycles that were on the track while the measurements were being made and
 - iii. What size and type (cubic inch displacement and 2-stroke or 4-stroke) were on the track at the time the measurements were taken and what the class of each race was, i.e., 250cc, 450cc, etc.

None of this information was included in the report. Additionally, the measurements were taken over an exceptionally brief period of time- one hour. When obtaining a representative study sample good science fundamentals dictate that the larger the sampling, the higher the confidence level is that the data is indeed a good representation of the study subject. The reverse is true as well. Any qualified acoustic professional would concur that it would be nearly impossible to obtain a truly representative sample of all possible noise scenarios in a one hour period.

The report claims that L_{25} and L_{max} at 150 ft. from the track were determined to be 71.7 and 82.5 dBA, respectively. It is worth noting that these values contradict (significantly under-represents) the measurements Geomatrix, Inc. claimed in a study done for the same client in February of 2006. Additionally, the findings by Geomatrix, Inc., are significantly lower than noise levels measured during controlled testing for a report to the California State Legislature by Wyle Laboratories in September of 2005. See <http://ohv.parks.ca.gov/pages/1140/files/ca%20ohv%20noise%20report%20wr%2004-31-06.pdf>. It is important to note that this study offers the **most credible information currently available** in terms of motocross noise assessment since the tests were performed on a wide variety of motocross bikes and in accordance with EPA F-76a requirements, thereby eliminating all practical sources of uncertainty. The chart below summarizes the results of the two tests performed by Geomatrix, Inc., and Wyle Laboratories (per EPA F-76a):

TEST RESULTS	MANUFACTURER/MODEL	NUMBER OF BIKES	CUBIC IN.	STROKE	COOLING (AIR OR WATER)	L _{MAX} , dBA (at 50')
GEOMATRIX (2/06)	NOT STATED	ONE	250	4	?	94*
GEOMATRIX (4/07)	NOT STATED	"MANY"	?	?	?	91.5*
WYLE LAB.	YAMAHA YZ-250F	ONE	250	4	WATER	96
WYLE LAB.	YAMAHA YZ-125	ONE	125	2	WATER	97

It is noteworthy that the study done by Geomatrix in February of 2006 found that a single motocross bike produces an L_{max} of 94 dBA at 50' while their study performed in April of 2007 found that "many" motocross bikes produced an L_{max} of 91.5 dBA at 50'. *Further, the Geomatrix study done in '07 indicates a group of many motocross bikes produce L_{max} noise levels at 50% of a single 125 cc motocross bike per the Wyle Laboratories study.*

The significant discrepancies between the listed reports dictate that the Planning Department order a 3rd-party review of the noise study filed by the applicant, MXGP, Inc. MLC recommends that the audit make use of the noise measurement results from Wyle Laboratories for base line purposes to eliminate the many variables introduced by allowing the applicant to conduct their own field measurements. The applicant used L₂₅ and L_{max} noise levels much lower than those determined by Wyle Laboratories in calculating the projected noise level at the new facility. These erroneous levels were the basis of their computations, resulting in non-credible projected levels (garbage in-garbage out). Note that the study (see Table 2, page 9) estimates projected L₂₅ noise levels during times of operation that are less than current ambient noise levels which means motocross races must actually *reduce* noise levels in the area!

2. All pertinent physical features and dimensions of the proposed site must be known and accounted for in order to produce an accurate projected noise level estimate

The calculations that were done to estimate the noise levels at the proposed site must include a means to account for geographic features of the land such as terrain and elevation profile. The study performed by Geomatrix, Inc. did not provide any information that would allow an objective 3rd-party to confirm that important elevation profile factors had been accounted for, and if it had been accounted for there is no means to verify it was done accurately.

3. Calculations must be provided and incorporate proven, accepted methods that accurately weigh any major variable that will effect the estimated noise levels and

The study submitted by MXGP, Inc. apparently does not incorporate meteorological variables in their calculations to estimate projected noise levels at the new site. In fact, no calculations were provided, period. The omission of this information means that an objective 3rd-party review cannot determine if, indeed the projected noise levels are actually a "worst-case scenario" as required by SCC. In considering the worst case scenario for the east property line, for example, wind direction and velocity variables are important since the prevailing winds are from the west during spring and summer months and is frequently quite strong. These variables would cause noise levels to be higher at this property line than the study projects. Temperature inversions also occur infrequently in the area of the proposed facility, and this would also result in noise levels higher than the study concludes.

* these values were extrapolated from noise level data provided by the applicant, which was measured at distances other than 50' from the track.

4. **Per SCC 30.28.105 the applicant must prove that their “worst case scenario” operations will not produce noise above levels outlined in Chapter 10.01 at property boundaries**

The applicant provided the county with no information regarding what their expected “worst-case scenario” would be in terms of noise generation. Important factors such as number of motocross bikes racing in each class, number of simultaneous races taking place and on which tracks, weather conditions, etc. were not included.

We believe that a properly-conducted noise study of the proposed motocross racetrack would indicate that noise levels per Snohomish County Code will be exceeded at the east property boundary and possibly at other points surrounding the site.

Sincerely,

Jeff Van Datta
President
Mountain Loop Conservancy
P.O. Box 1097
Granite Falls, WA 98252