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June 20, 2019

Mr. Shawn Persaud
Township of Tiny
 130 Balm Beach Road West
 Tiny, ON L0L 2J0

Dear Mr. Persaud:

RE: Letter of Objection to an Application for a Category 3 Class A Licence under the Aggregate Resources Act – North ½ of Lot 80, Concession 1, W.P.R & Part of Original Road Allowance between lots 80 and 81, Concession 1, W.P.R, Township of Tiny, County of Simcoe (Cedarhurst Quarries and Crushing Limited (c/o CRH Canada Group Inc.)

During the notification and consultation period for the above-noted pit the Township of Tiny submitted an objection letter dated March 25, 2019 with comments on the proposed Teedon Pit Extension.

The comments included in Township of Tiny’s letter dated March 25, 2019 are outlined in the left column with a response in the right column.

	Comment	Response
Hydrogeological		
1.	The hydrogeological assessment completed by GHD does provide some additional information on the geology in the vicinity of the sump pond/wash pond, however there is no discussion on how water levels in the ponds relate to levels in the local aquitard, the Newmarket Till and the Upper Thorncliffe.	The sump and wash ponds are located on the adjacent Teedon Pit. Discussion on how the ponds relate to the geology is not related to the pit extension application. For reference, we have included an electronic copy of the report prepared by GHD for the Teedon Pit titled “Category 1 Permit-to-take-Water Renewal Application – Supporting Hydrologic and Hydrogeologic Study”.
2.	The addition of the new wells improves the understanding of the geology on the existing pit site and in the proposed pit extension area. The following additional information is required for Burnside to complete their peer review: • A table showing the dates that the manual water level data was collected	Please refer to the GHD report mentioned above as it addresses the requested information.



	<p>and hydrographs showing the results for each well;</p> <ul style="list-style-type: none"> • Borehole logs for the wells so that the geology can be seen at each location. Based on the cross sections, it appears that the sump pond/wash pond is effectively isolated from the underlying aquifer. The borehole logs would assist us with the interpretation of the extent of the silt and clay aquitard; and • A "regional" cross section that includes the reported depths of the wells reportedly impacted by previous operations at the quarry. 	
3(a)	<p>Burnside recommends that:</p> <ul style="list-style-type: none"> • The current condition of nearby domestic wells be established, including the well depth and condition of the casing/screen, the well yield and general water quality. 	<p>The proposed Teedon Pit Extension is an above water pit. GHD concluded that there would be no impact to local wells. To date there have been three (3) domestic well surveys completed: the first in 2015 was completed by Alpha Environmental where 27 wells were included; the second in 2017, was conducted by GHD on behalf of CRH where 5 were included; and the third, in 2018 included 78 domestic well surveys which was also conducted by GHD on behalf of CRH. For your information we have also included this report titled "2018 Domestic Well Survey" electronically.</p>
3(b)	<ul style="list-style-type: none"> • Manual monitoring be done at least monthly and that Automatic Water level Recorders (AWLR's) be installed so that the peak spring water levels in 2019 can be captured and used to confirm that the proposed Teedon Pit Extension pit floor elevation is 1.5 m above the high-water table. 	<p>AWLR's have already been installed in all the monitoring wells at both the Teedon Pit and the proposed extension lands. CRH commits to revising Note #42 on the proposed Teedon Pit Extension operations plan to reflect the Town's request to have AWLRs loggers installed and for the wells to be monitored monthly.</p>
3(c)	<ul style="list-style-type: none"> • An additional monitoring well be installed between MW9-18 and MW8- 	<p>CRH commits to revise the Teedon Pit Extension site plans to include the</p>



	<p>18 to provide data on the water table as there are no other wells on the Teedon Pit Extension property that are completed in the sand aquifer. Similarly, an additional well should be installed along the eastern edge of the proposed extraction area. Wells on the Teedon Pit to the south should be included in the monitoring program.</p>	<p>additional following note:</p> <p>“One year prior to extraction commencing, two additional monitoring wells shall be installed. One between MW9-18 and MW8-18 and the second shall be installed along the eastern edge of the extraction area”.</p> <p>The additional monitoring wells referenced above will be added to Note #42 and to the monitoring well schematic on the Teedon Pit Extension operations plan.</p>
<p>3(d)</p>	<ul style="list-style-type: none"> The Monitoring Program should include provisions to modify operations in the event the pit floor is less than 1.5 m above the water table. 	<p>The Teedon Pit Extension operations plan Note #44 already indicates that operations will be modified based on measured water levels. Note #44 states: “Extraction shall remain 1.5 metres above the established water table. In the event the water level data indicates the maximum depth of extraction is less than 1.5 metres above the established water table, the maximum depth of extraction shall be adjusted accordingly to maintain the 1.5 metre depth.”</p>
<p>3(e)</p>	<ul style="list-style-type: none"> Additional data be collected using AWLR's to confirm the water table elevation until the Teedon Pit Extension begins operations. Water level collection only began in June 2018 and may have missed peak spring water levels. 	<p>As noted in response to 3(b) and 3(c), the AWLR loggers have already been installed and Note #42 on the Teedon Pit Extension Operations Plan will be revised to reflect this, the requirement for monthly monitoring, as well as the addition of the 2 monitoring wells.</p>
<p>3(f)</p>	<ul style="list-style-type: none"> Testing be completed to evaluate the connection between the existing wash pond and the underlying aquifer. This may require the installation of additional shallow monitoring wells near the wash pond so that the water table can be monitored, and vertical gradients can be calculated. If it is found that the pond has the potential to impact groundwater water 	<p>The testing and monitoring requirements for the wash pond are not related to the Teedon Pit Extension and are subject to the PTTW application process. For reference refer to the GHD report titled “Category 1 Permit-to-take-Water Renewal Application – Supporting Hydrologic and Hydrogeologic Study”.</p>



	quality/quantity, then consideration should be given to the installation of a liner.	
Traffic		
4(a)	<p>The Application material did not include a Traffic Impact Study, however it did include some traffic-related information.</p> <ul style="list-style-type: none"> In order to determine the impacts on Darby Road and on the Highway 93 intersection, a Traffic Impact Study (TIS) must be provided. It is acknowledged that the licensed extraction rate and truck volumes are not proposed to increase, however the length that the pit will be in operation will change. Based on the maximum annual extraction volume of 600,000 tonnes, it will take an additional 17 years of operation to exhaust the Teedon Pit Extension supply (assuming the existing Teedon Pit is near the end of its life). This should be a consideration in determining the revised traffic impact. The alignment of Darby Road has a sharp bend at its intersection with Highway 93. The sight distances at this intersection are limited by the horizontal alignment on Highway 93. The traffic operations at the intersection of Darby Road and Highway 93 should be confirmed in the TIS. Safety issues (collision history) should be reviewed for the haul route (and intersection) to determine if there have been any incidents from the existing Teedon Pit operations. 	<p>As requested, CRH commits to conducting a Traffic Impact Assessment which will assist in determining the maneuverability conditions of Darby Road and will assess the intersection at Highway 93 & Darby Road. This will be completed and submitted to the Township for review.</p>
4(b)	<ul style="list-style-type: none"> A scenario with 15 trucks idling close to the entrance before 5:00 am will impact the functionality of Darby Road 	<p>A scenario with 15 trucks idling close to the entrance before 5:00 am is a scenario that should not occur. CRH</p>



	<p>in this area. This matter needs to be addressed.</p>	<p>encourages the Township to post no stopping signs along Darby Road to prevent this from occurring. CRH is prepared to cover the costs for the signage. If there are concerns related to the existing pit or proposed pit CRH remains committed to work with the Township and surrounding residents to ensure this is not happening. If required, CRH could open its gates earlier to avoid truck queuing on Darby Road.</p> <p>Item #5 from the Township of Tiny Staff Report (dated February 28, 2019) notes that there is no basis given for the estimate of 20 trucks incoming and ongoing from the pit on the worst peak hour. The model prepared in the Acoustic Assessment Report identified 20 trucks (40 passes) as being the maximum amount of trucks permitted in order to comply with MECP NPC-300 for Class 2 and 3 areas.</p>
<p>4(c)</p>	<ul style="list-style-type: none"> It is noted that the Township has been approached by the Sarjeant Company Limited regarding a proposal to use the existing CRH entrance for their two pits. It is the Township's understanding that no formal application has been made to the MNRF relative to this proposal. 	<p>The potential Sarjeant proposal is unrelated to the proposed Teedon Pit Extension. As previously discussed with the Township, this scenario would require major site plan amendment under the Aggregate Resources Act to both Sargent and CRH's existing Teedon Pit site plans. No application has been made to the MNRF and if ever an application was to be submitted, the Township, County, and the public would be circulated for comment.</p>
Noise		
<p>5(a)</p>	<p>A scenario with 15 trucks idling close to the entrance of the pit was modelled and it was found to have the potential to cause an objectionable noise impact. This matter needs to be addressed.</p>	<p>CRH is unclear why the Township's noise peer reviewer modelled this scenario. As noted above, a scenario with 15 trucks idling close to the entrance before 5:00 am is a scenario that should not occur. CRH encourages the Township to post no stopping signs</p>



		along Darby Road to assist in preventing this from occurring. CRH is prepared to cover the costs for the signage. If there are concerns related to the existing pit or proposed pit CRH remains committed to working with the Township and surrounding residents to ensure this is not happening. If required, CRH could open its gates earlier to avoid truck queuing on Darby Road.
5(b)	<p>The following additional information is required for Aercoustics to complete their peer review:</p> <ul style="list-style-type: none"> •The operator should confirm that a 10 m high working face, which was modeled in all worst-case scenarios that forms an integral part of the noise control design, can be maintained at all times and is feasible in the context of the planned front-end loader sizes, according to safety (working face structure) and labour laws (i.e. permitted height above the top of extended bucket). 	CRH confirms that this is feasible based on the planned loader sizes and required safety and labour laws.
5(c)	<ul style="list-style-type: none"> • Restrictions on the number of permitted equipment and maximum sound level permitted should be incorporated in the licensing document. 	As requested, CRH commits to including the equipment list and its associated maximum sound power into the proposed site plans and under the section titled "Equipment to be used Onsite and Noise/Air Mitigation". In addition, this equipment list and sound power readings are identified in Section 2.0 of the Acoustical Assessment Report.
5(d)	<ul style="list-style-type: none"> • Modelling parameters for the surrounding foliage such as height of trees and elevation of the ground relative to the existing topography at each point of the foliage object should be provided. 	Please see attached memorandum from Theakston Environmental.



5(e)	<ul style="list-style-type: none"> Confirmation is required to be provided that the noise reduction due to foliage is reasonable for 12 months. 	Please see attached memorandum from Theakston Environmental.
5(f)	<ul style="list-style-type: none"> There are acoustic barrier requirements and other noise controls outlined in the noise study which apply to the existing Licence. It should be confirmed whether requirements and noise controls will be implemented on the existing Licence and whether they will be feasible to implement and/or enforce. 	CRH has submitted a minor site plan amendment to MNR to permit the construction of the acoustic berms and restrict the location of the genset trailer on-site so that this can be completed immediately.
Site Operation		
6.	<p>The Operational Plan - Imported Materials, Note 50 specifies that "where the imported material is not being placed within 1.5 metres of the surface, the criteria under Table 1 for Sodium absorption ratio and electrical conductivity do not have to be met." With the local groundwater sensitivity, we would recommend that Note 50 be replaced with "No fill shall be imported and disposed of at the site other than to establish slopes as specified in the Rehabilitation Plan."</p>	Note #49 on the proposed Teedon Pit Extension operations plan, states that "clean inert fill may be imported to facilitate the establishment of side slopes." CRH confirms that we will modify this note and add a new note to the rehabilitation page to state that "no fill shall be imported and disposed of at the site other than to establish slopes as specified in the Rehabilitation Plan."
7.	Considering the above noted point, the Township recommends that asphalt recycling be removed as a permitted use at the existing licensed Teedon Pit.	An asphalt recycling note does not exist on the proposed Teedon Pit Extension site plans and is unrelated to the extension application.
8.	<p>The Rehabilitation Plan -Tree Planting Schematic proposes an agricultural use in the pit floor, however, fertilizers and other agricultural chemicals used for normal farming practices may negatively impact the aquifer especially considering the final depth of extraction will be a maximum of 1.5 metre above the established groundwater table. It is recommended that the rehabilitation plan be revised to remove this proposed use and</p>	There are several areas within the Township where agriculture is within 1.5m of the water table. To enhance biodiversity after extraction is complete, CRH will commit to revise Note #5 and Note #6 on the proposed Teedon Pit Extension Rehabilitation Plan to reflect the continuation of the setback and slope tree planting to the pit floor.



	replace it with a tree planting plan.	
Natural Environment		
9.	Table 2 of the NETR lists Species At Risk (SAR) with potential to occur in the study area. Since this table does not include endangered bats, it is not clear that SAR bats and their habitat (e.g., snags/cavity trees suitable for bat roosting or maternity sites) were considered in the preparation of the NETR, and clarification or additional information may be required. The SSEA defers to the Ministry of Natural Resources and Forestry (MNRF) on issues related to the Endangered Species Act, and understands that MNRF will be reviewing the proposal.	MNRF is satisfied with the work related to Species at Risk as it relates to the Endangered Species Act with the exception of whip-poor-will surveys. CRH has committed to do the whip-poor-will surveys this spring/ early summer and provide the survey results to MNRF.
10.	The NETR references the MNRF's Significant Wildlife Habitat Technical Guide (2000), and indicates that the Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 6E (MNRF 2015) were also consulted. The SWH Ecoregion Schedules provide specific criteria for identifying candidate and confirmed SWH. Clarification is required regarding the following types of SWH: <ul style="list-style-type: none"> o Amphibian Breeding Habitat (Woodland) - according to the NETR, swamp community SWDM4a is within approximately 120 m of the proposed extraction area (see Figure 5), and several amphibian species including wood frog, spring peeper and gray treefrog were documented on site (section 5.4). As per the SWH Ecoregion Schedule, if these amphibians are present in sufficient numbers, the wetland plus a 230m radius of woodland area would be considered SWH and the NETR would 	See attached memorandum from Goodban Ecological Consulting.



	<p>have to address any potential negative impacts. The NETR does not discuss whether or not this area qualifies as candidate or confirmed SWH, and further information is required.</p> <p>o Woodland Area-Sensitive Bird Breeding Habitat - area-sensitive bird species were documented in the NETR at station 3 and 4 (see Attachment E, Point Count Data Summary), however these station locations were not included in the SWH mapping shown on Figure 8. Further explanation is required.</p>	
<p>11.</p>	<p>Planting as proposed for Forest Edge Management should include follow-up survival assessments of planted stock. Replacement planting should be undertaken, if necessary due to poor stock survival.</p>	<p>CRH will commit to adding the following to the forest edge management zone A and B on the Teedon Pit Extension operation plan:</p> <p>“The forest edge management zones shall be monitored for survival in the first, second and fifth years after planting. Replacement planting should be undertaken if survival is less than 60% for each species.”</p>
<p>12.</p>	<p>Survival assessments for rehabilitation tree planting of setbacks and side slopes:</p> <ul style="list-style-type: none"> • Survival assessments should be done at years one, two and five (free-to-grow assessment), as is currently the practice of tree planting agencies like Trees Ontario/Forests Ontario, rather than just in the first and second year after planting as indicated in the NETR. • The bullet regarding replacement planting if survival is less than 60% should be modified to indicate that 	<p>Note #7 on the Teedon Pit Extension Rehabilitation Plan already requires a one (1) and two (2) year assessment. CRH commits to modifying this note to also require the five (5) year assessment. In addition, the note will be modified to require 60% survival of each species.</p>



	60% survival of each species is required to ensure post-planting species diversity.	
13.	The SSEA would like to be provided with information on the projected timing of extraction for the site. If extraction is anticipated to be a considerable ways off, then management of forested areas on site may be appropriate; in addition, the species proposed for use in rehabilitation planting should be re-assessed at a later date, to ensure that they are still appropriate and practical for climate and site conditions, according to the best available information at that time.	<p>Tree Clearing Schematic Note #3 on the proposed Teedon Pit Extension Operations Plan indicates that “as extraction progresses north tree clearing shall occur as required to advance extraction and minimize the disturbed area”. The Management Plan is focussed on the enhancement of trees that will remain and trees to be planted. Management plans for trees to be removed is not beneficial to the site.</p> <p>The trees proposed for the rehabilitation planting are appropriate. Tree Planting Schematic (Reforestation of Side Slopes) Note #4 on the proposed Teedon Pit Rehabilitation Plan will be revised to include the following at the end of the note:</p> <p>“...or other appropriate species recommended by a qualified ecologist at the time of planting.”</p>

In addition, item #3 from the Township of Tiny Staff Report (dated February 28, 2019) also included additional comments from the Burnside peer review response dated February 15, 2019 (Appendix #5 of Staff Report) regarding recommendations 1, 2, 3 and 4 from Burnside’s February 24, 2016 letter to the Township. The recommendations are addressed below:

	Recommendation	Response
1	The current condition of nearby domestic wells should be established, including the well depth and condition of the casing/screen, and the well yield and general water quality. The work should be completed by the proponent using an independent qualified consultant.	Please see response to comment #3(a) on page #2 of this response.



2	<p>The monitoring network at the Teedon Pit should be expanded to include a staff gauge in the wash pond, a nested well with screens completed at a variety of depths (to monitor change in gradients during use of the wash pond), along with a number of wells completed in the aquifer(s) that are used by domestic wells in the area. A professional geoscientist (or equivalent) should be present during the drilling of the wells to describe the geology and select the intervals for monitoring well completion.</p>	<p>Please see response to comment #1 on page #1 of this response.</p>
3	<p>The proponent should provide additional information such as cross sections to confirm that the monitoring wells are completed at similar depths as domestic wells in the area and will provide the necessary information to confirm that aquifers used by domestic wells are not being adversely impacted by the use of the well or wash pond on-site.</p>	<p>Please see response to comment #3(a) on page #2 of this response.</p>
4	<p>An appropriate on-site monitoring network will eliminate the need for on-going monitoring of domestic wells.</p>	<p>Since 2016, modifications have been made to the monitoring network. Please refer to the revised ARA site plans for the updated monitoring network as well as the proposed modifications outlined in this letter to the monitoring network.</p>

We hope that this information adequately addresses the comments received during the process. As the additional information becomes available we will provide to the Township for review. The updated ARA site plans will also be provided to the Township to confirm the agreed upon modifications.

If you have any questions, please do not hesitate to call.



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Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Ferri'.

Jessica Ferri, MCIP, RPP
Manager, Policy and Planning
CRH Canada Group Inc.

Cc: Robert Herbst– MNRF
Brian Zeman– MHBC
Kevin Mitchell

Attachments:

1. Category 1 Permit-to-take Water Renewal Application – Supporting Hydrologic and Hydrogeologic Study.
2. 2018 Domestic Well Survey
3. Memorandum from Theakston Environment dated May 2, 2019
4. Memorandum from Goodban Ecological Consulting dated May 21, 2019