

**Town of Bristol**  
**DEVELOPMENT REVIEW BOARD MEETING**  
**HYBRID Public Meeting**  
**Tuesday, November 28, 2023**  
**Meeting Minutes**

**DRAFT**

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**DRB Members Present:** Kevin Brown, Ted Desmond, John Moyers, Tom Wells, Brenda Tillberg  
**Staff Present:** Kris Perlee, Zoning Administrator; Carol Chamberlin, Recording Secretary  
**Applicants Present:** Josh Masterson  
**Visitors:** Ryan Augustine (TCE), Chris's Ipad, Matt Davis, Roger Dickinson (TCE), James Dumont, Eddie Duncan (RSG), Thomas Fox, Greg McKinney, Keith Schnell, User, Helen Young

**1. Call to Order:** Chair Kevin Brown called the meeting to order at 7:03 pm.

**2. Review agenda for additions, removal, or adjustment of any items per 1 V.S.A. 18 §312(d)(3)(A).**  
No adjustments were made to the agenda.

**3. Old Business**

Continuation of Permit #23-301: Masterson Development Properties.

Mr. Desmond noted that he is party to a purchase and sales agreement with Jim Dumont, but that he does not believe there is any conflict of interest presented due to this agreement. He offered to recuse himself if others felt he should, and noted that if something arose that did indicate a potential conflict, he would recuse. Nobody present indicated that Mr. Desmond needed to recuse himself from the proceedings.

Mr. Perlee explained that this hearing had been continued from August 2023, in order to provide the applicant an opportunity to generate some expert testimony and data regarding traffic and noise at the site. That documentation had been submitted as required, two weeks in advance of this hearing date.

Mr. Augustine and Mr. Dickinson presented an overview of the information contained in the report they had drafted related to traffic impacts at the site. It was noted that:

- The current shop on North Street generates approximately 50 trips per day
- The headquarters will remain at that location
- The number of trips that will be seen at the Lower Notch Road location is estimated to be 15 per day
  - Mostly employees arriving and departing
  - Three trips per day for bigger trucks/equipment
  - Minimal trips down to 116
  - Annually there will be two heavier traffic weeks
    - These weeks would be in spring and late August, for stockpiling topsoil
    - Eight days total would be a suitable allowance for these extra daily trips
    - Likely 72 trips total between the two weeks
    - Screening would be in process for two or three days in conjunction with hauling and for a few days afterwards
      - Moisture level of topsoil could delay screening until material is dryer

- Traffic counts were conducted on Lower Notch Road at the Masterson property
- Annual average daily traffic estimated at 224 vehicles per day
  - Estimated increase to 274 vehicles per day related to the Masterson operations
  - Level of Service will not be affected
- The 35 mph speed limit is appropriate for the road
- Sight distance recommended for 35 mph speed limit is 390 feet
- Stopping distance for 35 mph is 250 feet
- Looking north from driveway current sight distance is 150 feet
- Looking south from driveway current sight distance is 226 feet
- Typically measurement is taken 15' from edge of road
- Vegetation trimming will increase sight distance
- Property frontage extends north, growth can be trimmed to meet the recommended sight distance
- Some vegetation to south can be cut, bringing distance to 250'
- Most traffic exiting the property, particularly the heavy vehicles, will be headed south

Mr. Dumont asked for clarification, noting a difference between the number of trips cited in the original application and the numbers in this report. Mr. Augustine confirmed that the current parameters being applied for include an average of 15 vehicle trips per day, with a maximum of 80 over two one-week periods.

Mr. Dumont asked how the Zoning Administrator will ascertain that these related conditions are being met, and Mr. Dickinson explained that it is standard practice for a trip log to be maintained. Mr. Dumont requested that creation and maintenance of such a log be included as a condition of the permit.

There was some discussion regarding sight distances, stopping distances, and B71 (VTrans Road Safety) Standards. Mr. Dickinson confirmed that B71 A and B now exist, for residential and commercial applications, but that both include the same sight distance standards. The Lower Notch Road is paved south of the Masterson access, and becomes gravel at the access and continues as a gravel road to the north. There is no painted yellow dividing line at the site. It is possible that the driveway predates the need to obtain an access permit. Mr. Dickinson confirmed that large vehicles will need to ensure that no traffic is coming from the south, as they are wide vehicles which need space to pull onto the road. Mr. Dumont asked if the vegetation which would need to be cleared to provide suitable sight distance is in the Town ROW; Mr. Dickinson confirmed that this is possible to the north of the driveway where the property is owned by Mr. Masterson, and that he believes it is possible to the south, but that cannot be determined from the material exhibited. Mr. Augustine explained the methods used to determine sight distance from the driveway, which involve placing a stake at the drive and walking the roadway until the stake is no longer visible in order to take a distance reading. He noted that he placed the stake accordingly to represent the average height of a driver at 3.5' and ducked to a similar height when determining from where to take the reading.

Mr. Duncan then presented an overview of the sound study he had completed at the site, first providing some information regarding what a noise study entails and the monitoring and modelling which have been incorporated into the report. Steps include measurements at the site, both background and operational; modelling, which includes predictive calculations; mitigation planning to reduce potential impacts; and reporting. This assessment is dated November 2023.

Mr. Duncan walked through the report, noting:

- Section 2 provides an overview of the area and operations, including a map indicating where monitors were placed, and orange dots representing nearby residences
  - He pointed out the location of the contractor yard and the topsoil storage area
  - In the contractor yard, activities will include loading and unloading equipment and vehicles arriving and departing
  - In the topsoil storage are, it is proposed that there will be deliveries over a period of a few days for two one-week periods each year, and processing and screening activities during those time periods
    - Trucks will also be loaded here as the topsoil is taken to job sites
- Section 3 provides information related to local standards
  - Standard is qualitative rather than quantitative – to not be excessive and incompatible with the reasonable use of the surrounding area (Sections 810 and 751 of the UDR)
  - Compatibility does not set a limit, but there are standard guidelines available, included in Section 3.3 of the report
  - Those standards outline specific sound levels as compatible (55 dba) or marginally compatible (60 dba); these levels were reached during testing, but the averages outlined in the standard are for day and night; there is no night activity proposed in the application
- Section 4 reports on the monitoring completed in September 2023, at three locations indicated on the map in Figure 1; one of these serves as a control monitor at the contractor yard
  - No data needed to be excluded due to wind noise
  - Results are in Section 4.3:

**TABLE 1: SUMMARY OF BACKGROUND SOUND LEVELS BY DAYTIME & NIGHTTIME PERIODS**

MONITOR	DAYTIME SOUND PRESSURE LEVELS (dBA)					NIGHTTIME SOUND PRESSURE LEVELS (dBA)				
	L <sub>eq</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub> Range	L <sub>eq</sub>	L <sub>90</sub>	L <sub>50</sub>	L <sub>10</sub>	L <sub>max</sub> Range
Topsoil Storage	39	29	35	40	40 to 71	42	33	41	45	32 to 62
Access Road	39	30	33	37	34 to 79	42	32	39	44	30 to 64
Contractor Yard	40	33	37	43	37 to 75	43	34	42	47	32 to 64

- Mr. Duncan noted that:
  - In general, background noise is consistent across the site
  - L<sub>eq</sub> is an average
  - L<sub>90</sub> is the quietest ten percent of time
  - L<sub>50</sub> is the median sound level
  - L<sub>10</sub> is the loudest ten percent of time
  - L<sub>max</sub> is the range of the highest level at each second
  - Most important is the L<sub>eq</sub> and L<sub>max</sub>
  - These numbers are explained in an appendix to the Report
  - Nighttime is the period from 10 pm to 7 am
    - It was noted the applicant is requesting operations from 6 am to 6 pm

- Mr. Duncan indicated that the early hour may be detailed if necessary
- Maximum levels were produced by things such as aircraft, vehicles, crows
- Nighttime nature sounds caused some elevated levels, these would be lower in winter
- Tests were completed on September 8, 2023, when trucking equipment was set up
- Three pieces of equipment were working at the topsoil storage area
  - Average was 45-49 dBA and maximum was 63 – 74 dBA
- Section 5 speaks to projections
  - Emissions noted were quantified
  - Software used implements international standard/acoustical model
  - Sound levels as property lines and surrounding areas can be determined
  - Porosity of the ground part of the equation, some sound is absorbed, some reflected
  - More information in Appendix B
  - A 4<sup>2</sup>-mile area was evaluated, with modelled scenarios as indicated below:

Scenario	Description
1	Unloading equipment from a trailer in the contractor yard.
2	Unloading material from a dump truck in the topsoil storage area, including the tailgate hitting the truck bed.
3	Screening topsoil in the topsoil storage area.
4	Loading topsoil into a dump truck with a loader in the topsoil storage area.
5	Loading topsoil into a dump truck with an excavator in the topsoil storage area.
6	Dump truck driving on the southern section of the access road.
7	Dump truck driving on the northern section of the access road.
8	Dump truck exiting the site at the end of the access road.

- Results are in Section 5.3 of the Report
  - In map format, with dashed grey lines indicating one-decibel intervals
  - Projected sound level at each property location surrounding the site
  - Figure 8 depicts maximums
  - Figure 9 and others depict averages
    - Information also in tabular format in Appendix C
    - Textual description of each scenario also included
  - Mr. Duncan pointed out the locations projected to experience the highest noise levels
    - Showed calculated day/night levels (DNL) for comparison to ANSI standards
    - Included existing for comparison to proposed
    - Estimated DNL was 48 dBA
    - Existing DNL is also 48 dBA
    - No change anticipated due to the infrequent occurrence of work at the topsoil area
    - Annual DNL is 10 – 28 decibels

- Higher levels during events, but DNL is the ANSI standard used
- Section 6 covers mitigation, with recommendations listed, some of which have been incorporated into the project proposal
  - Berm or noise barrier at north end of the topsoil storage area
    - Earthen berm, seeded or not, wider footprint than a wall would have
    - Width of base would need to be engineered
      - Mr. Dickinson indicated a 12' high berm would need to be 24' wide at base, and that this is basically already in place on the site
    - Berm not depicted in current site plan, but is shown in Figure 21 of the Report
    - The stockpile also serves as a berm
  - No simultaneous unloading of trucks and operation of screening equipment
  - Maintain forest cover for sound and for reducing line of sight impacts
  - These have been quantified

Mr. Duncan then provided an opportunity for Board members and attendees to pose questions.

Mr. Wells asked if there is a way to mitigate the sound of a tailgate closing. Mr. Masterson indicated that he knows of no way to do so, Mr. Duncan explained that controlling the level at which it is hitting the bed may have an effect on the sound level, and that wet material leads to a need to hit a little harder. Mr. Wells noted that the tailgate noise level may not appear to be very high, but he believes it is one of the most impactful noises at the site.

Mr. Moyers asked about backup beepers. Mr. Duncan explained that they were sounding, but were less impactful, but did note that he can suggest that backup alarms be modified to mitigate noise. It was discussed that for safety reasons it might be best to let the beepers operate as intended.

Mr. Moyers noted that he has heard neighbors speak of noise at the site in a manner that refutes the report numbers provided.

Mr. Dumont asked about sound levels from multiple sources, and which is the dominant sound, background or a new noise. Mr. Duncan explained that the loudest source will dominate, and that the report indicates that the sound levels at the site will change, with times when the sound from the site will dominate and others when the background noise will dominate. He also explained the additive nature of sound, noting that calculating the sound level from multiple sources is not the same as the total of adding the total decibels of each source.

Mr. Dumont then asked if the  $L_{eq}$  (time averaged sound level) reported is an average, and questioned what period of time is being averaged. Mr. Duncan explained that the average is calculated over the period of time the activity (such as truck loading or unloading) is taking place, not a specific time period. He explained that the same number would be reported whether the activity was underway for five minutes or sixty minutes. He further noted that the screener modelled was in another town, and ran for ten minutes processing materials very similar to the material that would be processed at the Masterson site.

Mr. Dumont then asked about the sound levels as they relate to annoyance; asking for confirmation that during the time the screener is operating the noise level would be just below the L<sub>max</sub>. Mr. Duncan explained that Figure 9 (p. 18) indicates that outside the property line the level of noise from loading and unloading equipment in the contractor yard is at 55 dBA or lower. Mr. Dumont pointed out that the UDR language addresses levels at the property line, not at nearby residences. Mr. Duncan noted that the language provides for no 'excessive' noise at the property line, and that 55 dBA is the level of a normal conversation. It was agreed that a decibel increase of 10 is perceived as a doubling of the noise level. Mr. Duncan reminded the group that the local standards do not address annoyance, but that the World Health Organization (WHO) does provide guidelines for public health and annoyance; he would need to look into those details to determine more regarding annoyance. He noted that the light green line in the Report figures depict a level of 45 dBA, which is a six-decibel increase over L<sub>eq</sub>, and considered 'clearly noticeable.' When asked if there is a different effect if noise happens once a day vs multiple times throughout the day, Mr. Duncan explained that his information refers to standards and guidelines, and does not address this type of question. Based upon the number of trips anticipated during the two one-week periods of topsoil delivery, this noise levels depicted in Figure 10, for unloading material in the topsoil area, would be experienced 72 times over ten days – five days in the spring and five days in the late summer. The information provided for screening topsoil was pointed out by Mr. Dumont to also be at 50 dBA over into neighboring properties. Mr. Duncan noted that 50 dBA is a lower level for average conversation.

Mr. Dumont asked about the information depicted in Figure 15, related to loading dump trucks in the topsoil storage area, specifically inquiring what the background noise in this area consists of. Mr. Duncan explained that these are biogenic (animals) or geophonic (wind), as well as traffic, aircraft, lawnmowers, etc. He also noted that, while sorting out the biogenic sound is possible, others are more difficult to differentiate, and the Report does not contain a breakdown of this data.

Mr. Dumont asked for an explanation of Figures 5 and 6. Mr. Duncan indicated that:

- These are time history graphs, two graphs in each figure
- The top is sound pressure
  - Sound pressure level over time
  - Covers September 8 through September 18, 2023
  - Three lines indicate measurement of different metrics: L<sub>max</sub>, L<sub>eq</sub>, L<sub>90</sub>
- The bottom is environmental and weather conditions
  - Wind speed, relative humidity, and temperature
  - Vertical bands are precipitation, some data excluded at these times due to rain noise

Mr. Dumont asked if noise from loading a truck would be more annoying than a field of insects, even though both produce the same decibel level. Mr. Duncan indicated that annoyance was not evaluated, as the Regulations do not speak to it.

Going back to Figure 15, Mr. Dumont asked and Mr. Duncan confirmed that manmade noise is approximately the same level as background noise from this activity, noting that at times the background noise will be higher and at times lower. He agreed that likely the noise will be of a different character, but not necessarily, and that looking at the source of the noise may help classify its 'character.'

Mr. Dumont then directed attention to Appendix B (p 46), noting the noisiest activities. Mr. Duncan pointed out that this is not information about noisiness, but rather loudness, explained that absolute height is a measurement of ground elevation plus equipment height, and that relative height is the equipment's height above ground elevation. He also highlighted that this table's values are sound power levels rather than sound pressure levels, explaining that sound power is used to calculate sound pressure, which is what is perceived, and will be different depending on environmental conditions. It was also clarified that unloading and screening at the topsoil storage area would take place during the limited time periods outlined during this presentation, and that the loading activities included in Table 3 would take place at times outside of those limited time periods. Mr. Duncan also provided some details of the differences between loading with a loader and loading with an excavator, noting that he modelled both because both types of equipment would be used.

Mr. Dumont turned to the Percentile Sound Levels outlined on page 44, asking for confirmation that  $L_{90}$  is a good representation of ambient sounds; Mr. Duncan confirmed this, but pointed out that this measure filters out biogenic sounds as well as those such as aircraft. Mr. Dumont asked what  $L_{90}$  would be when the Masterson operation is underway, and Mr. Duncan indicated that many of the sources would create levels similar to the  $L_{eq}$ .

The graphs in Figures 5, 6 and 7 were then discussed further. Regarding Figure 5 (page 11), Mr. Dumont asked if the project  $L_{max}$  would be more noticeable when the background  $L_{max}$  is low; Mr. Duncan confirmed this with qualifications, noting that there are times when the  $L_{max}$  is the same as a field of insects, but that it varies every second.

Mr. Dumont noted that the report does not evaluate truck trips along Lower Notch Road, pointing out that the  $L_{max}$  being modelled would be similar along that road, and clarifying that the  $L_{max}$  is related to one truck travelling, which would be replicated for each truck during the day. He confirmed with Mr. Duncan that Figure 20's (page 32) 'circles' of sound would be displayed as moving up and down Lower Notch Road to indicate this.

Mr. Dumont referred to letter provided by Beth Ekroos, which Mr. Duncan had not read. Mr. Dumont indicated that she stated her house is at 2120 Lower Notch Road shakes when large heavy trucks go by, and asked if her situation will improve. Mr. Masterson noted that his heavy vehicles will not be travelling that section of the Road, as it is not paved. Mr. Dumont also indicated that Ms. Ekroos hears booming, which she has been told is the sound of dump truck tailgates. Mr. Duncan was not able to confirm what is being heard by Ms. Ekroos.

Mr. Dumont went back to Figure 20, and noted that the pink circle in the model would move south as trucks travel to and from the site, demonstrating where along the way the sound would be audible at 65 dBA. Mr. Masterson offered that he does not believe those neighbors will complain.

Mr. Dumont then turned to the DNL information provided on page 33 of the Report. Mr. Duncan confirmed that this is the annual DNL, and when asked about a cannon comparison, explained that the effect on DNL of a short-term noise depends on several factors, such as the size of the cannon and its distance from the observer. Mr. Dumont asked if the DNL results are what would have been predicted before doing a study; Mr. Duncan explained that he does not know what he would have predicted, but that the sources are infrequent, so the numbers make sense.

Mr. Dumont asked how many times a day Mr. Duncan input that  $L_{eq}$  would be 55 dBA. Mr. Duncan noted that this information is included on page 33, indicating that over the course of a year he included 72 5-minute periods for truck loading.

Mr. Dumont asked about the length and height of the berm. Mr. Duncan indicated that the height is 12' and the length is 260.' The berm is depicted in Figure 21 (page 35).

Mr. Dumont had no further questions.

Board members had no further questions.

Mr. Masterson had nothing further to provide at this point.

The process to follow moving forward with this application and hearing was discussed, with Mr. Brown proposing that a deadline be set for submission of any further application materials, after which the hearing will close and the 45-day decision period will begin. All the parties present agreed to have any further information submitted by December 19, at which point the hearing will close. Board members noted that some information has changed since the original application was submitted, and that any pertinent materials should be updated and included.

The Board will schedule deliberative session once members have had an opportunity to review all the materials submitted.

Mr. Moyers asked if a site visit would be appropriate, and members agreed that this would be beneficial. Mr. Masterson provided his permission for Board members to visit without notification, and it was discussed that most likely members would visit individually. Mr. Brown indicated that if any member felt that something observed at a visit is critical to the decision to be rendered, that the information must be included in the record; he asked that visits take place before December 19 so that if something of evidentiary nature is noted, it may be included in the record before the hearing closes. Mr. Perlee asked that he be notified when a visit is planned; Mr. Brown will let Mr. Dumont know when he plans to visit the site, so that any of Mr. Dumont's clients may join if they would like.

#### **4. New Business**

No new business was taken up by the Board.

#### **5. Administrative Items**

No other items were taken up by the Board.

#### **6. Adjournment**

The public portion of the meeting was adjourned at 10:14 pm.

Respectfully submitted,  
Carol Chamberlin, Recording Secretary